
ILLEGAL TRADE IN FOREST PRODUCE AND PROTECTED SPECIES: A GREEN COLLAR CRIME PERSPECTIVE IN INDIA

Anindita Saha, Research Scholar, Faculty of Law, ICFAI University

Dr. Zigisha Pujari, Associate Professor, Faculty of Law, ICFAI University

ABSTRACT

Illegal trade in forest products and protected species has emerged as one of the most organised forms of environmental criminality in India. Increasing incidents of timber smuggling, poaching, trafficking of wildlife parts, illegal extraction of medicinal plants and cross-border movement of endangered species demonstrate that environmental offences have evolved beyond ordinary forest violations and now resemble organised economic crimes. Such offences generate substantial illicit profits while simultaneously causing biodiversity loss, ecological degradation and weakening environmental governance. Within environmental criminology, these activities may be examined through the concept of Green Collar Crime, which refers to environmentally harmful acts committed for economic benefit against forests, biodiversity and ecological resources.

India possesses an extensive legal framework through the Indian Forest Act, 1927, the Wildlife (Protection) Act, 1972, the Forest (Conservation) Act, 1980, the Biological Diversity Act, 2002 and the Environment (Protection) Act, 1986. Nevertheless, environmental offences continue due to fragmented enforcement mechanisms, inadequate data systems, low conviction rates, jurisdictional overlaps and transboundary trafficking networks. NCRB statistics indicate continuing environmental offences across India, while wildlife-related crimes remain inadequately reflected because many cases are investigated outside conventional policing mechanisms.

This article examines illegal trade in forest produce and protected species from the perspective of green criminology and environmental governance. The study analyses Indian legal provisions, NCRB trends, institutional responses, judicial developments and existing lacunae and argues for formal recognition of green collar crime within Indian environmental jurisprudence.

Keywords: Green Collar Crime; Forest Produce; Wildlife Trafficking; Environmental Crime; Biodiversity Protection; NCRB; Environmental Governance.

1. Introduction

Environmental degradation has increasingly assumed organised and commercial dimensions in modern society. Earlier environmental concerns focused primarily upon pollution, deforestation and isolated acts of wildlife poaching. Contemporary environmental criminality, however, extends beyond these traditional categories and includes systematic exploitation of forests, biodiversity and wildlife through illegal trade networks. Illegal extraction of timber, trafficking of endangered species, unauthorised removal of medicinal plants and commercial exploitation of forest resources have emerged as economically motivated activities producing extensive ecological harm.

India possesses rich biodiversity and diverse ecological systems comprising forests, wetlands, mountains, grasslands and wildlife habitats. Despite occupying approximately 2.4 per cent of the global land area, India contains nearly eight per cent of the world's biodiversity. This ecological richness has simultaneously increased vulnerability to illegal trade involving forest products and protected species.

Illegal wildlife markets involving tiger skins, leopard parts, pangolin scales, elephant ivory, reptiles, exotic birds and medicinal plants demonstrate increasing commercialisation of environmental exploitation. Such activities frequently involve organised networks operating across state and international borders. Consequently, environmental offences increasingly resemble economic crimes directed against ecological resources.

The emerging concept of Green Collar Crime provides a broader criminological framework to understand such activities. Unlike ordinary environmental violations resulting from negligence, green collar crimes involve deliberate exploitation of ecological resources for financial gain. Illegal trade in forest products and protected species therefore represents a significant manifestation of environmental criminality requiring specialised legal and institutional responses.

2. Green Collar Crime and Environmental Criminality

The concept of green collar crime originates from developments within green criminology which expanded conventional criminological studies beyond crimes against persons and property. Green criminology recognises environmental destruction, ecological victimisation

and biodiversity depletion as forms of social harm.

Green collar crime may be understood as illegal acts committed against environmental resources, forests, wildlife and biodiversity for financial or commercial gain. Such crimes differ from ordinary environmental offences because they generally involve organised extraction, economic incentives and systematic exploitation.

