Election Fever and Environmental Fallout: An Ecological Perspective on Democratic Practices in India

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ABSTRACT
Elections are foundational to democratic governance, yet the processes associated with electoral practices in India have emerged as significant contributors to environmental degradation. The intensification of election campaigns through large-scale rallies, excessive use of vehicles, loudspeakers, digital equipment, and printed materials results in a diverse range of pollutants-spanning air, noise, water, soil, light, and electronic waste. Despite the increasing urgency of environmental sustainability, the ecological footprint of democratic activities remains underexplored in academic and policy discourses. This article introduces and critically examines the concept of "election pollution", highlighting its multidimensional impacts on environmental quality, public health, and socio-economic stability. Drawing on empirical and documented evidence, it delineates the pathways through which electoral events contribute to ecological imbalance, such as vehicular emissions, campaign-related waste, energy overconsumption, and hazardous material disposal. The study further evaluates the existing mitigation frameworks, particularly those initiated by the Election Commission of India (ECI) and identifies gaps in enforcement and public awareness. In response, it suggests a number of reachable strategies, such as encouraging digital campaigns, enforcing stronger regulations, conducting community-based monitoring, and offering rewards for ecologically conscious behaviour. By connecting political science and environmental studies, this work urges a shift to ecologically informed electoral governance. It aims to make sure that democratic processes do not harm environmental integrity.

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I. INTRODUCTION
The intricate web of life on Earth is founded on the interdependence of biotic and abiotic elements, reflected in the ancient Indian concept of Pancha Mahabhuta, the five fundamental elements: water (jal), air (vayu), fire (agni), sky (akash), and earth (prithvi). These elements sustain life and form the basic ideas of human-environment connections. Humans are part of this continuum. They have long influenced natural systems and have also been influenced by them. This interaction helps maintain a delicate ecological balance (Goswami et al., 2007; Bapat and Rao, 2004; Anderson, 2001). But this equilibrium has been seriously upset by the development of political systems and civilization. Environmental systems are under stress as a result of the rise of electoral politics, especially in heavily populated democracies like India. What started as a way to support civic representation has turned into a process that uses a lot of resources. It leads to waste, energy use, and significant public mobilization. Campaign rallies, car convoys, material-intensive advertising, loudspeaker use, and festive displays are just a few examples of the contemporary electoral practices that significantly strain the environment. Deforestation, electronic and plastic waste, noise pollution, and greenhouse gas emissions are all caused by these activities. The campaign period increases air pollution from vehicle emissions and fireworks, leading to respiratory problems. Large rallies and events raise the

carbon footprint because of higher energy use and transportation emissions. Deforestation happens for poster displays and building projects, disrupting ecosystems. Noise pollution spikes with amplified campaign activities, affecting both human and animal well-being (Goswami, 2011, 2012; Goswami et al., 2011, 2013a, 2013b; Goswami and Swain, 2011, 2012a, 2012b, 2013, 2017). Improper campaign material disposal leads to water pollution, which affects water bodies (Goswami and Pradhan, 2009). When waste is disposed of carelessly, it pollutes the soil and damages agricultural areas. Environmental degradation is exacerbated by the widespread use of banners, pamphlets, and plastic, which produces a large amount of waste. The Central Pollution Control Board (CPCB) has expressed concerns about increasing noise and air pollution at large public events, including elections (CPCB, 2020). Likewise, the United Nations Environment Programme (UNEP) highlights that unsustainable political mobilization practices are hurting the efforts for climate resilience and environmental justice (UNEP, 2022).

Election-related activities are using an excessive amount of resources as societies become more politically competitive and technologically advanced. These not only threaten ecological integrity but also marginalize vulnerable communities that are already impacted by environmental hazards. Thus, the environmental effects of electoral cycles are no longer secondary; they are central to the discussion on sustainable development and democratic responsibility. This article explores the various environmental impacts of election-related activities in India, referred to as "election pollution." It critically assesses how the democratic process, despite its importance, paradoxically adds to the deterioration of the environment in which it functions. The goal of this commentary is to draw attention to how urgent it is to implement ecologically sound electoral reforms that support democratic principles and ecological sustainability.

