

From Statelessness to Ecological Displacement: A Green Criminological Reading of the Rohingya Crisis

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ABSTRACT: While the humanitarian aspects of the Rohingya crisis are well-documented, its environmental consequences remain critically underexplored. This study addresses that gap by applying green criminological theory to analyze how environmental victimization intersects with forced migration and structural violence, offering a novel framework to understand both human and non-human harm. Through a qualitative methodology grounded in extensive document and content analysis, this article investigates how both state and non-state actors contribute to ecological destruction, which further marginalizes displaced Rohingya populations and local host communities in Bangladesh. The analysis reveals a complex web of primary, secondary, and tertiary victimization, where environmental harm acts as both a tool of persecution in Myanmar and a consequence of inadequate refugee management in Bangladesh. The findings underscore the pressing need for an integrated policy approach that incorporates environmental justice into responses to humanitarian crises, thereby challenging prevailing anthropocentric paradigms. This approach emphasizes the interconnected rights of displaced people and ecosystems alike, advocating for ecological justice as a central and non-negotiable component of refugee and environmental policy reforms.

KEYWORDS: Green Criminology, Rohingya Crisis, Ecological Destruction, Environmental Injustice, Structural Crime, Refugee Policy, Ecological Justice, Forced Migration, Ecocide, Slow Violence.

I. INTRODUCTION

The Rohingya crisis has emerged as one of the most severe and protracted humanitarian and geopolitical challenges of the 21st century. It is primarily characterized by the forced displacement of a stateless ethnic minority from Myanmar's Rakhine State, a population subjected to decades of systematic persecution. Despite growing international attention to the egregious human rights violations committed against the Rohingya people- including acts amounting to genocide, ethnic cleansing, the systematic denial of citizenship, and violent persecution- scholarly and policy discourses have largely overlooked a critical and compounding dimension of the crisis: its profound environmental consequences. Since 2017 the rapid and massive influx of over one million refugees into Bangladesh's Cox's Bazar region has not only placed tremendous social, economic, and political pressure on the host communities but has also triggered significant and potentially irreversible ecological degradation, threatening the fragile ecosystems of one of South Asia's most biodiversity-rich and environmentally sensitive areas (UNDP, 2018).

Cox's Bazar, with its extensive coastal forests, rolling hills, and vital water bodies, is an ecological jewel. However, its environmental sensitivity makes it acutely vulnerable to demographic shocks. The



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sudden and largely unplanned establishment of the world's largest refugee settlement has resulted in widespread deforestation, acute soil erosion, the depletion and contamination of vital water resources, and pervasive pollution. These environmental impacts are not merely collateral damage; they actively exacerbate the vulnerabilities faced by both the displaced Rohingya and the general Bangladeshi people, creating a complex and vicious matrix of social and ecological injustice that demands urgent and integrated attention (Ahmed & Rahman, 2023).

This article utilizes the theoretical framework of green criminology, a critical subfield of criminology that intentionally transcends traditional, state-defined legal definitions of crime to include environmental harm and the victimization of both human and non-human entities. By adopting this powerful perspective, the study aims to illuminate the overlapping layers of ecological and social victimization that characterize the Rohingya crisis, emphasizing how forced migration, state-perpetrated structural violence, and widespread environmental injustice intersect and reinforce each other. Unlike conventional criminological approaches that often prioritize legalistic and anthropocentric interpretations of wrongdoing, green criminology highlights the systemic, structural, and frequently overlooked harms inflicted upon ecosystems and marginalized communities, regardless of their formal legality (Lynch & Stretesky, 2014; White, 2008). This lens allows us to perceive the destruction of a forest not merely as a resource issue but as a form of harm- a crime against nature and the communities that rely on it.