Illegal forest trade includes timber smuggling, sandalwood theft, unauthorised extraction of bamboo, trafficking of medicinal plants, illegal removal of orchids and exploitation of minor forest produce. Similarly, protected species trafficking includes illegal hunting and trade involving tigers, elephants, pangolins, turtles, reptiles and exotic birds. The economic value attached to wildlife products has transformed environmental offences into organised activities often linked with transnational criminal networks. Consequently, illegal trade in forest produce and protected species must be viewed not merely as forest violations but as forms of ecological criminality.

3. Indian Legal Framework Governing Illegal Trade in Forest Produce and Protected Species

3.1 Indian Forest Act, 1927

The Indian Forest Act, 1927 remains the principal legislation regulating forests and forest produce in India. Although enacted during the colonial period, the Act continues to govern forest administration and protection. Section 2(4) defines forest produce broadly and includes timber, charcoal, wood oil, bark, resin, roots, leaves, flowers, plants, wild animals and products derived from wildlife.¹ The significance of this provision lies in extending legal protection beyond timber and covering biological resources vulnerable to illegal extraction. The Act classifies forests into reserved forests, protected forests and village forests. Reserved forests enjoy the highest degree of legal protection.

Section 26 prohibits activities such as illegal clearing of land, setting fire, quarrying, trespass and removal of forest produce from reserved forests without lawful authority.² Section 33 extends similar protection to protected forests. These provisions directly address illegal timber extraction and forest exploitation. Section 52 authorises seizure of vehicles, cattle, boats, tools and property involved in forest offences. The seizure mechanism remains essential for

controlling timber smuggling and organised forest crimes.

Despite these provisions, the Act has been criticised for its colonial orientation and limited treatment of modern environmental crimes such as biodiversity trafficking.

3.2 Wild Life (Protection) Act, 1972

The Wild Life (Protection) Act, 1972, constitutes the principal legislation protecting wildlife and regulating trade in protected species. Section 9 prohibits hunting of animals listed in Schedules I to IV except under specific statutory circumstances.³ Hunting includes poisoning, capturing, trapping and attempting to kill protected species. Section 39 declares government ownership over wild animals, trophies, animal articles and derivatives obtained from protected species.⁴ This provision prevents commercial ownership and unlawful possession. Sections 49 and 49B prohibit trade involving scheduled animals, trophies and animal derivatives.⁵ These provisions directly address illegal trade in tiger skins, ivory, pangolin scales and wildlife products.

Section 51 prescribes punishment, including imprisonment and monetary penalties.⁶ Schedule I species including tigers, elephants and rhinoceroses, receive the highest protection. The establishment of the **Wildlife Crime Control Bureau (WCCB)** strengthened enforcement through intelligence collection, investigation and inter-agency coordination. However, organised wildlife trafficking continues because of limited forensic infrastructure, international demand and increasing black-market networks.

3.3 Forest (Conservation) Act, 1980

The Forest (Conservation) Act, 1980 was enacted to prevent indiscriminate diversion of forest land. Section 2 restricts State Governments from dereserving forests or permitting diversion of forest land for non-forest purposes without prior approval of the Central Government.⁷

Although primarily regulatory, the Act indirectly contributes to the prevention of illegal forest exploitation and commercial encroachments.

3.4 Biological Diversity Act, 2002

The Biological Diversity Act, 2002, was enacted to implement India's obligations under the

Convention on Biological Diversity. The legislation regulates access to biological resources and aims to ensure equitable benefit sharing. Illegal extraction of medicinal plants, endemic species and indigenous resources increasingly falls within its regulatory framework.

The Act established:

- National Biodiversity Authority
- State Biodiversity Boards
- Biodiversity Management Committees

These institutions regulate the commercial use of biological resources and attempt to prevent biodiversity exploitation.

3.5 Environment (Protection) Act, 1986

The **Environment (Protection) Act, 1986** serves as umbrella legislation governing environmental protection. Section 3 empowers the Central Government to adopt environmental protection measures.⁸ Section 15 prescribes punishment for violation of environmental rules and notifications.⁹ Although the Act does not specifically regulate wildlife trafficking, it supports broader ecological governance.