2. THE SCALE OF ELECTIONS IN INDIA

The magnitude of Indian elections is unparalleled, reflecting the vibrancy of the world's largest democracy. With a voter base exceeding 970 million (97 crore) as of the 2024 General Elections, the sheer scale and complexity of organizing polls in a diverse and populous country like India are immense. The electoral process involves orchestrating polls across 543 parliamentary constituencies and numerous state assemblies (Election Commission of India, 2024). Election is conducted in 7 phases across 29 states and 7 Union Territories. The logistical complexity is staggering, involving millions of polling booths and election officials. India's elections showcase the country's rich cultural, linguistic, and ethnic diversity, with political parties addressing a vast array of issues relevant to its multifaceted population. The sheer number of political parties and candidates vying for positions at the national, state, and local levels adds layers of complexity to the electoral landscape. Political campaigns, through rallies, speeches, and outreach efforts, gather substantial resources and engage millions of citizens.

In democratic societies, elections are important because they allow people to express their political views and impact how the government operates. However, activities related to elections can harm the environment in several ways. It's crucial to remember that variables like election size, local regulations, and electoral body decisions can all affect pollution levels (Goswami and Pattanayak, 2013; Goswami et al., 2010). The following are a few election-related activities that may increase pollution:

- *Campaigning Materials*: Distributing a large amount of printed materials, like flyers, pamphlets, and posters, is a common aspect of political campaigns. When these materials are produced or thrown away incorrectly, they add to greenhouse gas emissions, water pollution, and deforestation.
- *Transportation Emissions*: Candidates, campaigners, and supporters must travel extensively during election campaigns and associated events. Pollutant emissions may increase if cars are used for rallies, canvassing, and moving election supplies. These include particulate matter (PM), nitrogen oxides (NOx), hydrocarbons (HCs), carbon monoxide (CO), and carbon dioxide (CO_2). They contribute to air pollution and climate change.
- *Energy Consumption*: A lot of energy is needed to operate campaign offices, polling places, and activities related to elections. This covers electricity used for electronic device powering, heating, and lighting. In India,

energy is primarily derived from thermal power plants, which exacerbates pollution and environmental degradation.

- *Waste Generation*: Elections generate a significant amount of waste, ranging from discarded campaign materials to disposable items used during rallies, road shows and voting, such as pamphlets, stickers, and packaging. Improper disposal of this waste and other materials used during political rallies, road shows can lead to pollution of land and water bodies, affecting ecosystems and wildlife.
- *Electronic Waste*: The use of electronic voting machines and other technology in elections contributes to electronic waste (e-waste) when these devices reach the end of their lifecycle. Improper disposal and recycling of e-waste can release hazardous materials into the environment.
- *Noise Pollution*: Election campaigns are often associated with loudspeakers, rallies, and other noise-intensive activities. Excessive noise pollution can disturb ecosystems, wildlife, and human communities, impacting overall environmental health (Swain and Goswami, 2013a, 2013b, 2014a, 2014b, 2018a, 2018b).
- *Resource Extraction*: The production of election materials, such as banners, sign boards, posters and other promotional items, requires the extraction of raw materials. Unsustainable extraction practices can lead to habitat destruction, soil erosion, and other forms of environmental degradation.

The aforementioned activities and different objects contribute to different kinds of environmental pollution which are described in detail as follows.

2.1 AIR POLLUTION

During elections in India, the heightened vehicular activity contributes significantly to air pollution, releasing various pollutants with detrimental health effects. The primary pollutants emitted from vehicles and fuels include carbon monoxide (CO), nitrogen oxides (NOx), photochemical oxidants, and air toxins, which include particulate matter (PM), lead (Pb), benzene (C_6H_6), aldehydes, 1,3 butadiene (C_4H_6), hydrocarbon (HC), oxides of sulfur (SO_2), and polycyclic aromatic hydrocarbons (PAHs). When fuel burns incompletely, carbon monoxide (CO) is released. The ability of the blood to deliver oxygen to the brain, heart, and other tissues is hampered when CO is inhaled because it diffuses through the lung tissues and into the bloodstream. Carbon monoxide forms carboxyhemoglobin when it binds to hemoglobin approximately 230 times faster than oxygen does. It produces symptoms like headaches, exhaustion, nausea, and dizziness that are similar to those of the flu. With rising levels of CO, causes the possibility of vomiting, unconsciousness, and ultimately brain damage or even death (Pattanaik and Goswami, 2008). Vehicles, especially those with gasoline and diesel engines, generate large amounts of nitrogen oxides (NOx), which include nitric oxide (NO) and nitrogen dioxide (NO_2). At high concentrations, NOx can cause pulmonary edema, bronchospasm, wheezing, and respiratory disorders by penetrating deeply into lung tissue. Long-term exposure to these pollutants has been associated with a number of detrimental health effects, such as lung cancer, ischemic heart disease, stroke, chronic obstructive pulmonary disease and disability. The diesel exhaust also contains some carcinogens like benzopyrene, which cause cancer in the human body (Pattanaik and Goswami, 2008). Different automobile parts also cause air pollution (Pattanaik and Goswami, 2008; Santra, 2004) (Table 1).