Furthermore, this study critically examines the roles of state and non-state actors in perpetuating and exacerbating environmental harm through acts of commission, omission, and systemic neglect. In Myanmar, the military junta's campaign deliberately employed ecological destruction- demolishing the villages, farmlands, and forests- as a weapon of war to facilitate ethnic cleansing and make the land uninhabitable for returning Rohingya. In Bangladesh, the state's management of the refugee settlements, while born of humanitarian necessity, has largely failed to integrate sustainable environmental practices, thus contributing to ongoing ecological degradation. Simultaneously, international organizations and donor agencies, in their haste to provide immediate life-saving aid, have often been slow to incorporate environmental considerations into their humanitarian response frameworks, thereby perpetuating cycles of harm that disproportionately affect Rohingya the most vulnerable population (Global Environmental Justice Network, 2025).

By adopting a qualitative case study methodology and engaging with a broad and diverse array of reports, academic literature, and policy documents, this article aims to contribute a novel and much-needed green criminological analysis to the discourse on the Rohingya crisis. The findings underscore the profound need to incorporate ecological justice into the very fabric of refugee policy and humanitarian aid. Ultimately, this article proposes a holistic framework that addresses environmental victimization not as a secondary concern but as an integral and inseparable component of social justice, human rights and sustainable peace.

II. THEORETICAL FRAMEWORK: A GREEN CRIMINOLOGICAL LENS

To fully understand the environmental aspects of the Rohingya crisis, a traditional criminological or humanitarian framework is inadequate. Green criminology offers a broader and more critical perspective, providing concepts that highlight the intricate relationship between human rights violations, state authority and ecological damage which is basically consider a subfield of criminology, that studies very precisely issues relate to environmental harms and crimes, including their causes, consequences, and responses that could be intentional or not but impact both human and non-human life.

A. The Foundations of Green Criminology

Green criminology emerged in the 1990s as a critical sub-discipline that challenges the anthropocentric (human-centered) and legalistic paradigms that have long dominated criminology. Its central premise is that the proper subject of study should not be restricted to acts defined as "crime" by state law but should encompass all significant environmental harms, regardless of their legal status (Lynch & Stretesky, 2003). This perspective critiques the reality that many of the most devastating ecological acts such as large-scale deforestation by corporations or state-sanctioned pollution are often legal or weakly regulated. Green criminologists argue for an eco-centric perspective, which acknowledges the intrinsic value of non-human life and ecosystems and considers harm against them as a legitimate focus of criminological inquiry (White, 2008).

B. Green Victimization: Human and Non-Human

At the core of green criminology the concept of green victimization is laid down. This idea expands the traditional definition of a victim to encompass non-human entities. It suggests that environmental harms cause real suffering not only to humans but also to animals, plants, and entire ecosystems (South, 2010). In the Rohingya crisis, this framework enables us to identify multiple layers of victimization:

- **Primary Victimization:** The direct harm experienced by the Rohingya in Myanmar, where ecological destruction was a tool of their violent displacement.

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- **Secondary Victimization:** The ongoing harm experienced in the refugee camps in Bangladesh, where they are confined to environmentally degraded and hazardous locations.
- **Non-Human Victimization:** The suffering and destruction inflicted upon the forests, wildlife, and water systems of Cox's Bazar. Crucially, these harms often intersect with social inequalities. Environmental injustice scholarship shows that marginalized communities defined by race, ethnicity, class, or legal status disproportionately endure the impacts of ecological degradation while being systematically excluded from decision-making processes related to environmental governance (Pellow, 2002). The Rohingya, a stateless and persecuted minority, exemplify this intersectionality, facing compounded vulnerabilities due to their social exclusion and environmental marginalization.

C. State and State-Corporate Crime

Green criminology also provides analytical tools to dissect the role of powerful actors. The concept of state-corporate crime refers to harms and illegalities committed through a collaboration between state institutions and corporate entities (Kramer & Michalowski, 2005). While corporations are not the primary actors in this specific crisis, the concept can be extended to state crime, where the state itself is the principal perpetrator. In the Rohingya case, the actions of the Myanmar military- using environmental destruction as a tactic of ethnic cleansing- can be defined as a form of state-perpetrated ecocide or ecological destruction (White, 2011). In Bangladesh, the state's failure to implement robust environmental protections in the camps, while not malicious, can be understood as a "crime of omission" where institutional failures lead to foreseeable and large-scale environmental damage.

