

GENDERED IMPACTS OF ENVIRONMENTAL CRIME: EXPLORING RESILIENCE STRATEGIES AND POLICY EFFECTIVENESS FOR WOMEN AND INDIGENOUS COMMUNITIES IN INDIA

ANUPRIYA. M

*Ph.D. Research Scholar, Department of Political Science, School of Social Sciences
Madurai Kamaraj University, Madurai*

Prof. D. RAMAKRISHNAN

*Head, Department of Political Science, School of Social Sciences
Madurai Kamaraj University, Madurai*

Abstract

Deforestation, biodiversity loss, and unlawful exploitation of forest areas are examples of environmental crime, which is a serious worldwide problem with profound effects on local communities, especially women and indigenous people. Women who make up a substantial portion of the agricultural workforce and are heavily involved in food production, are often disproportionately affected by environmental degradation. Approximately 80% of people displaced by environmental crises are women, and their ability to respond and adapt to these challenges is influenced by their roles in society and access to resources. Women's perceptions and responses to environmental crimes are influenced by gender dynamics and sociocultural norms in many rural and indigenous communities. These crimes impede women's agency and political engagement by upending established roles and aggravating vulnerabilities. Although there are safeguards for indigenous communities, they frequently overlook the unique vulnerabilities of women, especially when it comes to their limited access to forest resources and economic reliance. This research explores the gendered impacts of environmental crime on women and indigenous communities, focusing on the resilience strategies employed by women as environmental defenders. Further this study examines the policies and initiatives implemented by central and state governments in India to combat environmental crimes and its impact on women. The findings aim to contribute to a better understanding of the unique challenges faced by women in these communities and the need for more gender-sensitive approaches to environmental protection.

Keywords: forest rights, gender inequality, wildlife enforcement

Introduction

Environmental crime has been a topic of ongoing debate, yet the pressing issues of human-driven environmental degradation and biodiversity loss remain highly relevant. Indigenous communities residing in biodiversity-rich areas, including forests, mountains, and marine ecosystems, are among the first to bear the consequences. The influx of men from outside these regions due to illegal extractive activities, such as mining and logging, often leads to the 'masculinization' of these territories. Around the world, organized crime significantly contributes to environmental destruction and the decline of forest ecosystems.

The detrimental effects of environmental degradation on indigenous, forest-dependent communities are widely recognized in global development and environmental

protection discussions. Women, in particular, face significant challenges as they struggle to adapt to and cope with the impacts of illegal resource exploitation. These disruptions not only interfere with their daily lives but also pose safety risks, especially as many women must enter forested areas for domestic activities. The consequences vary between communities and are shaped by gender roles, patriarchal structures, and in some cases, physical violence. Indigenous women, whose cultural and economic well-being is deeply connected to their natural surroundings, are increasingly affected by the expansion of illegal extractive economies.

Men and women interact with forest resources differently, as their roles, responsibilities, and social expectations influence their priorities and needs. Women's

perceptions of and responses to environmental crime and biodiversity loss are closely tied to shifts in traditional gender roles and family dynamics. Gender norms also play a crucial role in shaping power structures that determine access to rights, agency, and political participation.

While indigenous communities frequently mobilize to protect their lands from extractive operations and perceived environmental crimes, patriarchal norms often limit women's involvement and influence. However, their participation in resistance movements has been steadily growing, particularly in opposition to large-scale state concessions. Many women have emerged as prominent environmental defenders within their communities, driven by the need to protect their livelihoods and challenge dominant narratives against indigenous groups. Despite this, the gender-specific impact of environmental crime remains underrepresented within international conservation and climate change frameworks. Though indigenous women employ similar resilience strategies, these responses are also shaped by the unique cultural and environmental contexts of different forest ecosystems.

Objective of the Study

1. To analyse the gendered impacts of environmental crimes on women and indigenous communities.
2. To investigate the resilience strategies employed by women as environmental defenders
3. To assess the effectiveness of government policies and initiatives in combating environmental crime.