The escalation of vehicular pollution during elections is not solely attributed to the surge in vehicle numbers. Factors such as the types of engines employed, aging vehicles, congested traffic conditions, subpar road infrastructure, and the prevalence of outdated automotive technologies and traffic management systems significantly contribute to the heightened pollution levels.

The utilization of generators for diverse purposes during election campaigns constitutes another significant factor contributing to air pollution. Elections often witness the deployment of generators to fuel various campaign activities, encompassing the operation of vehicles, amplification systems, celebratory firecrackers, and the functioning of voting machines. This reliance on generators becomes particularly pronounced in regions where the electrical grid is unreliable or insufficient. Unfortunately, many generators, particularly those powered by fossil fuels like gasoline and diesel, emit a spectrum of air pollutants, including particulate matter, nitrogen oxides, carbon monoxide, and

ozone. The release of these pollutants into the air can result in adverse health effects, such as respiratory problems, cardiovascular diseases, asthma, and an increased risk of cancer. Moreover, the emissions contribute to the broader issue of climate change, further underscoring the environmental impact of election-related activities on air quality (IPCC, 2021).

Table I. List of different automobile parts, their emission and environmental impact.

Parts	Causes emissions of	Environmental impact
Engine	Carbon dioxide, Nitrogen oxides, Hydrocarbons, Particulate Matter (PM)	Contributes to global warming, climate change, air pollution and respiratory health issues.
Battery	Lead, H_2SO_4, Lithium-ion and HCl	Improper disposal may lead to soil and water pollution
Bumper	Wastes including cyanide, chromic and other heavy metals	Contribute to environmental pollution by contaminating soil and water
Brake shoes	Asbestos	Leads to respiratory diseases and environmental contamination
Seat textiles	Dyes, acids, solvents, greases and waxes	Contribute to air and water pollution
Gasoline tank	Benzene and hydrocarbon during fueling	Contribute to air pollution and health hazards
Plastic compounds	Vinyl chloride, formaldehyde, phenols	Contribute to air and water pollution
Tyres	Amines, nitrosamines and solvents	Contribute to environmental pollution by contaminating air and water
Cooling system	Coolants	Leakage may release greenhouse gases and contaminate water sources
Lubricants	Hydrocarbons, Heavy metals (e.g., zinc, copper)	Improper disposal contaminates soil and water, while combustion releases air pollutants

The production and disposal of campaign materials represent an often-underestimated source of air pollution during elections. The manufacturing process, involving the printing of posters, banners, pamphlets, and promotional items, employs inks and materials that emit pollutants, including volatile organic compounds (VOCs). These emissions contribute to air pollution, particularly in densely populated campaign areas. VOCs encompass a range of chemicals such as benzene, toluene, ethylbenzene, and xylene, which can evaporate into the air during and after printing. Exposure to VOCs can lead to different health issues. Headaches, dizziness, and respiratory issues are some of the problems that can come from these substances. More severe concerns arise with benzene, which is associated with certain volatile organic compounds; it can negatively impact the central nervous system and heighten the risk of cancer. Additionally, air quality may degrade if campaign materials are not properly discarded after elections. These materials are frequently burned during inappropriate disposal procedures, which release a variety of dangerous pollutants into the atmosphere. The burning of paper, ink, and other materials creates particulate matter, carbon monoxide, and different harmful chemicals. These contribute to breathing problems and environmental harm.

