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ADDRESSING WILDLIFE CYBERCRIME IN THE DIGITAL AGE: LEGAL FRAMEWORKS AND ENFORCEMENT STRATEGIES

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INTRODUCTION:

In the current digital era, wildlife cybercrime poses an increasing threat to environmental preservation and biodiversity. It describes the unlawful use of internet channels such as websites, social media, and encrypted messaging applications for the trading, selling, or trafficking of animals, animal parts, and endangered species. Criminals have discovered new techniques to evade law enforcement and instantly and secretly contact buyers worldwide as a result of the development of technology and internet access. This raises the risk of extinction for many species and makes it more difficult to monitor these activities. Because it impacts both global security and wildlife conservation, wildlife cybercrime has grown to be a significant problem for governments, environmentalists, and international organizations. This research paper aims to explore the definition, recent wildlife cybercrimes, its types, then existing laws, effective strategies for its prevention and recommendations.

Definition:

Wildlife cybercrime is the buying, selling, and trafficking of endangered species and their components online, usually using social media, messaging applications, and e-commerce platforms. Criminals can operate beyond national borders due to the anonymity offered by the internet, which makes it difficult to find and prosecute offenders.

Recent wildlife cyber-crime in India¹

Wildlife cybercrime has increased in India during the pandemic crisis and about 522 wildlife

¹ G. Lakshmi Priya, A study on identifying the aspect of wildlife cybercrime and exploring way to curb it(10),JRHS 2022

crime cases were registered including animals and plants across the country in 2020. Ungulates, pangolins, elephants, turtles, big cats, birds, rhinos and other animals were poached or hunted in 2020 for illegal wildlife trading. As per the reports, a total of 43 cases of big cats were documented because of the demand for leopard nails and tiger nails in the jewellery industry (The hindu, 2022). Apart from that, a total of 30 cases of elephants across the country are identified because of the high demand for ivory. Karnataka, Odisha, Tamil Nadu and others have the highest number of incidents of wildlife cybercrimes which indicates most of the cases are happening in Southern India. In addition to that, 72 other incidents of pangolins, 37 incidents of birds, 35 cases of marine wildlife, 49 incidents of reptiles and others are documented across India during 2020. On the other hand, “Golden Jackal poaching” is one of the most significant wildlife crime cases in India. It is identified that the demand for the horns of jackals has increased which led to the poaching of about 370 jackals between 2013 and 2019 (Roy and Kumar, 2022). Religious practicing and different online endorsements are the major reasons for the increase in demand for horns in India. In addition to that, the illegal trade of pangolins between 2009 and 2018 is another recent wildlife crime in India. About 119 pangolins were seized as well as nearly 7500 pangolins were killed for the purpose of illegal wildlife trading (Roy and Kumar, 2022)². Hence, these are the recent wildlife crime cases in India which are increasing day by day.

TYPES OF WILDLIFE CYBER CRIMES

Wildlife crimes are serious offenses that affect the existence of numerous species and disrupt the ecosystems' natural equilibrium. However, India, a country renowned for its abundant biodiversity, is also a major hub for these crimes.

- 1. Poaching:** Poaching, which is the unlawful hunting, killing, or capture of wild animals, is a serious threat to several species, including leopards, tigers, elephants, and rhinoceroses.
- 2. Illicit Wildlife Trade:** India is one of the main suppliers of highly sought-after goods like ivory, tiger bones, and rhino horns, and the illicit wildlife trade is a worldwide issue. This illicit activity affects ongoing efforts to conserve endangered species and constitutes a serious threat to ecosystem protection.
- 3. Human-wildlife Conflict:** As natural habitats worsen and human settlements grow, wild animals are frequently compelled to come into greater contact with human

² Debatiya Roy, “An Analysis of illegal trade with the aid of social media and prevention strategies” 8(1), Journal of Wildlife and Biodiversity 368-401 (2024).

populations, leading to conflicts like attacks on crops, livestock, and people. These interactions impose pressure on already-struggling natural life in addition to endangering human livelihoods.

- 4. Illegal Hunting:** Illegal hunting, which involves killing animals for fun, like sport hunting, is another major problem. Illegal hunting is still carried out and even seen as a status symbol in some regions of India. Illegal hunting is still a serious act that jeopardizes the existence of numerous endangered and protected species, while being less common than other wildlife offenses.