Review of Literature

There are number of literatures available in this theme. Here a few literatures are being discussed. Agarwal. B, in his books **"Gender and Green Governance: The Political Economy of Women's Presence Within and Beyond Community Forestry"** (2010), the book deals with how women, as primary caretakers of natural resources, bear the brunt of environmental degradation. The depletion of resources due to deforestation and pollution intensifies women's workload, requiring them to spend more time gathering essentials such as water and firewood. This added responsibility significantly restricts their access to education, healthcare, and economic opportunities. Additionally, their reliance on natural

resources for survival increases their vulnerability to displacement caused by illegal mining and deforestation.

Sarin, M, in his article **"Forest Rights Act and Gender: Inclusions and Exclusions"**.(2018) the article analyses the India's indigenous populations, or Scheduled Tribes, inhabit resource-rich areas frequently targeted for illegal mining and logging. Studies highlight the erosion of traditional lands and biodiversity due to these activities. The loss of ancestral lands undermines the socio-cultural fabric of these communities, disrupting their ways of life. Women within these communities face dual vulnerabilities due to patriarchal norms and limited legal support in securing land rights under the Forest Rights Act (FRA)

Environmental Crime

Environmental crime involves the breach of laws designed to safeguard the environment and public health. These regulations oversee air and water quality while also establishing legal guidelines for waste disposal and hazardous material management. When individuals or corporations violate these laws, their actions may be classified as white-collar crimes. Crimes against the environment and wildlife refer to activities that harm natural ecosystems and wildlife populations, forming a distinct category within global organized crime. In fact, environmental crime ranks as the fourth largest sector of organized criminal activity worldwide. This type of crime encompasses a broad spectrum of offenses, ranging from administrative and record-keeping violations to the unlawful discharge of pollutants into the environment, all of which pose risks to both nature and human well-being.

Environment and Wildlife Crimes against Humanity

Human-induced environmental damage is ultimately harming humanity itself, as people are endangering their own future by degrading the environment today. As discussed earlier, the harm inflicted on humans due to environmental destruction can be considered a crime against humanity. However, neither the international community nor domestic authorities have fully recognized the urgency of enforcing strict laws to prevent and mitigate environmental damage. Responsibility for this destruction lies with everyone—whether through direct actions that cause harm or through inaction that allows the damage to

continue. While some have contributed significantly and others to a lesser extent, every individual has played a role in the environmental crisis we face today.

By harming the environment, we are jeopardizing our own future and the planet we call home. Many people suffer devastating losses—including their lives and livelihoods—due to unchecked human activities. The consequences are severe and widespread, leading to droughts, disappearing rivers, melting ice caps, rising sea levels, and global warming—all driven by human actions. In India, existing laws aim to prevent crimes against the environment and wildlife, yet stronger enforcement and stricter regulations are needed to ensure meaningful protection and sustainable conservation.

Gendered Impact of Environmental Crimes and Biodiversity Loss

Climate change has already increased the intensity and frequency of extreme weather events such as floods, droughts, heat-waves, wildfires and cyclones, and has contributed to changing rainfall patterns and rising sea levels. Such extremes and variability in the climate harm people directly and have severe implications for ecosystems, the world of work, health, livelihoods, food production, infrastructure, settlements and other areas that are fundamental to human well-being. The pressures of climate change caused by environmental crimes and extractive industries are pushing women to the fringes of environmental management, where they are expected to fulfil their designated 'nurturing' roles of caring for the household and family members. Gender, in the normative binary sense of men and women, has long determined socio-economic roles and responsibilities across societies. Gender relations are underpinned by gender roles, the behavioural expectations of men and women in institutional settings such as the family and the workplace. Gender roles in the binary sense are systemic, embedded in the collective behaviours of the two sexes and culturally differentiated as masculine and feminine. Gender roles vary according to factors such as ethnicity, location, income and status, race and kinship. These intersections distinguish and create specific vulnerabilities and resilience capacities for both men and women, especially in

indigenous and rural settings, to respond to human-induced environmental degradation, conflict and crime.