The disproportionate utilization of helicopters, choppers, and chartered airplanes also significantly contributes to air pollution during the election periods. The air travel may increase because of the major political functions which attract the supporters, the media, and politicians. During political air travel, a significant amount of pollution is caused by the aircraft's emissions, especially from short-haul flights. The combustion of aviation fuels emits harmful aviation fuels such as carbon dioxide (CO_2), nitrogen oxides (NOx), sulfur dioxide (SO_2), and particulate matter. The emissions of these gases, whether at cruising altitude or during taxi, undermine air quality both regionally and globally. In addition to air pollution, the harmful emissions from aircraft contribute to

environmental changes posing threats of habitat disturbance, disruption of natural sound levels, and increased energy consumption.

The erection of temporary structures for election events such as placing stages, lighting, and sound systems, as well as HVAC (heating, ventilation, and air conditioning) systems, increases the need for power. The Conventional or thermal power plants are usually relied upon to meet this increased power demand. Commonly, thermal power plants which are fueled by coal or other fossil fuels, emit a range of pollutants as a byproduct of electricity generation. This comprises particles, nitrogen oxides, sulfur dioxide, and carbon dioxide. These emissions contribute to global environmental problems and harm local air quality in addition to climate change.

People sometimes set tires and other items on fire as a way to protest during elections, often due to political conflicts, strikes, or disagreements. These fires release harmful substances, including polycyclic aromatic hydrocarbons (PAHs) and black carbon. The soot, which is essentially black carbon, forms when carbon-based materials like tire rubber don't burn completely. Black carbon particles have the potential to worsen asthma and other chronic conditions. Wheezing and coughs can also be caused by them. In addition, climate change and atmospheric warming are influenced by black carbon. Polycyclic aromatic hydrocarbons (or PAHs) are recognized as the cause of cancer. Their exposure is associated with a higher risk of cancer. By contaminating soil and water sources, PAHs can also have a negative impact on the environment.

2.2 NOISE POLLUTION

Noise pollution during elections in India is a multifaceted issue exacerbated by various activities associated with political campaigning. The extensive use of loudspeakers, vehicular convoys, generators and the organization of large public functions, roadshows contribute significantly to heightened noise levels. Campaign rallies, with their amplified speeches and music, often disturb the peace of local communities. Additionally, the celebratory firing of crackers following election victories further amplifies noise pollution. Such noise causes several social and health problems and mainly causes auditory and non-auditory effects on human health (Das et al., 2022; Pattanaik and Goswami, 2008; Swain et al., 2013, 2014, 2012a; 2012b, 2016, 2022a, 2022b, 2023a, 2023b). While regulations exist to control noise levels during such events, their enforcement remains a challenge.

The noise pollution generated during election-related activities in India poses various health risks, impacting both physical and mental well-being. During the election, the sound generally crosses its threshold level. Prolonged exposure to high noise levels can lead to stress, headache, bad temper, loss of concentration, hearing impairments, and sleep disturbances among individuals in affected areas (Lam et al., 2009). Noise exposure, including that from political campaigning, can lead to various non-auditory physical health effects like changes in blood pressure, heart rate, and levels of stress hormones (Babisch, 2005). Additionally, the disruption of the regular way of life is apparent, as residents experience discomfort and inconvenience due to the disruption of daily routines caused by loud campaign rallies, cracker firing, and vehicle convoys. Noise pollution during elections doesn't just impact society; it also harms the environment. It can disrupt local ecosystems, affect wildlife, and lead to the overall decline of the environment.

2.3 WATER POLLUTION

Improper disposal of campaign materials like posters, banners, and pamphlets, along with writing on roads and walls, contributes to water pollution during elections. When these materials are not managed properly, rainwater runoff carries pollutants into water bodies. Aquatic ecosystems are at risk because of this. Aquatic plants and animals' capacity to photosynthesize is hampered by the tainted water's reduction in sunlight. Various materials used to create campaign materials, such as pigments, acids, paints, and even colors used in plastics, wall writing, and printing inks, often include hazardous compounds, including heavy metals like lead, cadmium, chromium, and others. These heavy metals harm the ecosystem when they are released into water bodies. Water creatures can accumulate lead, which is harmful. This poses risks to both human health and the ecosystem. Heavy metals can linger in the environment and build up in sediments after leaking into water sources. This buildup can damage fish, invertebrates, and other animals as well as alter the delicate balance of aquatic ecosystems. Reduced biodiversity can result from the detrimental effects