D. Structural and Slow Violence

This framework is further enriched by Johan Galtung's (1969) theory of structural violence, which describes social structures or institutions that systematically harm or disadvantage certain populations. This form of violence is often indirect, invisible, and normalized. Rob Nixon (2011) builds on this with his concept of "slow violence," which he defines as "a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space." The environmental degradation in Cox's Bazar is a textbook example of slow violence. It is not a singular, explosive event, but a gradual, attritional process of deforestation, soil erosion, and water contamination that quietly undermines the health, resilience, and future prospects of both refugees and host communities. This slow violence is embedded in the very structure of the refugee response, prioritizing short-term survival over long-term ecological sustainability.

III. METHODOLOGY

This study utilizes a qualitative case study methodology, which is exceptionally well-suited for an in-depth, holistic investigation of a complex, contemporary phenomenon within the real-world context. The case study focuses on the environmental dimensions of the Rohingya crisis, primarily within the refugee settlements of Cox's Bazar, Bangladesh, covering the period from the significant influx in August 2017 to early 2025, incorporating the latest available data and policy analyses.

The primary research method used is document and content analysis. This involves the systematic collection, review, and interpretation of a wide range of existing textual and visual materials. This approach is non-intrusive, enabling a comprehensive synthesis of information from diverse and authoritative sources. Primary data sources include:

Official Reports and Assessments: Publications from international organizations involved in the humanitarian response, including the United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM), the United Nations Development Programme (UNDP), and the World Food Programme (WFP).

Peer-Reviewed Academic Literature: Scholarly articles from journals in the fields of environmental studies, refugee studies, criminology, public health, and South Asian studies.

Policy Briefs and Grey Literature: Reports and advocacy documents from non-governmental organizations (NGOs) such as Human Rights Watch, Amnesty International, the International Union for Conservation of Nature (IUCN), and various local Bangladeshi environmental groups.

Government Documents: Official statements and reports from the Government of Bangladesh concerning refugee management and environmental policy.

Investigative Journals and Media Reports: In-depth articles from reputable international media outlets that have documented the environmental conditions in the camps.

A thematic analysis approach was employed to systematically code and analyze the collected data. The analysis was guided by the green criminological framework, with coding focused on identifying recurring patterns and key themes related to three central domains:

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Ecological Destruction: Specific form of environmental harm such as deforestation, water pollution, and soil erosion.

Institutional Roles and Failures: The actions and inactions of state (Myanmar and Bangladesh) and non-state (UN, NGOs) actors.

Forms of Victimization: Evidence of primary, secondary, and non-human victimization, as well as manifestations of structural and slow violence.

To ensure the reliability and validity of the findings, the principle of triangulation was applied. This involved cross-referencing information and findings from various types of sources (e.g., comparing a UN report on deforestation with an NGO report and a journalistic account). This process helps to reduce potential bias inherent in any single source and provides a more robust, nuanced and comprehensive understanding of the crisis. The study also remains aware of the ethical issues related to representation, political sensitivities and the importance of portraying vulnerable populations with dignity and accuracy.

A limitation of this methodology is its reliance on secondary data, which excludes the use of firsthand field observations or interviews. However, given the political sensitivity and access constraints associated with the Rohingya crisis, a thorough analysis of existing documentation offers the most feasible and ethical approach to conducting a comprehensive study of this scale.