4. NCRB Data and Emerging Trends in Environmental Criminality

Environmental offences in India have increasingly attracted institutional attention due to rising ecological degradation and biodiversity loss. NCRB statistics indicate that environmental crimes continue to remain significant within Special and Local Laws. According to the National Crime Records Bureau, Crime in India 2024, India recorded 57,670 environment and pollution-related offences during 2024, compared with 68,994 cases reported in 2023.¹⁰ Although the numerical decline suggests some reduction, the statistics demonstrate continuing environmental criminality affecting ecological governance.

The NCRB also introduced separate reporting concerning offences under the Prevention of Cruelty to Animals Act, 1960. India recorded 9,039 cases relating to cruelty against animals and 10,312 arrests during 2024.¹¹ This development is significant because animal-related crimes were previously merged within broader offence categories and often remained

statistically invisible.

Wildlife offences remain inadequately represented because numerous cases are investigated directly by forest departments and the Wildlife Crime Control Bureau rather than conventional police agencies. Consequently, many seizures and wildlife trafficking incidents remain outside mainstream NCRB databases.

Wildlife Crime Control Bureau records indicate continuing offences involving:

- tiger derivatives
- elephant ivory
- pangolin scales
- turtles
- reptiles
- exotic birds
- medicinal plants¹²

Illegal extraction of forest produce similarly remains widespread. Timber smuggling, sandalwood theft, unauthorised removal of bamboo and trafficking of medicinal plants continue across biodiversity-rich regions. The northeastern region of India remains particularly vulnerable because of porous international borders and ecological diversity. States sharing transboundary connections frequently experience wildlife trafficking and illegal biodiversity movement. Existing environmental data systems suffer from fragmentation because wildlife offences handled by specialised agencies are often excluded from police-based databases. This creates statistical gaps and weakens environmental policy responses.¹³

5. Judicial Interpretation and Environmental Protection: Expanding the Scope of Ecological Criminality

The Indian judiciary has significantly contributed to the development of environmental jurisprudence and has frequently intervened where legislative and administrative mechanisms

were found inadequate. Although Indian courts have not expressly adopted the expression “Green Collar Crime,” judicial decisions demonstrate increasing concern regarding environmental degradation, organised exploitation of forests and wildlife trafficking. Judicial interpretation has therefore expanded the scope of environmental protection beyond conventional conservation and introduced principles relating to ecological justice, intergenerational equity and environmental accountability.

In *T.N. Godavarman Thirumulpad v Union of India*, the Supreme Court adopted an expansive interpretation of the expression *forest* and held that the meaning of forests should not remain confined only to statutory definitions contained in forest laws.¹⁴ The Court observed that conservation of forests was essential for maintaining ecological balance and sustainable development. The judgment led to continuing judicial supervision over forest governance and restricted indiscriminate diversion and exploitation of forest land. From the perspective of green collar crime, the case assumes importance because illegal extraction of timber and commercial exploitation of forest resources often occur due to weak regulatory oversight. The decision indirectly strengthened legal responses against organised forest exploitation by expanding protection mechanisms.

The Supreme Court further developed ecological jurisprudence in *Centre for Environmental Law, World Wide Fund (WWF) v Union of India*.¹⁵ The case dealt with issues concerning the preservation of endangered species and biodiversity protection. The Court recognised wildlife as an integral component of ecological balance and emphasised that biodiversity conservation constitutes an obligation of the State under environmental governance principles. The judgment rejected the treatment of wildlife merely as economic assets and instead recognised their intrinsic ecological value. Such reasoning becomes particularly relevant in the context of illegal trade in protected species where animals are commodified for commercial profit.

The issue of organised wildlife criminality received direct judicial attention in *Sansar Chand v State of Rajasthan*.¹⁶ The matter involved illegal hunting and trafficking relating to protected species. The Supreme Court strongly condemned poaching activities and observed that organised wildlife trade represented a serious threat to ecological security and national heritage. The Court noted that the extinction of species would produce irreversible ecological consequences affecting future generations. Importantly, the judgment recognised that wildlife crimes possess wider environmental implications and therefore cannot be treated as ordinary

property offences. This reasoning closely aligns with modern theories of green criminology and ecological victimisation.