Men are also typically the decision-makers within the household. They organize, participate in and represent the household at community meetings and other public spheres related to forest resource management. Despite their role in plant conservation practices, masked as everyday tasks, women are invisible when it comes to the impact of environmental degradation on their health, agency, household management and overall survival. In India, the effects of illegal mining and inadequate waste management on soil and water contamination have been associated with deteriorating human health, increasing the domestic care demands on women, who themselves are not immune.

Impacts of Environmental Crime in India

Environmental crimes such as illegal logging, poaching, unauthorized mining, and the dumping of hazardous waste pose significant challenges to the ecological balance and socio-economic structures in India. Women and Indigenous peoples, most of whom are in developing countries, are overrepresented among the poor and, furthermore, whose rights, livelihoods, cultures, identities and ways of life are already threatened by a range of social, economic and environmental issues, face an additional layer of threat from environmental degradation. Among the many communities affected, women bear a disproportionate economic burden due to their roles in resource-dependent activities and their marginalized status in socio-economic systems. Due to their roles as caregivers, resource managers, and members of marginalized groups, women experience these impacts in unique and profound ways. This analysis delves into the social and psychological dimensions of environmental crime in India, focusing on gendered vulnerabilities, community dynamics, mental health, and long-term implications.

Disruption of Livelihoods

A significant portion of India's rural population relies on natural resources for both daily sustenance and economic activities. Women play a vital role in this system, managing household resources, cultivating small farms, and

participating in informal economies by gathering non-timber forest products (NTFPs). However, environmental crimes severely disrupt these livelihoods. In regions affected by illegal logging, such as the Western Ghats and the northeastern states, forest resources are rapidly depleting. Women who depend on forests for firewood, medicinal plants, and other essential products face considerable hardships as these resources become scarce. Their ability to generate income by selling forest produce is significantly diminished, increasing their economic vulnerability.

Similarly, in states like Jharkhand and Odisha, illegal mining leads to land degradation and water contamination, making agriculture the primary livelihood for many rural women unsustainable. Displacement caused by environmental crimes further worsens the situation. When deforestation or mining forces communities to relocate, women lose access to their traditional means of livelihood. In urban areas, they often end up in low-wage jobs such as domestic work, which provides neither the financial stability nor the security they previously had in their resource-based occupations.

Gendered Wage Disparities

Even when women manage to find work in response to environmental crises, they often face systemic wage discrimination. This is particularly evident in restoration activities following environmental crimes. Programs aimed at reforestation or land reclamation frequently employ women in labour-intensive roles such as planting trees or maintaining saplings, while men are given supervisory or machinery-operating roles. Despite performing essential tasks, women are typically paid less than their male counterparts, reflecting entrenched gender biases in labour markets.

For example, in afforestation efforts under the Green India Mission or similar schemes, women are often hired as daily wage labourers. However, they rarely receive equal pay for equal work, and their contributions are undervalued despite their significant role in restoring ecological balance.

Loss of Informal Economies

Women's economic activities often extend beyond formal employment into informal economies tied to natural resources. These include making handicrafts, selling medicinal herbs, or engaging in small-scale fishing. Environmental crimes disrupt these activities in profound ways. Illegal logging reduces the availability of raw materials such as bamboo and cane, which are essential for traditional crafts. Women who depend on these materials for their livelihoods are forced to either switch to lower-paying alternatives or abandon their trade altogether.

Similarly, in coastal areas affected by illegal sand mining or industrial pollution, water contamination impacts small-scale fishing activities, making it harder for women to earn income from selling fish or other aquatic products. The loss of these informal economies not only reduces household incomes but also diminishes women's economic independence, forcing them to rely more heavily on male family members or government aid.

Gender Inequality

Indigenous women and girls play a vital role in traditional and non-traditional livelihoods, unpaid care work, and ensuring food security. With increasing insecurity regarding their livelihoods however, many are seeking out employment in the informal economy and participating in activities ranging from agricultural wage work in rural areas to domestic work in urban areas. Furthermore, many indigenous women bear the burden of income generation, traditional activities and household-related work, simultaneously. While they make tremendous contributions to the social, economic and cultural life of communities and society at large, indigenous women often face discrimination from both within and outside their communities. As a result, they are vulnerable to social and economic exclusion, exploitation, marginalization and gender-based violence. Compared to both the non-indigenous population and indigenous men, indigenous women are more vulnerable to social and economic risks after they have migrated to urban or other areas. These risks include exposure to violence, limited access to social services, discrimination, and concentration in occupations or sectors prone to precarious working conditions and labour rights violations.