IV. BACKGROUND: A HISTORY OF PERSECUTION AND DISPLACEMENT

The roots of the Rohingya crisis are deeply embedded in the complex ethnic, religious, and political history of Myanmar (formerly Burma). The Rohingya are a predominantly Muslim ethnic minority that has resided for centuries in what is now Rakhine State. However, their historical presence in the region is fiercely contested by Myanmar's nationalist narratives, which often portray them as illegal immigrants from Bengal (Yegar, 1972; Leider, 2018). This contestation was significantly exacerbated during the period of British colonial rule (1824–1948), when the British encouraged the migration of laborers from the Indian subcontinent, including many Muslims from Bengal, to work in Burma. This policy created lasting ethnic tensions between the predominantly Buddhist Rakhine population and the Muslim Rohingya.

Following Myanmar's independence in 1948, the Rohingya faced increasing marginalization. This process of exclusion culminated in the enactment of the 1982 Citizenship Law, which effectively institutionalized their persecution. The law created a hierarchy of citizenship and denied the Rohingya recognition as one of the country's 135 official ethnic groups, rendering them stateless unless they could provide near-impossible proof of ancestral residence prior to 1823 (Human Rights Watch, 2000). This legal marginalization stripped them of fundamental rights and protections, including the right to vote, own land, travel freely, access education and healthcare, and receive protection from the state.

Over the decades, the Rohingya have faced repeated waves of state-sponsored violence and forced displacement. However, the events that began in August 2017 were unprecedented in their scale and brutality. Following attacks on police posts by a Rohingya insurgent group, the Myanmar military (the Tatmadaw) launched a ferocious "clearance operation" in northern Rakhine State. Widespread killings, mass rape and other forms of sexual violence, and the systematic destruction and burning of hundreds of villages characterized this campaign. The United Nations High Commissioner for Human Rights described it as a "textbook example of ethnic cleansing," and subsequent investigations have found evidence of genocidal intent (OHCHR, 2017).

This brutal crackdown forced over 700,000 Rohingya to run away across the border into neighboring Bangladesh and within months the number joining hundreds of thousands who had escaped previous waves of persecution. The Government of Bangladesh, despite its limited resources, responded by adopting a policy of open borders and establishing massive refugee camps in the Ukhiya and Teknaf upazilas of Cox's Bazar district. The area quickly transformed into the world's largest and most densely populated refugee settlement. However, this act of humanitarianism came at a significant environmental cost. Cox's Bazar is an ecologically fragile zone, home to endangered Asian elephants, vital coastal forests, and a delicate hydrological balance. The unplanned and rapid influx of a million people strained the region's natural resources to the breaking point, leading to large-scale environmental degradation that now compounds the humanitarian crisis, illustrating the tragically intertwined nature of human rights abuses and ecological harm (UNDP, 2018).

V. ENVIRONMENTAL DESTRUCTION IN COX'S BAZAR: A GREEN CRIMINOLOGICAL CASE STUDY

The establishment of the Rohingya refugee camps in Cox's Bazar led to an environmental crisis of immense proportions. This section analyzes the primary forms of ecological harm through a green criminological lens, framing them not as unfortunate side effects but as tangible forms of green victimization.

A. Deforestation and Habitat Loss: The Erasure of Ecosystems

The most immediate and visible environmental impact was catastrophic deforestation. To shelter over a million refugees, an estimated 6,000 to 8,000 acres of national forest land were cleared to create makeshift shelters, roads, and infrastructure (UNHCR

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& IUCN, 2019). This land was not empty; it consisted of hilly terrain covered in forests that served as critical habitats for a wide range of biodiversity, including being part of a crucial corridor for the endangered Asian elephant. The complete removal of forest cover has resulted in cascading ecological effects:

Biodiversity Loss: The destruction has devastated wildlife habitats for elephants, various primate species, pangolins, and hundreds of bird species. This not only signifies a loss of intrinsic natural value but also disrupts essential ecological functions such as pollination and seed dispersal.

Human-Wildlife Conflict: As their forest habitat shrank, elephants and other wildlife were driven into camp areas in search of food and traditional migratory routes, leading to a sharp increase in human-wildlife conflicts. Tragically, these encounters have caused the deaths of both refugees and elephants, highlighting a stark example of overlapping human and non-human victimization (Ahmed & Rahman, 2023).