Another significant development occurred in *Animal Welfare Board of India v A. Nagaraja*, where the Supreme Court recognised protection of animals within the broader framework of constitutional environmental obligations.¹⁷ Referring to Articles 48A and 51A(g) of the Constitution, the Court observed that compassion towards living creatures forms part of constitutional duties. The judgment expanded environmental jurisprudence by acknowledging animal welfare and species justice, thereby contributing indirectly toward recognition of ecological harm.

Environmental principles such as the Precautionary Principle, Polluter Pays Principle, Public Trust Doctrine and Sustainable Development were also strengthened through judicial decisions, including *Vellore Citizens Welfare Forum v Union of India* and *M.C. Mehta v Kamal Nath*.¹⁸ These doctrines may provide future jurisprudential support for recognition of green collar crimes because they establish ecological accountability and impose obligations upon actors causing environmental injury.

Despite these progressive developments, Indian courts continue to address wildlife offences mainly through conservation frameworks rather than organised environmental criminality. Judicial recognition of green collar crime remains absent, creating limitations in developing specialised environmental criminal jurisprudence.

6. Lacunae within the Existing Legal Framework

Although India possesses extensive environmental legislation regulating forests, wildlife and biodiversity, significant deficiencies continue to weaken effective control over illegal trade in forest produce and protected species.

One of the foremost deficiencies lies in the absence of statutory recognition of Green Collar Crime. Existing environmental statutes such as the Indian Forest Act, Wildlife (Protection) Act and Biological Diversity Act regulate individual offences separately; however, none recognise organised environmental exploitation as a distinct category of criminal activity. Consequently, illegal timber extraction, biodiversity theft, wildlife trafficking and commercial poaching continue to be treated as isolated violations rather than components of organised ecological

crime networks.

A second major challenge concerns the fragmented institutional structure governing environmental offences. Enforcement responsibilities are divided among Forest Departments, Wildlife Crime Control Bureau, Police Authorities, Customs Agencies, Biodiversity Authorities and Pollution Control Boards. While specialisation exists, coordination remains limited. Wildlife crimes frequently involve multiple jurisdictions, resulting in delays, overlapping authority and procedural complexities. Forest officers often possess limited investigative powers compared to conventional law enforcement agencies, thereby affecting effective prosecution.

Another important lacuna relates to data deficiency and statistical invisibility. Environmental crime statistics in India largely depend upon police records compiled by the National Crime Records Bureau. According to NCRB *Crime in India 2024*, India recorded 57,670 environment and pollution-related offences in 2024, compared with 68,994 cases in 2023.¹⁹ The NCRB further reported 9,039 cases involving cruelty against animals and 10,312 arrests under animal protection laws.²⁰ However, these figures do not fully represent wildlife crimes because many offences are investigated directly by Forest Departments and the Wildlife Crime Control Bureau. Consequently, numerous seizures involving ivory, pangolin scales, tiger derivatives, medicinal plants and illegal forest produce remain outside mainstream criminal databases. The absence of integrated databases between NCRB, Forest Departments and Wildlife Crime Control Bureau therefore results in underreporting of ecological victimisation and weakens policy responses.

Another major issue concerns weak conviction rates and enforcement challenges. Environmental offences frequently involve scientific evidence requiring specialised expertise. Wildlife trafficking cases may involve species identification, DNA profiling and ecological analysis. Limited availability of forensic infrastructure creates difficulties in investigation and prosecution. Seizures are often reported; however, successful convictions remain comparatively low because of evidentiary and procedural deficiencies. Further, India continues to experience inadequate environmental forensic infrastructure. Modern environmental crimes increasingly involve sophisticated trafficking mechanisms requiring technological investigation tools including wildlife genetics, ecological mapping and biological evidence analysis. Existing facilities remain insufficient to address organised wildlife networks.

The problem becomes more serious in biodiversity-rich regions and border areas. The northeastern states remain particularly vulnerable because of ecological diversity and geographical proximity to international borders. Illegal movement of wildlife products, timber and medicinal plants frequently occurs through transboundary routes. Existing legal mechanisms remain primarily domestic in orientation and provide limited responses against organised international environmental trafficking. Finally, environmental jurisprudence continues to emphasise conservation and administrative regulation while providing comparatively limited treatment to environmental criminality. The absence of explicit recognition of ecological victimisation restricts the development of a specialised legal framework addressing organised environmental harm.