Given that discriminatory practices lead to the segregation of certain groups into high-risk neighbourhoods, and that indigenous peoples in particular are often excluded from decision-making, education, healthcare and information regarding assistance and relief programmes, the vulnerability of indigenous women to the slightest of shocks is greatly magnified. For instance, water scarcity has implications for indigenous women as they bear primary responsibility for household-related activities.

Legislative Framework in Prevention of Environmental Crime in India

The Indian legislative framework provides for the rights and protection of women and indigenous people in prevention of environmental crime through several laws and policies, including:

1. The Environment (Protection) Act, 1986

The Environment (Protection) Act, 1986, serves as a cornerstone of India's environmental legislation, aiming to safeguard and enhance the nation's environment. Women, especially in rural and Indigenous communities, often bear the brunt of environmental degradation due to their roles in resource collection and agriculture. The Act's provisions for pollution control and environmental conservation can directly impact women's livelihoods. The Act's emphasis on environmental protection can intersect with Indigenous rights, particularly concerning land use and resource management. While the Act does not specifically address Indigenous rights, its implementation can affect their traditional practices and access to resources.

While the Environment (Protection) Act, 1986, provides a framework for environmental conservation in India, its impact on women's and Indigenous peoples' rights is indirect. To ensure that environmental protection efforts are inclusive and equitable, it is essential to integrate gender and Indigenous perspectives into environmental policies and practices.

2. The Forest Rights Act, 2006

The Forest Rights Act (FRA) of 2006 in India is a landmark legislation aimed at recognizing and vesting the rights of forest-dwelling communities, particularly

indigenous peoples and women, over forest lands and resources. Important features:

- The FRA grants forest-dwelling communities the right to hold and live in forest land under individual or community occupation for habitation or self-cultivation. It also recognizes rights to collect, use, and dispose of minor forest produce, grazing rights, and rights to protect, regenerate, or conserve community forest resources
- The Act empowers Gram Sabha's to protect wildlife, forests, and biodiversity; ensure the protection of adjoining catchment areas, water sources, and other ecological sensitive areas; and ensure that the habitat of forest-dwelling communities is preserved from any form of destructive practices affecting their cultural and natural heritage.
- The FRA has been instrumental in empowering women and Indigenous communities by recognizing their rights and involving them in forest governance.
- By securing rights over forest resources, communities are incentivized to engage in sustainable practices, thereby contributing to the prevention of environmental crimes such as illegal logging and poaching. The active involvement of women in these initiatives has been particularly noteworthy, as they often play a central role in resource management and conservation efforts.

3. The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 was enacted to address the historical injustices faced by forest-dwelling communities, including women and indigenous peoples, by recognizing and vesting their rights over forest lands and resources. While the Act does not explicitly define "environmental crimes" against these groups, it establishes provisions to protect their rights and prevent actions that could harm their environment and livelihoods.

Under Section 5 of the FRA, holders of forest rights, the Gram Sabha (village assembly), and village-level institutions are empowered to:

1. Protect wildlife, forests, and biodiversity.
2. Ensure that adjoining catchment areas, water sources, and other ecologically sensitive areas are adequately protected.
3. Preserve the habitat from any form of destructive practices affecting their cultural and natural heritage.
4. Ensure compliance with decisions taken by the Gram Sabha to regulate access to community forest resources and stop any activity adversely affecting wildlife, forests, and biodiversity.

These provisions empower forest-dwelling communities to take an active role in safeguarding their environment and cultural heritage. By granting authority to the Gram Sabha and other local institutions, the act ensures that any activities detrimental to the environment or the rights of the community can be identified and addressed at the grassroots level. Furthermore, the FRA mandates that no member of a forest-dwelling Scheduled Tribe or other traditional forest dweller shall be evicted or removed from forest land under their occupation until the recognition and verification procedure is complete. This safeguard ensures that communities are not unjustly displaced, thereby protecting them from potential environmental and social harms.