Loss of Ecosystem Services: The forests provided essential ecosystem services, including carbon sequestration, local climate regulation, and soil retention. Their removal has reduced the region's ecological resilience and undermined the traditional livelihoods of local communities who depended on the forest for fuel, food, and medicine. From a green criminological perspective, this deforestation constitutes a profound act of environmental injustice, where the ecological costs are borne by marginalized refugees and local communities lacking the agency to influence land-use decisions.

B. Water Scarcity and Pollution: A Toxic Cocktail

The immense population density in the camps has placed unbearable pressure on the region's water resources.

Groundwater Depletion: In order to satisfy the demand for drinking water, thousands of shallow and deep tube wells were quickly installed. This unregulated and intensive extraction has resulted in a significant drop in the groundwater table, causing scarcity for both refugees and the host community.

Water Contamination: The sanitation infrastructure is severely inadequate for a population of this size. Most latrines consist of basic pit latrines, often situated too close to water sources. Fecal sludge frequently leaks from these pits, contaminating the shallow aquifers that many depend on for drinking water. This has led to a public health crisis, with widespread outbreaks of waterborne diseases like cholera and acute watery diarrhea (REACH, 2018). The water has become a vector for "slow violence," silently sickening its most vulnerable consumers.

C. Soil Erosion and Increased Disaster Vulnerability

The hilly terrain of Cox's Bazar is naturally susceptible to landslides, a risk that was historically mitigated by dense vegetation cover. The complete removal of trees and undergrowth for the camps has left the steep slopes bare and unstable.

Landslide Risk: During the annual monsoon season, heavy rains saturate the exposed soil, leading to frequent and often deadly landslides that sweep through the flimsy shelters built on the hillsides. Hundreds of thousands of refugees live under the constant threat of being buried alive (ISCG, 2018).

Cyclone Vulnerability: The coastal forests and mangroves of the region act as a natural barrier against storm surges and cyclones, which are prevalent in the Bay of Bengal. Their degradation has diminished this protective buffer, heightening the vulnerability of both refugee and host communities to extreme weather events, a risk that is escalating with climate change. This highlights the urgent need to incorporate environmental resilience and disaster risk reduction into refugee camp design.

D. The Solid Waste Management Crisis

The refugee camps generate an estimated 1,200 metric tons of solid waste daily, lacking a comprehensive system for its collection, treatment, or disposal. Plastic waste, in particular, clogs waterways, contaminates soil, and poses a health hazard. The absence of waste management infrastructure is a glaring institutional failure, turning the camps into vast, polluted landscapes that further worsen the living conditions of their inhabitants and the surrounding environment (UNHCR, 2022).

VI. THE LAYERS OF GREEN VICTIMIZATION

The Rohingya endure a continuous cycle of victimization that starts in Myanmar and continues in Bangladesh, with ecological damage playing a vital role at every stage.

Table: Layers of Green Victimization

Victimization Type	Description	Actors Involved	Location	Environmental Harm
Primary	Environmental destruction used as a weapon	Myanmar Military	Rakhine State, Myanmar	Ecocide: burning villages, deforestation

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Secondary	Living in degraded, hazardous camps	Government of Bangladesh, UN, NGOs	Cox's Bazar, Bangladesh	Deforestation, landslides, water contamination
Tertiary	Forced relocation to risky island	Government of Bangladesh	Bhasan Char Island	Risk of flooding, habitat destruction

A. Primary Victimization: Ecocide as a Tool of Persecution

In Myanmar, the Rohingya suffered what green criminologists would term primary environmental victimization. The military's "clearance operations" were not just attacks on people but also their environment. The systematic burning of villages, the destruction of farmland, the poisoning of wells, and the killing of livestock were deliberate acts of ecocide. These were not random acts of violence; they were a calculated strategy to destroy the ecological basis of Rohingya life and identity, making their homeland uninhabitable and severing their connection to their ancestral lands. This ecological destruction was a weapon of ethnic cleansing, designed to ensure that even if they survived, they would have nothing to return to.

