



# Expanding Criminology: Integrating Environmental Harm into Discourse and Practice

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**Abstract.** Environmental harm encompasses actions that have detrimental effects on the welfare of humans and other species, though not classified as criminal acts. As Lynch observes, instances of environmental harm and crimes exceed those of street crimes in terms of prevalence, impact on victims, and magnitude of damage, emphasising the urgency for their consideration within criminology discourse. (Lynch, 1990, p1). Brisman emphasises the critical importance of documenting these harms, noting significant social and economic repercussions. (Brisman, 2014).

Green and Ward, in their work, ‘State Crime, Human Rights, and the Limits of Criminology’, caution against expanding the definition of ‘crime’. They argue that broadening the scope of criminology would undermine the coherence of criminology as a distinct field of study (Green & Ward, 2004, pp. 961-963). They oppose the notion of including social harm under the broader category of ‘crime’, preventing the advancement of criminology towards Zemiology. This article delves into the persistent challenges of integrating the study of environmental harm and crime into the study of criminology. It assesses the impact of these issues on humans, animals, ecosystems and the biosphere (South & Beirne, 2006). Within this framework, the article considers whether criminologists should move beyond the traditional definition of crime and adopt Zemiological approaches to tackle environment degradation and state crimes, corporate crimes and state-corporate crimes that threaten fundamental human needs, rights and global well-being.

By examining the factors that lead to major disasters such as the Bhopal Gas tragedy and Deep Water Horizon Oil Spill, the article highlights the tangible consequences of state crime and corporate crime, suggesting recognition of “ecocide” as a grave international crime. It proposes that directing attention towards environmental losses due to state and corporate actions could pressure governments to enforce and implement stringent regulations.

**Keywords:** Zemiology, Green Crimes, Bhopal Gas Tragedy, State-corporate crimes, Environmental Protection .

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T. Pradhan et al. (eds.), *Proceedings of the NDIEAS-2024 International Symposium on New Dimensions and Ideas in Environmental Anthropology-2024 (NDIEAS 2024)*, Advances in Social Science, Education and Humanities Research 848,

[https://doi.org/10.2991/978-2-38476-255-2\\_22](https://doi.org/10.2991/978-2-38476-255-2_22)

## 1 Introduction

In the late 1990s, scholars engaged in discussions to advance the concept of social harm beyond the fundamental definitions and ideas associated with crime. This resulted in the development of “Zemiology” as a distinct field of study, diverging from conventional criminology and expanding the horizon of the established criminological framework. Originating within a deeply entrenched capitalist structure, Zemiology delves into social harm beyond individual-centric offences, encompassing a range of socioeconomic and politico-cultural concerns (Kramer,2014). While Criminology and Zemiology aim to enhance the criminal social justice system, their approaches and methodologies diverge.

The term Zemiology originated from a Greek word, “Zemia”, as elucidated by Greek Neohelnic Nixon by Aulos. “Zemia” extends beyond the concept of harm and damage, incorporating financial losses resulting from gradual wearing down of some kind. This multifaceted definition underscores the intricate nature of harm, acknowledging that its manifestations can extend beyond immediate psychical and psychological consequences.

In contrast, Aristotle offers a distinct viewpoint on injustice, positing that the commission of injustice occurs when one gains more than one's fair share (London,1998). This philosophical stance introduces a moral dimension to the understanding of harm, suggesting that unjust actions involve an imbalance in the distribution of resources or benefits within a societal framework

Reimen adds another layer to the discourse in exploring the ‘pyrrhic defeat theory’ within criminal justice policy. He contends that the traditional definition of crime, as understood, often excludes dangerous behaviours, focusing on many petty events rather than a broader realm of social harms (Reiman, 1979).

Therefore, Zemiology centred its focus on prioritising social harm over crime. As a dynamic natural being, a man experiences distress and suffering akin to animals and plants. This broader understanding of social harm encompasses physical injuries, including premature death or severe harm from violence such as car accidents, medical negligence, exposure to pollutants, instances of child abuse, racially motivated assaults, homelessness, and acts of murder and brutality by state officials.