The National Environmental Policy, 2006

The National Environment Policy (NEP) of 2006 is a pivotal framework guiding India's environmental conservation and sustainable development efforts. The NEP recognizes that marginalized groups, particularly women and indigenous peoples, are disproportionately affected by environmental degradation due to their dependence on natural resources for livelihoods. It underscores the importance of equitable access to these resources and advocates for the active participation of these communities in environmental conservation efforts.

To Combat Environmental Crimes, The NEP Proposes Several Strategies:

1. **Regulatory Reforms:** The policy calls for revisiting and updating existing environmental laws to address

emerging challenges effectively. This includes eliminating obsolete regulations and ensuring that current laws are robust enough to deter environmental offenses.

2. **Community Participation:** The NEP highlights the role of local communities, including women and indigenous groups, in environmental governance. By involving these stakeholders in decision-making processes, the policy aims to foster a sense of ownership and responsibility towards environmental resources, thereby reducing the likelihood of environmental crimes.
3. **Capacity Building:** The policy advocates for strengthening the capabilities of institutions and individuals responsible for environmental protection. This includes training law enforcement agencies to better detect and prevent environmental crimes and educating communities about the legal frameworks in place to protect their environmental rights.

Conclusion

Environmental crimes in India have far-reaching and complex consequences, particularly for women and indigenous communities. These groups are especially vulnerable due to their deep reliance on natural resources and existing socio-economic disadvantages. Illegal activities such as logging, mining, and wildlife trafficking disrupt ecosystems, leading to resource depletion and deteriorating living conditions. This environmental degradation not only threatens livelihoods but also intensifies gender-based vulnerabilities. For example, as natural resources become scarcer, women are often forced to travel longer distances to collect necessities like water and firewood, exposing them to greater health risks and potential violence. Additionally, the presence of outsiders engaged in illegal activities can cause social instability, increasing the risk of gender-based violence and exploitation within affected communities. Despite these challenges, women and indigenous communities have shown extraordinary resilience. Collective action has been central to their response strategies, with women forming groups to safeguard natural resources, adopt alternative livelihoods, and advocate for their rights. Furthermore, indigenous knowledge systems play a vital

role in conservation efforts. Traditional ecological knowledge, passed down through generations, provides these communities with sustainable resource management practices that help mitigate the effects of environmental crimes. Policies must acknowledge and address the distinct needs and contributions of women and indigenous peoples. This includes ensuring their meaningful participation in decision-making processes related to environmental governance. Strengthening legal frameworks to protect land rights and secure access to natural resources is essential in reducing their vulnerability to exploitation. Additionally, incorporating gender perspectives into environmental policies can promote more equitable and effective solutions

Recommendations

1. India's legal mechanisms for environmental protection must be updated and enforced rigorously. Existing laws such as the Wildlife Protection Act (1972), Forest Conservation Act (1980), and Environmental Protection Act (1986) should be amended to include harsher penalties and address emerging threats like cyber-enabled trafficking and industrial pollution. The establishment of specialized environmental courts can expedite the resolution of cases. Training programs for law enforcement, judiciary, and customs officials can enhance their capacity to detect and act against environmental crimes.
2. Dedicated task forces at national and state levels should focus on combating key environmental crimes such as wildlife trafficking and illegal mining. Inter-agency collaboration among the Forest Department, police, customs, and intelligence services is essential. Transparent whistle-blower mechanisms should be established to encourage reporting of environmental violations without fear of retaliation.
3. Empowering local communities is critical to environmental crime prevention. Indigenous and forest-dwelling communities should be actively involved in conservation efforts through joint forest management programs. Providing alternative livelihoods, such as eco-tourism, agroforestry, and skill-based employment, can reduce reliance on illegal activities. Community-based monitoring initiatives, supported by mobile applications, can enable local populations to report environmental crimes.
4. Enhancing women's representation in decision-making bodies, promoting gender-sensitive training programs, and integrating Indigenous knowledge into conservation strategies are crucial steps.

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