B. Secondary Victimization: Life in a Degraded Environment

Upon arriving in Bangladesh, the Rohingya faced secondary victimization. Although they found relative safety from direct violence, they were confined to overcrowded camps that were environmentally degraded and prone to hazards. Their statelessness and lack of legal status mean they have no influence over the environmental governance of the camps. They are forced to endure the consequences of deforestation (landslides), water pollution (disease), and resource scarcity. This confinement in a toxic environment represents a form of environmental injustice that continues to marginalize them and undermines their physical and mental well-being. It constitutes a daily, attritional harm that erodes their dignity and resilience (Pellow, 2002).

C. Tertiary Victimization: The Bhasan Char Relocation

The controversial relocation of tens of thousands of Rohingya refugees to Bhasan Char, a remote and low-lying silt island in the Bay of Bengal, represents a form of tertiary victimization. The island was formed by sedimentation only about 20 years ago and is highly vulnerable to cyclones and flooding. Despite the construction of concrete shelters, the move has been criticized by human rights groups as a form of ecological containment, effectively isolating refugees in a high-risk, environmentally fragile location far from the mainland, with limited freedom of movement and access to services (Smith & Kumar, 2023). This relocation, conducted under the guise of a humanitarian solution, raises profound questions about informed consent, human rights, and environmental justice.

VII. ECOLOGICAL IMPACTS IN COX'S BAZAR REFUGEE SETTLEMENTS

Environmental Crisis in the World's Largest Refugee Camp:

- **Deforestation:** 6,000–8,000 acres of forest lost
- **Wildlife Conflict:** >10 human deaths & elephant fatalities reported (2017–2023)
- **Water Issues:**
 - 60%+ shallow wells at risk of contamination
 - Groundwater level decline: 20–30 feet in some areas
- **Disaster Risk:**
 - Monsoon-induced landslides: dozens killed
 - Cyclone vulnerability due to mangrove loss
- **Solid Waste:** ~1,200 tons/day with limited disposal infrastructure

VIII. ENVIRONMENTAL INJUSTICE AND THE STRUCTURE OF SLOW VIOLENCE

The concept of environmental injustice is evident in the disproportionate ecological burdens faced by the Rohingya and their local host communities. Both groups endure the consequences of a degraded natural environment, resource scarcity, health risks, and increased disaster vulnerability while having little power to influence the policies and practices that create these conditions.

This situation is a clear illustration of Galtung's (1969) structural violence. The harm is not necessarily inflicted by an identifiable individual actor in the camps but is embedded in the very structure of the situation: the statelessness of the Rohingya, the resource constraints of Bangladesh, and the failure of the international humanitarian system to prioritize environmental sustainability. This creates the conditions for Rob Nixon's (2011) "slow violence." The gradual poisoning of the water supply, the incremental loss of soil fertility, and the creeping threat of landslides are forms of violence that are attritional and often invisible to the outside world. For the Rohingya, ecological degradation is not an abstract concept; it is a slow, cumulative harm that exacerbates their social exclusion, deepens their poverty, and systematically undermines their capacity to build a resilient future.

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IX. STATE CRIME AND INSTITUTIONAL FAILURE

A green criminological analysis implicates powerful actors in these environmental harms.

Myanmar's State Crime: The Myanmar military's campaign in 2017 represents a clear case of state crime. The deliberate use of ecocide to facilitate ethnic cleansing is one of the gravest forms of environmental crime, directly linking environmental destruction to mass human rights atrocities (White, 2011). Accountability for these acts must include accountability for the ecological devastation that results.