7. Recommendations and Future Legal Reforms

The growing commercialisation of environmental exploitation requires substantial legal and institutional reform. Contemporary environmental governance must move beyond traditional conservation models and adopt mechanisms specifically addressing organised ecological criminality.

Firstly, India should introduce a statutory definition of Green Collar Crime within environmental legislation. Recognition of the concept would facilitate specialised investigation and prosecution of organised offences involving illegal timber extraction, biodiversity theft and wildlife trafficking. Secondly, a National Environmental Crime Database should be established by integrating records maintained by NCRB, Wildlife Crime Control Bureau, Forest Departments and Biodiversity Authorities. Such integration would reduce statistical gaps and strengthen environmental intelligence mechanisms.

Thirdly, specialised Environmental Crime Investigation Units should be created at both national and state levels. These units should include legal experts, forest officials, environmental scientists, forensic specialists and wildlife investigators. Fourth, environmental forensic infrastructure must be strengthened through the establishment of laboratories specialising in wildlife DNA analysis, species identification and ecological evidence examination. Scientific investigation would significantly improve conviction rates in wildlife trafficking cases.

Fifth, offences involving illegal wildlife trade and organised biodiversity exploitation should

be linked with broader organised crime frameworks wherever profit-oriented criminal syndicates are involved. Environmental exploitation increasingly resembles transnational economic crime and therefore requires stronger legal responses. Sixth, India should strengthen cross-border environmental cooperation, particularly within ecologically sensitive northeastern regions. Regional intelligence sharing and coordinated monitoring mechanisms may reduce trafficking routes involving protected species.

Seventh, judicial development of environmental criminal jurisprudence should be encouraged through specialised environmental benches and greater reliance upon doctrines of ecological justice, species protection and intergenerational equity. Finally, biodiversity must be recognised not merely as an economic resource but as part of ecological heritage deserving criminal protection. Formal recognition of green collar crime would therefore strengthen environmental accountability and contribute towards sustainable environmental governance.

References:

1. Indian Forest Act 1927, ss 26 and 33.
2. Wild Life (Protection) Act 1972, s 9.
3. Wild Life (Protection) Act 1972, s 39.
4. Wild Life (Protection) Act 1972, ss 49 and 49B.
5. Wild Life (Protection) Act 1972, s 51.
6. Forest (Conservation) Act 1980, s 2.
7. Environment (Protection) Act 1986, s 3.
8. Environment (Protection) Act 1986, s 15.
9. National Crime Records Bureau, *Crime in India 2024* (Ministry of Home Affairs, Government of India 2025) reporting 57,670 environment and pollution-related offences in 2024 and 68,994 cases in 2023.
10. National Crime Records Bureau, *Crime in India 2024* reporting 9,039 cases relating to cruelty against animals and 10,312 arrests under the Prevention of Cruelty to Animals framework.
11. Wildlife Crime Control Bureau, *Year and State-wise Wildlife Crime Cases Registered under the Wild Life (Protection) Act, 1972*.
12. Wildlife offences investigated by forest authorities frequently remain outside police-based NCRB compilations leading to statistical underrepresentation.
13. *T.N. Godavarman Thirumulpad v Union of India* (1997) 2 SCC 267.
14. *Centre for Environmental Law, World Wide Fund (WWF) v Union of India* (2013) 8 SCC 234.
15. *Sansar Chand v State of Rajasthan* (2010) 10 SCC 604.

16. *Animal Welfare Board of India v A. Nagaraja* (2014) 7 SCC 547.
17. *Vellore Citizens Welfare Forum v Union of India* (1996) 5 SCC 647; *M.C. Mehta v Kamal Nath* (1997) 1 SCC 388.
18. National Crime Records Bureau, *Crime in India 2024* (Ministry of Home Affairs, Government of India 2025), reporting 57,670 environment and pollution-related offences in 2024 compared with 68,994 offences in 2023.
19. National Crime Records Bureau, *Crime in India 2024*, reporting 9,039 cases of cruelty against animals and 10,312 arrests under animal protection laws.
20. Wildlife Crime Control Bureau, *Year and State-wise Wildlife Crime Cases Registered under the Wild Life (Protection) Act, 1972*