This paper analyses how Zemiology has enriched our comprehensive understanding of global environmental harm by examining factors that led to the Bhopal disaster. On the tragic night of December 3, 1984, the Bhopal gas catastrophe unfolded when methyl-isocyanate (MIC) was leaked at the Union Carbide pesticide plant in Bhopal, M.P (Mishra et al., 2009, p. 193). Thousands lost their lives, and numerous others suffered severe health consequences due to the gas leak. The main objective of this paper is to analyse how Zemiology enriches the understanding of global environmental harm through a case study of the Bhopal Gas Leak and Deep Water Horizon Spill, highlighting the systemic factors that led to the disaster and the role of Union Carbide Corporation.

## 2 Green Harm as A Crime

Environmental harm encompasses action that causes harm to humans and other species, even if they are not considered a criminal offence under criminal law. Trying to encompass environmental harm within the confines of the conventional definition of criminology poses significant challenges. As Lynch observes, instances of environmental harm and crimes exceed those of street crimes in terms of prevalence, impact on victims, and magnitude of damage, emphasising the urgency for their consideration within criminology discourse. (Lynch, 1990, p1). Brisman emphasises the critical importance of documenting these harms, noting significant social and economic repercussions. (Brisman,2014)

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Criminal law relies on key elements, *actus reus* which refers to the conduct or action element, and a corresponding *mens rea*, which pertains to the mental state or the intent behind the act, to determine an act as a criminal offence. Reiman argues that the most significant harm often arises from indifference in our society (Stretesky, 2018). With globalisation, corporations and multinational companies offer convenience and comfort, but it also harms humans and the environment. Therefore, assigning liability to one individual, company, or government is insufficient; the choices made collectively by a society result in many harms.

Moving beyond the confines of criminology could facilitate a more nuanced approach to addressing grave crimes committed by the state and corporations. Zemiology offers several advantages over criminology, offering greater coherence and potential for comprehensive investigation and intervention. Understanding and addressing harm require consideration of various social, public and economic policies. Emphasising harm permits a much broader investigation into responsibility, unrestricted by individualist notions, providing a holistic perspective on societal choices and their impacts.

### 3 Case Studies

In the past, the present criminology system has often overlooked and pardoned severe crimes committed by corporations and the state, especially those directly committed by states, entities operated by the state, and their officials. While the actions by State Governments and large corporations are recognised as ‘harmful’ to the environment and even sometimes ‘criminal’, such actions often go unpunished. The case studies of the Bhopal Gas Tragedy and the Deepwater Horizon Spill through a renewed gemological lens will help us to understand the potential of semiology in environmental harm.

#### 3.1 The Bhopal Gas Disaster

The seminal case of the Bhopal Gas Disaster is a distressing study of corporate and state culpability, highlighting the intricate intersections of corporate interests and governmental oversight. The incident occurred on the night of 2-3 December 1984 in Bhopal. Methyl Isocyanate (MIC), a highly toxic gas, leaked from the Union Carbide Corporation (UCC) pesticide plant, an American company. The leak resulted in devastating consequences. Thousands of people died within days, and more suffered severe and long-term health consequences. The gas leak also had catastrophic impacts on animals and the environment.

According to a report submitted by the Indian Council of Agricultural Research regarding the impact of the incident on crops, animals, and fish, it was revealed that approximately 4,000 cattle, as well as various other animals, including dogs, cats, and birds, were killed. Additionally, the environmental damage to the city was significant. (Bajpai & Singh, 2010). The gas leakage can be attributed to a confluence of factors, including unsafe storage of hazardous chemicals, compromised safety protocols, disparity in safety measures and state culpability. The most severe allegation pertains to the disparity in safety protocols between the Indian plant and its counterpart in the United States (Chouhan, 1994). The parent plant in the United States had an automated warning system, whereas the Bhopal plant depended solely on manual gauges and human sense to identify potential hazards. The need for more trained staff to maintain the plant further exacerbated the situation. Management needed a better understanding of essential safety and monitoring measures, evidenced by the lax response to several minor incidents reported between 1974 and 1984. Despite these warnings, no substantial actions were taken to rectify the underlying issues.