of heavy metals on aquatic life, which can change behavior, reproductive potential, and general health. Human health may suffer if there are heavy metals in the water and people consume tainted fish (Sonone et al., 2020). Children's developmental problems, neurological disorders, and cancer risk have all been linked to even low levels of long-term exposure to heavy metals like lead. The heart, kidneys, liver, circulatory system, and central nervous system can all suffer significant harm from consuming high levels of lead. The most common sign of lead poisoning in contemporary case studies is lead colic, which manifests as gastrointestinal problems. Since children are more susceptible to the negative consequences of lead exposure, this syndrome is particularly prevalent in them (Pattanaik and Goswami, 2008). Children are more vulnerable to the consequences of lead poisoning due to their physical and behavioral development. Learning disabilities, cognitive development challenges, and long-term health problems can result from lead exposure.

It is important to recognize that contamination of water sources with hexavalent chromium carries a serious risk to human health. The presence of this cancer-causing compound in drinking water can lead to severe consequences. Hexavalent chromium- containing artificial coloring has been connected to cancer, especially lung cancer in humans. Hexavalent chromium exhibits high skin and eye irritability, with prolonged contact potentially leading to skin ulcers and causing partial to permanent damage to the eyes (Saha et al., 2011; Paul et al., 2015).

The contamination of water with synthetic colors containing mercury can lead to a range of adverse health effects, including symptoms such as pharynx discomfort, abdominal pain, vomiting, corrosive ulceration, bloody diarrhea, and potential renal failure. Exposure to mercury-laden compounds is also associated with skin allergies and blurred vision. Organic mercury compounds, exemplified by methyl mercury, are classified as human carcinogens. When introduced into the human body, methyl mercury tends to concentrate in the brain, resulting in the destruction of brain cells, damage to the central nervous system, and corrosion and ulceration of the digestive tract (Wang et al., 2004).

Consuming water contaminated with cadmium can lead to various health issues, including metal fume fever, acute pulmonary conditions, anemia, and discoloration of teeth. Persistent exposure to cadmium may result in chronic poisoning, associated with an elevated risk of developing lung and prostate cancer. Notably, the initial chronic effect typically manifests as kidney damage, characterized by the excretion of excessive low molecular weight proteins in the urine. Additionally, cadmium is linked to pulmonary emphysema and bone diseases like osteomalacia and osteoporosis (Mahmood et al., 2019).

2.4 SOIL POLLUTION

Inappropriate garbage disposal during and after election activities contributes to soil pollution. Banners, posters, pamphlets, booklets, stickers, badges, flags, T-shirts, plastic bottles, food wrappers, and other items can all be considered as waste. These frequently include numerous pollutants that can affect the soil. Heavy metals such as lead, cadmium, and mercury can contaminate the environment. Both the environment and human health are directly impacted by this situation. These contaminants have the potential to induce various illnesses, dermatological conditions, and respiratory complications.

Furthermore, poor waste management may let these toxins get into the groundwater. This puts the quality of the water at risk and poses health risks to the local populace. Banners and posters are commonly used in election campaigns, but their deterioration can have negative environmental effects. Because they are composed of non-biodegradable materials such as vinyl and PVC, they emit toxic chemicals such as phthalates and dioxins as they decompose. This imbalance damages the soil microbiome. The breakdown of organic matter, nutrient recycling, and soil fertility all depend on soil bacteria. These pollutants hinder essential soil functions and interfere with microbial activity.

Additionally, the physical degradation of non-biodegradable substances left in the soil leads to compaction, which decreases water infiltration. Alterations in soil structure further intensify the challenges encountered by microorganisms. The situation is markedly aggravated by the infiltration of heavy metals from inadequately disposed waste, which elevates the soil's toxicity levels. High concentrations of lead, cadmium, and mercury disrupt the activity

of microorganisms and pose a direct threat to their survival. As a result, the cumulative effects of these contaminants produce lower-quality soil. As a result, the soil's capacity to sustain plant development and preserve ecosystem health is diminished. These environmental effects pose a direct risk to human health in addition to harming ecosystems. Numerous diseases, skin conditions, and respiratory disorders have been linked to exposure to these contaminants. Additionally, communities near affected areas are more vulnerable to health issues because these toxins can bioaccumulate in the food chain.