LEGAL FRAMEWORK GOVERNING WILDLIFE CYBER CRIME IN INDIA

Wildlife traffickers now exploit social media, encrypted apps, and e-commerce platforms to facilitate illegal wildlife trade. This chapter examines the key legal provisions in India that address wildlife cybercrime, identifies enforcement agencies, highlights challenges, and suggests the need for legal reforms to effectively combat this evolving crime.

CONSTITUTIONAL SAFEGUARDS

The Constitution provides a framework for wildlife protection and environmental conservation. In India, the Constitution has specific provisions related to the protection of wildlife and the environment.

Article 48A³ of the Indian Constitution states that “the State shall endeavour to protect and improve the environment and to safeguards the forests and wildlife of the country.

Article 51A (g) of the Indian Constitution outlines a fundamental duty of every citizen “to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures”.

The Directive Principles of State Policy (DPSP), outlined in Part IV of the Constitution, include principles that are not enforceable by courts but are fundamental in the governance of the country. Article 48 and Article 51(g) can be considered as principle guiding the State in formulating policies for wildlife protection.⁴

³ Added by 42nd Constitutional Amendment Act 1976.

⁴ The Constitution of India, 1950.

LEGAL STATUTES

Wildlife Protection Act, 1972: It is the primary legislation of wildlife conservation in India. It has been identified as an important part of the entire ecosystem of the world. In this regard, protecting wildlife is one of the essential responsibilities of people. It has been observed that under section “Section 2(37) of the Wildlife Protection Act, 1972”, any aquatic or animal needs to be protected to secure the biodiversity balance²³. In order to achieve the desire of maintaining wildlife the Indian government has implemented 5 projects.⁵

❖ **Project Tiger (1973):** It was launched in 1973 as a conservation initiative to protect the Bengal Tiger. It is administered by the National Tiger Conservation Authority (NTCA). This project has been launched in the “Palamau Tiger Reserve, Jim Corbett National park, Uttarakhand”. It aims to prevent the killings activity of the tiger has been set to imprisonment for two years and fine under section 429 of the said act. The project aims to create inviolate spaces for tigers in designated tiger reserves and promote tiger conservation efforts.

❖ **Project Elephant (1992):** It was launched in 1992 to protect and conserve elephants and their habitats. The project focuses on maintaining elephant corridors and minimizing human-elephant conflict. After implementing this project, near about 65% of elephants become possible to protect spread over India. It has been associated with ensuring the welfare of domesticated elephants.

❖ **UNDP Sea Turtle Project:** This project has been implemented by the “Wildlife Institute of India” in November 1999 to protect turtle breeding places. In this project, confirmation of utilize of Satellite Telemetry has been set to locate the areas.

❖ **Project Snow Leopard:** In order to protect the snow leopard inhabiting the Himalayan landscape, the “Global Snow Leopard and Ecosystem Protection Program” has been organized. In 2009, this project has made to serve protection in the “Trans and Greater Himalayan Region”.

❖ **Crocodile Conservation Project:** Preserve the Indian Crocodiles; this project has involved securing the natural habitat of crocodiles. It has been noticed that 1800 mugger/crocodiles, 4000 gharial/alligator, and 1500 saltwater crocodiles can be reinstated in India to balance the biodiversity.⁶

⁵ The Wildlife Protection Act, 1972

⁶ Ibid Pg. a54-a58.

Information Technology Act, 2000

The Information Technology (IT) Act, 2000 governs cyber activities in India.

- **Section 67:** Prohibits the publication or transmission of illegal content online. Wildlife traders using social media, websites, or messaging apps to promote illegal wildlife trade can be penalized under this section.
- **Section 69:** Allows government authorities to intercept, monitor, and decrypt digital communications in the interest of public order, which is useful for tracking wildlife cyber traffickers. Though the IT Act is not wildlife-specific, it offers essential tools to control the online aspects of wildlife crime.⁷

BHARATIYA NYAYA SANHITA 2023:

- **Section 61(2) (Criminal Conspiracy):** Applicable when multiple individuals conspire to conduct wildlife cybercrime.
- **Section 318 (Cheating and Fraud):** Applies when illegal wildlife products are sold online under false claims or misleading information.⁸

Customs Act, 1962

Act empowers customs officials to seize illegal wildlife products transported through airports, seaports, and borders. It is especially relevant in cases of international trafficking facilitated via online sales⁹.