Additionally, investigations revealed that the gas scrubber intended to neutralise escaping toxic gas was deactivated for maintenance purposes (Weir, 1987). Union Carbide Corporation (UCC) acknowledged that most safety systems were non-functional on December 3rd, 1984. The role of Warren Anderson, the then Chairman of Union Carbide Corporation (UCC), is a significant aspect of the aftermath. Despite the severity of the disaster, Anderson's absence from legal proceedings raises questions about the accountability and the ability of multinational corporate leaders to

evade legal consequences in the aftermath of such a disaster. He did arrive in Bhopal four days after the leak, but he was swiftly released after a few hours of detention and never returned for the trial proceeding. His release adds another layer of complexity to the overall narrative of corporate crime.

### **3.2 The Deepwater Horizon Oil Spill**

The Bhopal Gas Tragedy exemplifies a broader pattern of environmental harm that has stemmed directly from corporate activities. Similarly, the Deepwater Horizon Oil Spill, recognised as the most extensive marine oil spill in history, happened when an offshore oil drilling rig exploded on April 20, 2010. This rig was owned by Transocean and was leased by British Petroleum (BP) and was for exploration of the Macondo oil fields. This drilling rig experienced a catastrophic explosion, subsequently igniting and then eventually sinking and resulting in the loss of eleven lives and significant damage to the Gulf of Mexico's ecosystem – explicitly affecting the deep-water habitats. The biological, economic, and ecological impact was felt up to 2,100 kilometres of shoreline that directly risked protected marine mammals, large fish species, deep-sea corals, sea turtles, and cetaceans. (Beyer, Trannum, Bakke, Hodson & Collier, p. 28). Various factors, including corporate negligence, influenced this tragedy. John Browne, the CEO of BP, which operated the Deepwater Horizon, fostered a culture that prioritised profits over safety.

In addition to this, a decrease in state-level regulations, fuelled by the substantial revenue generated by offshore drilling leases in the United States, played a pivotal role. The issues of oversight and corruption within the oil industry also played a role in the contribution to the incident. The disaster witnessed a shifting of accountability among BP, Transocean, Cameron (the valve manufacturer), and Halliburton (which were responsible for concrete pumping into the well). Initial investigations unveiled BP's corporate culture, which consistently disregarded worker safety and environmental standards, contradicting the environmentally conscious image the company projected. Federal inquiries uncovered five additional issues on the rig, all stemming from poor decisions, overlooked warnings, and disputes over work (Cherry & Sneirson, 2011, p.983).

### **3.3 Other Relevant Studies**

In 2009, similarly, Greenpeace released a report outlining the significant environmental harm inflicted upon the Amazon Forest because of cattle ranching. The troubling revelation highlighted that the deforestation of the Amazon rainforest, primarily propelled by cattle ranching activities in Brazil, has reached critical levels. A staggering 80% of the deforested land is designated for pasture, underscoring the direct correlation between heightened demand for beef consumption and environmental degradation (Wooley, 2009).

In Asia, a report submitted by 'Friends of the Earth illuminates the devastating impacts of tin mining on Indonesia's Bangka Island. Tin is a critical component in the production of mobile phones, but it continues to contribute significantly to

environmental costs. Despite the widespread use of tin in electronic devices, manufacturers rarely disclose tin's origin. Tin mining transformed parts of the Indonesian tropical landscape into desolate, cratered terrain and severely harmed the local communities residing in these areas (Friends of the Earth, 2012).