2.5 E-WASTE POLLUTION

Electronic garbage generated during election operations offers a variety of environmental and health risks. Computers, iPads, electronic voting machines (EVMs), and audio-visual equipment all contribute significantly to election-related e-waste. Hazardous materials such as lead, mercury, etc., are unavoidably released into the environment as a result of the abandonment of electronic equipment or insufficient recycling (Mundada et al., 2004). Democracy depends on EVMs, which contribute to the issues related to electronic waste. EVMs are disposed of without proper recycling when they become unusable, which leads to soil pollution. Environmental problems persist due to the degradation of soil. In addition, the contamination of groundwater by EVMs and other electronic devices can have negative effects on ecosystems as well as human health.

2.6 LIGHT POLLUTION

Light pollution is a significant environmental issue that impacts both the ecosystem and human health, and it's worsened by activities related to elections. The use of intense lights during election night celebrations, rallies and campaign events may disrupt natural light cycles. Night-time nocturnal beings, such as birds, insects, and other animals, are affected by this artificial light. The modification involves their feeding behavior, migration, and reproduction. Circadian rhythms and sleep are negatively affected by light pollution, which has a detrimental effect on human health. Misdirected and excessive lighting can lead to visual impairment and harm the local community. Celestial observations and astronomical research may be hindered by the reflection of bright lights. The broader impact includes elevated carbon emissions, energy wastage, and environmental inequality.

2.7 WASTAGE OF ENERGY

The reckless use and wasting of energy are the primary concerns in the chaotic Indian general election campaign. The primary reason for this is the excessive electricity usage during campaigns, which is frequently facilitated by illegal tapping into power lines. Both the public and environmental well-being are at risk due to this practice. The data indicates that election season sees a marked rise in energy demand, which is partially compensated by illegal tapping into power lines (Min and Golden, 2014). The country's electrical infrastructure is burdened by this illegal act, which also contributes to energy waste and environmental harm. Additionally, Campaigns that rely heavily on electricity generate a significant amount of greenhouse gas emissions. This worsens climate change and its effects. Additionally, the cost of this energy waste hits citizens hard. They face higher electricity bills and deal with an unreliable power supply.

3. HEALTH HAZARDS DURING ELECTIONS

Unplanned activities associated with elections not only contribute to environmental pollution but also pose significant health hazards, particularly impacting the lives of common and uninformed individuals. Vehicular pollution, water pollution, and the aftermath of paper and color pollution have been discussed earlier, highlighting their detrimental effects on health. Political parties, in their pursuit of votes, employ various tactics that jeopardize public well-being. Particularly concerning is the manipulation of vulnerable demographics, where the poor and illiterate are often enticed with the consumption of inexpensive local alcohol as a means to secure votes (Wilkinson, 2007). Tribal communities are disproportionately affected, as the overconsumption of traditional beverages like Mohua and Handia leads to severe liver and stomach damage (World Health Organization, 2018; Vasudev, 2022).

Beyond alcohol- related health issues, elections and their aftermath witness a surge in substance abuse. Winning candidates and their supporters often become entangled in narcotics, including raw tobacco, gutkha, and opium, all of which are known carcinogens. The health implications extend to the lungs, heart, and nervous system, resulting in a range of fatal diseases, including cancer. Furthermore, elections can be a chaotic environment fueled by party endorsement of social evils that injure people and cause fatalities. The participation of vulnerable individuals in harmful activities undermines the already fragile health status of many.

4. SOCIO-ECONOMIC HAZARDS DURING ELECTIONS

India's socio-economic situation is shaped by the diversity of its population. Religious, regional, linguistic, social, and ethnic distinctions are created by this diversity. Political parties frequently exploit these divisions. They participate in politics on the basis of cast, religion or language and this slows down progress in the country. The formation of populist- focused political parties results in a narrow scope, as vote-bank politics disregards crucial national interests such as national security and economic well-being. By encouraging violence between opposing groups, political parties create a dangerous environment that undermines internal security.

Economic challenges such as poverty, unemployment, and development are often overlooked by the narrow agendas of most political parties. Their economic policies often extend no further than providing populist subsidies and reservations, neglecting broader issues that impact the entire nation. Naxalism, religious violence, and caste-related conflicts become heightened concerns during elections, further polarizing the political landscape.