Indian Forest Act, 1927

This act prohibits the unauthorized occupation of forest land and the cutting of trees without permission. The diverting of forest land for uses other than forestry is prohibited by the Forest Conservation Act of 1980. The 1960 Prevention of cruelty to animals Act makes harming or killing animals illegal.¹⁰

Forest Conservation Act, 1980: While not exclusively focused on wildlife, the Forest Conservation Act is crucial for protecting wildlife habitats. It regulates the diversion of forest land for non-forest purposes, ensuring the conservation of forests and wildlife.¹¹

Biodiversity Act, 2002: It aims to conserve biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising out of the utilization of biological

⁷ The Information Technology Act, 2000(Act 21 of 2000) ss 67,69.

⁸ Bharatiya Nyaya Sanhita , 2023

⁹ The Customs Act, 1962

¹⁰ Indian Forest Act ,1927

¹¹ Forest Conservation Act, 1980

resources. It establishes biodiversity management committees at local levels to promote conservation.¹²

INTERNATIONAL LEGAL FRAME WORK

➤ **CITES** (Convention on International Trade in Endangered Species of Wild Fauna and Flora) It is one of the most significant international agreements addressing wildlife protection. It aims to ensure that international trade in wild animals and plants does not threaten their survival. It categorizes species into Appendices I, II and III based on their conservation status, and regulates their international trade accordingly.¹³

➤ **UNGA Resolutions and UNEP Initiatives**

The United Nations General Assembly (UNGA) periodically adopts resolutions related to wildlife protection and conservation. The United Nations Environment Programme (UNEP) also undertakes initiatives to address environmental issues, including wildlife protection at the global level.¹⁴

➤ **Interpol and International Law Enforcement Cooperation**

Interpol, the international law enforcement organization, plays a crucial role in combating wildlife crime. Various international law enforcement initiatives and collaborations exist to address the illegal wildlife trade and transnational organized crime associated with it.

➤ **Global Environmental Facility(GEF)**

It is a financial mechanism that supports projects and programs promoting the conservation of biodiversity, sustainable forest management, and the protection of endangered species. It provides funds too countries for implementing initiatives related to wildlife protection.¹⁵

HOW CYBER CRIME FACILITATES WILDLIFE TRADE:

By giving traffickers access to cutting-edge digital tools and international platforms that allow them to carry out the illegal wildlife trade more effectively, covertly, and internationally, cybercrime contributes significantly to wildlife cybercrime. The illegal trade in endangered species, animal parts, and exotic pets has flourished on the internet, especially on social media sites, encrypted messaging applications, and e-commerce websites. By posting ads for protected species and negotiating agreements in private chat rooms or through encrypted

¹² Biodiversity Act, 2002

¹³ Resolution adopted in 1963

¹⁴ Resolution adopted in 1972

¹⁵ Established during Rio Earth Summit of 1992

messaging platforms like WhatsApp, Telegram, and Signal, cybercriminals take advantage of these digital spaces and lower the danger of exposure. Investigations are made more difficult by the fact that smugglers can move money without leaving financial traces when they use cryptocurrencies and untraceable digital payment platforms.

Wildlife traffickers can now reach a wider audience, complete transactions more quickly, and avoid traditional enforcement methods due to technological advancements. This underscores the urgent need for specialized cyber monitoring units, cross-border cooperation, and the incorporation of cybercrime tools and knowledge into wildlife protection frameworks. A 2021 Wildlife Trust of India (WTI) investigation, for instance, discovered a pangolin trafficking network operating on YouTube. Through the use of platforms like WhatsApp, coded remarks resulted in the recovery of 43 Tokay geckos, 44 kg of pangolin scales, and four live pangolins in Meghalaya. In just three months, 477 advertisements for 18 protected species were discovered worldwide in Brazil and South Africa, according to a Guardian investigation. Of these, 78% were located on social media (Facebook/WhatsApp). A study conducted in Asia found that between April and October 2021, there were about 1000 internet ads for traditional Chinese medicine goods made from pangolins, which made it easier to smuggle animal parts across international borders.

Role of social media:

Facebook, Instagram, WhatsApp, Telegram, and We Chat are all social media sites that traffickers use to commit wildlife cybercrime because they make it easy for them to reach a large audience throughout the world. Illegal dealers can rapidly and secretly advertise, bargain, and sell endangered animals and animal products due to these sites. Traffickers frequently conceal their actions and evade detection by authorities by using anonymous profiles, coded language, private groups, and hidden hashtags. To complete illicit transactions, dealers frequently publish images or videos of animals, including ivory, pangolin scales, tiger parts, rare birds, and reptiles, and speak with customers directly via encrypted messaging applications.