## 4 The Role of Semiological Methodology

Hoping to provide a fresh and new perspective on addressing environmental losses that prioritises and emphasises social harm rather than solely focusing on criminality, in contrast to conventional criminology. Incidents like the Bhopal Gas Tragedy, the Deepwater Horizon Oil Spill, deforestation of rainforests, and tin mining in Indonesia indicate that such environmental harm may result from organisational structures and settings. Elements of corporate culture, disparities in safety protocols, profit-driven mentalities, and de-regulations have contributed to these events. The study of semiology should allow for a more comprehensive and holistic analysis of the factors leading to social harm, departing from the traditional criminological focus on individual intent. This approach helps to establish that environmental losses and state-corporate crimes cannot be isolated from broader structures and policies. With the adoption of this semiological study method, criminologists can examine the role played by various stakeholders, including governments, corporations, and individuals and their contribution to these harms.

The urgency to acknowledge environmental harm as a severe crime gains traction, especially considering the transboundary harm and border challenges posed by state crimes. Notably, Polly Higgins has advocated for the United Nations to recognise “ecocide” as a grave international crime comparable to war crimes, genocide, crimes of aggression and crimes against humanity and its inclusion under the Rome Statute. According to Higgins, Ecocide involves extensive destruction, harm, damage and loss of the ecosystem due to human activity and anthropogenic reasons, to a degree that undermines the peaceful existence of inhabitants in that area. Addressing this issue highlights the importance of treating environmental harms as significant and comparable to international crimes, potentially empowering governments to enforce stringent legal regulations and imposing penalties on large corporations and individuals.

The imperative to perceive environmental harm as a serious international and transnational crime is reinforced by the recognition that state crime, including the illegitimate use of state agencies' powers, theft and fraud by individuals in positions of power, contribute to the challenge. The current environmental regulation ecosystem needs more certainty to prevent big corporations from evading responsibility for their actions. To effectively address environmental harms, it is crucial to understand that they cannot be resolved in isolation. True justice is achieved when corporations responsible for inevitable environmental harm are held accountable and corporate penalties are strictly enforced as a deterrent.

## 5 Conclusion

Currently, the primary international treaties that pre-emptively address greenhouse gas emissions are the Kyoto Protocol of 1997 and the Paris Agreement, adopted in December 2015 under the United Nations Framework Convention on Climate Change. Yet, apart from addressing the challenge – that is, rising greenhouse gas emissions and the resultant climate change, it does not pre-emptively combat the ‘cause’ or ‘source’ of anthropogenic emissions. It also lacks a comprehensive legal framework enabling criminologists to address global warming, climate change impacts, and rising emissions as a state-corporate crime. However, moving beyond the strict legal definition of crime to holding corporations and states accountable for the harm inflicted on humans, animals, and the environment remains a considerable challenge. This is because the semiological approach inevitably invites strict scrutiny of those in power responsible for legislating and implementing these legal regulations. White’s suggestion emphasises taking environmental harm more seriously to conceptualise harm beyond the current legal parameters (Brisman, 2015).

States worldwide must take up the challenge of combating climate change in its entirety and protect the environment for future generations. For this, the state government must accept its responsibility in tackling climate change and follow it up with proactive measures, identifying policies that incentivise companies to enhance resource efficiency and environmental stewardship. This approach is crucial to achieving social justice and holding private and state entities and individuals responsible for their impact.

A semiological study on incidents such as the Bhopal Gas Leak Tragedy and the Deepwater Horizon Spill highlights the continuous threat posed by other state-control activities on the environment and the climate. It argues that thorough research must begin promptly, adopting a "Zemiology" perspective. This shift in perspective transcends the traditional criminological focus on individual intent and adopts a more structural approach. Embracing the approach will enable a deep understanding of the complex interplay between state policies, corporate actions, and environmental consequences, paving the way for informed interventions and policy changes to address the challenges of climate change and environmental degradation.

### *Acknowledgement*

This article originated from an LLM paper written in 2019 under the guidance of Prof. Richard Sparks at the Edinburgh Law School, University of Edinburgh. (United Kingdom). His expertise and thoughtful insights have been instrumental in shaping the progression of the paper.

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