In a developing country like India, where a significant portion of the population lives below the poverty line, the extravagant spending of billions of black money during election campaigns raises ethical concerns (Bhaskar, 2017). The pervasive socio-economic hazards are exacerbated by an increase in social crimes, including fraud, cheating, robbery, rape, and murder during elections. The lives of the general public are put at risk without any cause. Political strikes, malicious beliefs, and nefarious political affairs contribute to social hazards, disrupting the economic structure and harmony of society. The injection of malicious political activities exacerbates issues raised by NGOs and social workers, diverting attention from genuine environmental concerns. Unnecessary political interference makes important issues disappear from public view. This ultimately harms the environment and negatively impacts those who are economically disadvantaged. It's a self-inflicted wound. Society is being eroded by illegal activities during elections, with the most significant impact on the environment and the poor.

Election-related pollution hits marginalized communities in crowded urban or peri- urban areas harder than most. People who live in slums or low-income areas sometimes find themselves close to loudspeakers, trash disposal sites, and political demonstrations. As a result of this unpleasant fact, people are more frequently exposed to high amounts of air, noise, and water pollution. Furthermore, municipal administrations have major hurdles in managing non-biodegradable campaign debris after elections. Public monies that could be allocated to necessary services are thus diverted to urgent cleanup projects. In the end, this raises public health expenses—particularly for state-run hospitals that serve these vulnerable populations—by increasing hospital visits for pollution-related illnesses like respiratory and gastrointestinal disorders.

5. MEASURES TAKEN BY THE ECI TO MITIGATE ELECTION POLLUTION

The Election Commission of India (ECI), along with various organizations, is becoming increasingly aware of the environmental impact of election-related activities. In response, they are taking proactive measures to minimize pollution during elections, such as;

- *Green Campaigning Guidelines*: The ECI has put out some new guidelines aimed at promoting eco-friendly campaigning. They are advocating for political parties to utilize recyclable materials in the production of campaign materials such as pamphlets and banners.
- *Digital Campaigning*: We can dramatically reduce the need for printed materials by boosting the use of digital channels for advocacy. In order to reach voters and reduce physical waste, social media, websites, and other online tools have become indispensable.

- *Limitations on Material Usage*: In an effort to reduce the environmental impact of campaigns, the ECI has established guidelines for the amount of campaign materials and vehicles that can be used. To reduce waste, candidates are urged to use supplies carefully.
- *Post-Election Clean-Up Drives*: The Election Commission of India (ECI) has suggested organizing clean-up programs after the election. This not only helps in keeping our public spaces looking neat and clean but also tackles pollution issues at the same time.
- *Awareness Campaigns*: Public education programs and awareness campaigns should take place to educate political parties, candidates, and voters about the environmental consequences of election pollution. Responsible conduct and environmental care are encouraged.

Though the Election Commission of India (ECI) has established rules to reduce election-related pollution, implementing these rules faces significant obstacles. These guidelines largely remain on paper, as political parties have not adhered to them. This happens due to the absence of strong enforcement measures. Political parties generally ignore policies that benefit the environment because they focus only on campaign expenses and collecting votes. The majority of the time, they ignore the advice to utilize recyclable materials and limited campaign materials. This attitude results in environmental degradation.

A significant amount of non-recyclable debris generated during election campaigns complicates waste management and puts a strain on municipal governments in charge of cleanup. Non-biodegradable materials endanger ecosystems and contribute to chronic environmental pollution. The unorganized remnants of abandoned campaign materials distract from the aesthetics of public spaces and lower the quality of life for residents. To tackle these issues, the ECI needs to look at stronger enforcement methods, including tough penalties for rule violations. It is important to build a culture of environmental responsibility through ongoing awareness campaigns that encourage accountability among political leaders.