Role of E-commerce in Wildlife Cybercrime

E-commerce sites, such as OLX, Amazon, Alibaba, and other regional online marketplaces, have emerged as important gateways for the illicit wildlife and wildlife goods trafficking. Criminals may easily connect with buyers anywhere in the world, handle payments online, and

set up hidden shipping through these sites, which speeds up and complicates the trade. Exotic pets, protected flora, and animal byproducts like pangolin scales and ivory are frequently offered for sale openly or in private online communities.

Role of mobile apps, dark web and cryptocurrencies:

- An rising number of wildlife traffickers advertise, negotiate, and complete illicit wildlife purchases via encrypted messaging apps. Because these apps provide privacy, quick communication, and anonymity, it is challenging for law enforcement to track down transactions or listen in on discussions. A lot of transactions begin on social media but are swiftly transferred to these applications for confidential discussions.
- Through encrypted networks, endangered animals, animal parts, and unusual pets are exchanged on the dark web's hidden online marketplaces. With the use of programs like Tor browsers, buyers and sellers utilize the dark web to conceal their locations and identities, making it nearly impossible for law authorities to follow them without specialist cyber equipment.
- Because cryptocurrencies enable anonymous, cross-border transactions without depending on conventional institutions, traffickers frequently utilize them to make payments. Cryptocurrencies are perfect for funding wildlife crimes and evading financial surveillance since they are hard to track, especially privacy-focused coins like Monero.

ROLE OF ENFORCEMENT AGENCIES

➤ Wildlife Crime Control Bureau (WCCB)

The WCCB is India's primary wildlife enforcement agency. It operates the Wildlife Cyber Crime Cell, which monitors online platforms and collaborates with state cyber cells to track wildlife cybercriminals.

➤ Cyber Crime Cells (State & Central)

State and central cybercrime units work closely with WCCB to monitor e-commerce sites, social media, and encrypted apps for illegal wildlife trade.

CASE STUDY

I. One of the most important wildlife crime cases in Indian legal history is **Sansar Chand v. State of Rajasthan (2010)**. Sansar Chand was a well-known wildlife trafficker who was

heavily involved in the illicit trading and poaching of protected animals, particularly tigers and leopards. The catastrophic drop in the tiger population in India throughout the late 1990s and early 2000s was attributed to his criminal network, which operated in multiple Indian states. Sansar Chand was detained and charged with illegally possessing and trading animal skins and other wildlife parts under the Wildlife (Protection) Act of 1972. This case raised awareness of wildlife crime and established a precedent for wildlife jurisprudence in India. The shortcomings of wildlife enforcement were revealed, and the necessity of specialist wildlife crime investigative units and improved communication between enforcement agencies was brought to light. In addition to highlighting the need for harsh judicial action, strong legal frameworks, and ongoing vigilance to protect India's biodiversity, the Sansar Chand case continues to be a significant precedent, showing how organized wildlife trafficking networks can have catastrophic ecological negative consequences.

II. State of Madhya Pradesh v. Dariya & Another (2010)¹⁶

The conviction of famous tiger poacher Dariya and his wife Bhagwati under the Wildlife (Protection) Act, 1972, was confirmed by the Madhya Pradesh High Court in July 2010. The pair had been linked to numerous poaching cases that went back more than 20 years. Following protracted legal proceedings, both were found guilty and given harsh prison sentences of three years each, coupled with penalties of ₹10,000. Bhagwati was also given an extra 18 months of probation. This historic decision reaffirmed that even long-standing criminal enterprises can be successfully dissolved via consistent legal involvement and demonstrated the judiciary's patience and tenacity in prosecuting deeply ingrained poaching crimes. The case also emphasized the importance of sustained prosecution efforts, coordinated investigations, and legal tenacity in wildlife protection.

III. Gujarat Lion Poaching Case (2009)¹⁷

In a case concerning the 2007 poaching of eight Asiatic lions that were highly endangered in Gujarat's Gir National Park, the Bhavnagar Chief Judicial Magistrate Court handed down a resounding decision on February 26, 2009. Mostly local poachers, nine males and seven women received five-year prison sentences and ₹2,000 fines each. Twenty more people were later found guilty in a similar prosecution. This swift legal action—conviction within two years—showed political determination and administrative will to save endangered species,

¹⁶ State of Madhya Pradesh vs Dhariya and Another, (2010), 9 SCC 274

¹⁷ State of Gujarat, Bhavnagar (CJM) Court, 27 February 2009

demonstrating India's ability to take decisive action against widespread wildlife crimes when institutional focus and public pressure are combined.