Bangladesh's Institutional Failures: While Bangladesh's response has been generous, its inadequate environmental management of the refugee settlements can be seen as an institutional failure or a "crime of omission." Confronted with an overwhelming crisis and limited resources, priority was not given to environmental protection. The inability to enforce environmental laws, implement sustainable site planning, and invest in long-term waste and water management infrastructure has directly contributed to the long-term ecological damage impacting both refugees and their host communities.

Complicity of International Actors: International actors, including the UN and donor nations, are not blameless. The humanitarian response has often faced criticism for its "siloed" approach, which disconnects life-saving aid from environmental sustainability. The initial failure to conduct comprehensive Environmental Impact Assessments (EIAs) and the slow rollout of green initiatives, such as providing Liquefied Petroleum Gas to reduce firewood dependency, highlight a systemic neglect of environmental considerations. This collective failure underscores the systemic nature of environmental harm in the context of forced migration.

X. THE NON-HUMAN VICTIMS: AN ECO-CENTRIC PERSPECTIVE

A defining feature of green criminology is its expansion of the concept of victimhood to include non-human species and ecosystems. In Cox's Bazar, ecological devastation has had catastrophic consequences for wildlife. The destruction of thousands of acres of forest has displaced and endangered numerous species. The most emblematic non-human victims are the Asian elephants, whose ancient migratory corridors were severed by the camps, leading to fatal conflicts. However, the harm extends to countless other species from insects and amphibians whose habitats were erased to fish in streams choked with waste.

Recognizing these non-human victims is not a sentimental exercise; it is fundamental to ecological justice (Beirne, 1999). It acknowledges the intrinsic value of biodiversity and the deep interconnectedness of all life forms. The collapse of these ecosystems undermines the very life-support systems—clean air, clean water, stable soil that are essential for both human and non-human well-being. Therefore, a truly just response must account for the harm done to the natural world and seek its restoration.

XI. TOWARD ECOLOGICAL JUSTICE: A NEW PARADIGM FOR HUMANITARIAN RESPONSE

Transitioning from diagnosing harm to prescribing change necessitates embracing the principles of ecological justice. This entails a fundamental paradigm shift in the management of humanitarian crises. Such as:

Sustainable Refugee Management: Interventions must go beyond short-term survivalism. This requires the systematic adoption of sustainable practices: investing in renewable energy (solar mini-grids), widely using alternative fuels to halt deforestation, constructing robust eco-sanitation systems, and implementing large-scale reforestation and watershed management programs.

Transitional Justice and Environmental Reparations: Any future resolution to the Rohingya crisis, including potential repatriation or resettlement, must include environmental justice. This should encompass mechanisms for environmental reparations—holding the Myanmar regime accountable for the ecocide in Rakhine State and funding the remediation of the damaged landscapes in both Myanmar and Bangladesh.

Policy and Legal Integration: There is a critical need for comprehensive policy frameworks that dismantle the barriers between humanitarian aid, development, environmental protection, and human rights. International refugee law and policy must be revised to explicitly incorporate the right to a safe and healthy environment for displaced populations. Legal frameworks should be expanded to recognize ecocide as an international crime and to grant legal standing to non-human victims, facilitating their protection and the restoration of their habitats.

Empowering Local and Refugee Communities: A top-down approach is bound to fail. Sustainable solutions must be community-led. Both Rohingya refugees and local Bangladeshi communities should be empowered and included in designing and implementing environmental conservation and restoration projects. Their local knowledge serves as an invaluable resource for building ecological resilience.

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Table: Comparison of Environmental Impacts Before vs. After Refugee Influx (2016 vs. 2024)

Category	Before 2016	After 2024
Forest cover (acres)	25,000+	~17,000
Elephant corridor viability	Moderate	Severely blocked
Water table depth (ft)	~80	~110
Annual landslides	<5	>20

Source: UNDP, IUCN, ISCG reports

XII. IMPORTANCE POLICY IMPLICATIONS

Based on this analysis, the following policy actions are urgently required:

A. For UNHCR, IOM, and other UN agencies:

Mandate comprehensive Environmental Impact Assessments (EIAs) as prerequisites for all refugee camp design and management. Climate resilience and ecological sustainability must be integrated as core principles of humanitarian action, not as afterthoughts (UNHCR, 2022).