6. STRATEGIES FOR REDUCING ELECTION POLLUTION

The political parties and their supporters should consider different strategies and alternatives instead of traditional approaches to reduce environmental pollution caused by election-related activities. Here are some suggestions:

- *Strengthening of Enforcement Mechanisms*: The Election Commission should carry out regular audits and inspections to make sure that environmental standards are being followed, and it should punish candidates and political parties who disobey eco-friendly campaigning guidelines severely.
- *Publicizing Non-Compliance*: Media outlets should show how non-compliance harms the environment. This will create public pressure for responsible campaigning. Authorities should publicly identify and condemn political parties that violate environmental laws in order to promote transparency.
- *Promoting Green Practices*: Political parties that actively support and promote environmentally friendly campaigns should be eligible for tax exemptions or bonuses from the government. Those that display outstanding dedication to environmental sustainability must be recognized and rewarded.
- *Organizing Educational Campaigns*: To educate candidates, political parties, and the general public about the severe environmental consequences of election pollution, awareness programs should be launched. The long-term benefits of eco-friendly campaigning for the environment and public opinion should be highlighted in these campaigns.
- *Promoting Digital Innovation*: Political organizations should be encouraged to adopt digital campaigning tactics like engaging with people on social media, hosting webinars, and holding virtual meetings.
- *Improving Community Involvement*: Local organizations should start post-election clean-up movements to foster a sense of civic duty, and they should be involved in reporting environmental issues during election campaigns.

- *Working with Environmental Organizations*: Sustainable campaigning approaches should be developed after consulting environmental experts. Political parties should collaborate with academic organizations, environmental experts, and environmental NGOs to create and execute effective plans.
- *Encouraging Recyclable and Reusable Materials*: The use of reusable and recyclable campaign materials, like cloth banners and signs, should be encouraged for reducing the environmental impact associated with waste generated by campaigns.
- *Eco-Friendly Printing Practices*: Double-sided printing should be encouraged to limit the amount of paper used for campaign supplies. It's really important to promote the use of eco-friendly printing technologies, such as soy-based inks and recycled paper.
- *Establishing Specific Goals for Trash Reduction*: Authorities should set clear objectives to cut down the election-related trash. This will increase the accountability of political parties for their environmental impacts.
- *Leveraging Social Responsibility*: By incorporating environmental responsibility into corporate social responsibility (CSR) programs, political parties can reduce their ecological impact and integrate their campaigns with sustainable practices.

7. CONCLUSION

Regardless of their political beliefs, leaders operate in the same society and environment, which eventually contributes to the environmental devastation they produce collectively. This must be understood. Although elections are a necessary component of democratic governance, it is crucial to understand that they cannot be prevented or prohibited. Therefore, it is essential to change the ways that political parties are currently promoted and publicized during elections. In conclusion, attempts to rig elections have become a predominant and concerning problem, jeopardizing the democratic basis of our electoral system. A comprehensive strategy is necessary in light of the harmful habits of today. To address the social and environmental issues brought on by the political process, we require different approaches. We can help in building a healthier and more sustainable future for coming generations by using fair and responsible election practices.

To minimize the environmental footprint of election campaigns, it is imperative that political parties and candidates strictly comply with the environmental regulations already in place. These include the Air (Prevention and Control of Pollution) Act, 1981, the Water (Prevention and Control of Pollution) Act, 1974, the E-Waste (Management) Rules, 2022, the Plastic Waste Management Rules, 2016 along with the Single-Use Plastic Ban of 2022, the Noise Pollution (Regulation and Control) Rules, 2000, and the Commission for Air Quality Management in NCR & Adjoining Areas Act, 2021. Strict adherence to these laws, together with the adoption of eco-friendly campaigning practices, can ensure that the celebrations of democracy do not come at the cost of environmental degradation.

Democratic systems must confront the threat of a sixth mass extinction brought on by environmental harm caused by humans (IPBES, 2019; Anderson, 2001). Elections are essential to democracy and cannot be ignored. However, it is crucial to recognize their impact on both the environment and society. This study demonstrates how electoral processes in India cause light, noise, water, air, and e-waste pollutions. These behaviors increase health risks, hurt the environment, and widen social disparities. There is an urgent need for eco- friendly campaigning strategies to change election processes. This entails enforcing stringent noise regulations, encouraging biodegradable campaign materials, requiring political parties to adhere to eco-codes, and offering carbon credits or subsidies to support online campaigns. Building long-term knowledge and accountability can really thrive when we promote citizen- led monitoring, offer environmental education, and encourage young participation. A sustainable voting paradigm needs to mix democratic zeal with environmental management. Only by the implementation of a complete reform that covers participation, policy, and practice will India be able to maintain the integrity of its elections and the environment.

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