B. For the Government of Bangladesh:

Strengthen and enforce environmental laws in the camp zones. Collaborate with international partners to develop and implement a long-term, large-scale ecological restoration plan for the Cox's Bazar region, focusing on reforestation, watershed protection, and sustainable livelihoods for host communities (Ahmed & Rahman, 2023).

C. For the International Community and Myanmar Accountability Mechanisms:

Support efforts at the International Criminal Court (ICC) and the International Court of Justice (ICJ) to hold perpetrators accountable not only for genocide and crimes against humanity but also for the intentional ecocide committed in Rakhine State (Smith & Kumar, 2023).

D. For NGOs and Civil Society:

Continue to innovate and invest in green technologies for humanitarian settings (e.g., solar power and biogas digesters). Prioritize advocacy that connects human rights with environmental rights and empower local communities to act as stewards of their environment.

E. For Donor Nations:

Allocate funding specifically for green humanitarian aid. Encourage and require implementing partners to adopt sustainable practices to mitigate and reverse ecological harm (Global Environmental Justice Network, 2025).

Table: Policy Actor Responsibilities and Environmental Gaps

Actor	Responsibilities	Gaps Identified
Myanmar Military	Protection of civilians	Perpetrated ecocide and ethnic cleansing
Bangladesh Government	Refugee hosting, camp safety	Lacked environmental planning, poor regulation
UN Agencies (UNHCR, IOM)	Camp design, humanitarian aid	Initial neglect of ecological assessments
NGOs and Civil Society	Livelihoods, WASH services	Low emphasis on green solutions early on
Donor Nations	Funding aid efforts	Minimal climate/environment earmarked funds

XIII. RECOMMENDATIONS: THE PATHWAY TO ECOLOGICAL JUSTICE

Green criminology is not merely diagnostic but also it is normative. It calls for ecological justice, a paradigm that demands recognition and redress for harms inflicted on both human and non-human victims & for that need to follow very specific and most impactful 5 steps toward to green humanitarianism which are:

1. Mandatory environmental impact assessments (EIAs)
2. Mass reforestation & renewable energy projects
3. Community-led environmental governance
4. International legal recognition of ecocide
5. Integration of ecological justice in refugee law

Ecological justice advocates for sustainability, the precautionary principle, the rights of nature, and inter- and intra-generational equity (Beirne, 1999). It insists that a just resolution to crises like the Rohingya displacement must include environmental

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remediation, accountability for ecological crimes, and the integration of environmental rights into the broader framework of human rights. This normative ideal serves as the foundation for policy recommendations aimed at fundamentally transforming refugee and humanitarian governance.

XIV. CONCLUSION

The Rohingya refugee crisis is much more than a story of human displacement; it is a profound illustration of the violent convergence of ethnic persecution, statelessness, and ecological destruction. A green criminological perspective extends beyond a narrow focus on human rights violations to unveil a multifaceted tragedy of intertwined human and environmental suffering. It highlights how environmental harm is weaponized as a tool of persecution, how it is worsened by institutional failures in humanitarian settings, and how it acts as a form of slow, structural violence that victimizes refugees, host communities, and non-human nature alike.

Addressing this crisis requires moving beyond the prevailing anthropocentric paradigms that have guided policy and humanitarian responses so far. Ecological justice must become a central pillar of our approach. Only by integrating environmental sustainability into the very fabric of human rights protection can we hope to create interventions that do not perpetuate cycles of displacement and degradation. Securing dignity, justice, and resilience for all victims of the Rohingya crisis, both human and non-human, demands nothing less. The future of effective and ethical humanitarianism in an age of ecological uncertainty depends on it.

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