IV. Operation Shikkar: Ivory Smuggling in Kerala (2015–2017)

From 2015 to 2017, the Kerala Forest Department and Wildlife Trust of India conducted a massive wildlife enforcement operation called Operation Shikkar, which focused on a significant ivory smuggling organization that operated in the Ernakulam woods of Kerala. 72 people were arrested as a result of the operation, including corrupt authorities, ivory artisans, poachers, and smugglers. Additionally, 487 kilos of ivory were seized. The operation broke up a well-established criminal network by combining forensic evidence, undercover field operations, and intelligence analysis. In the fight against wildlife crimes, Operation Shikkar is a prime example of interagency collaboration, strategic planning, and resource allocation.

V. Wildlife v. Ashok Kumar & Ors. (2018)¹⁸

A number of people, including Ashok Kumar, were detained in 2010 for dealing in newborn leopard skins near Birla Mandir in a case that started with Delhi's criminal intelligence. Based on confidential tip-offs, law enforcement teams carried out undercover purchases, which resulted in seizures and arrests under several provisions of the Wildlife (Protection) Act, 1972, including sections 2(2), 9, 39, 49, 49(B)(1), and 52. The case showed how intelligence-led action and covert operations might be used effectively. By successfully connecting confiscated wildlife parts to Scheduled species, the prosecution strengthened the legality of digital and forensic evidence. But the drawn-out trial also made clear how important it is to expedite the legal system in cases involving wildlife crimes.

VI. M/S Ivory Traders & Manufacturers Association v. Union of India (1997)¹⁹

A guild of ivory traffickers contested changes to the Wildlife (Protection) Act, 1972, which forbade the import and sale of mammoth ivory, in a significant Delhi High Court ruling. The court maintained these changes, ruling that limiting the trade in ivory, even if it was pre-existing or unique, was both legally permissible and in the compelling state interest of protecting animals. This ruling defined the legal situation regarding the ban on the sale of ivory, whether antique or not, and upheld the state's right to restrict trade rights in the interest of ecological protection.

¹⁸ Wildlife vs. Ashok Kumar & Others, CC No. 301845/2016.

¹⁹ M/s. Ivory Traders & Manufactures Association v. Union of India, (1997), 3 SCC 63

EFFECTIVE STRATEGIES TO CONTROL WILDLIFE CRIMES

Wildlife crime has far-reaching consequences that threaten not only individual species but also entire ecosystems and the global effort to conserve biodiversity. The extensive impact of these crimes highlights the urgent need for comprehensive and effective strategies to address and eliminate them. Combating wildlife crime demands a multi-dimensional approach that encompasses robust law enforcement, meaningful community participation, international collaboration, and progressive policy reforms. The following are the effective strategies to control wildlife crimes

- Strengthening of Law Enforcement
- International Cooperation and Global Agreements
- Community Engagement and Education
- Use of Advanced Technology
- Strengthening Legislation and Policy Frameworks
- Building Local and National Capacity
- Public Awareness Campaigns

CONTROL MEASURES

a) Surveillance and Monitoring:

- i) Camera Traps:
- ii) Drones (Unmanned Aerial Vehicles - UAVs):
- iii) Satellite Real-Time Tracking:

b) Tracking and Data Collection:

- i) GPS Collars:
- ii) Electronic Tagging:

c) Online Platform Tracking

- i) Internet-Based Trade:
- ii) AI-Based Detection:
- iii) Call Data Record (CDR) Matrix:

d) Forensic Analysis

- i) Scientific Analysis:
- ii) Geographic Concentration:

e) Digital Databases

- i) Wildlife Crime Databases:

ii)Real-Time Data Sharing:

RECOMMENDATIONS FOR COMBATING WILDLIFE CRIMES USING DIGITAL TOOLS

- Allocate resources to develop and maintain real-time data collection, analysis, and information-sharing systems.
- Train law enforcement, forest officials, and local communities in using modern digital technologies for wildlife crime detection and prevention.
- Regularly update policies and wildlife protection laws to address the evolving digital methods of wildlife crime.
- Foster collaboration between government agencies, private tech companies, and civil society to combine expertise and resources.
- Promote cross-border collaboration and information sharing to effectively tackle transnational wildlife trafficking networks.
- Support initiatives that provide alternative, sustainable income sources for local communities to reduce reliance on illegal wildlife trade.
- Ensure that the use of digital surveillance and monitoring respects privacy, ethics, and human rights.

CONCLUSION

The emergence of internet wildlife trafficking and wildlife cybercrime has presented serious obstacles to international conservation initiatives. Cyber-enabled illegal wildlife trafficking (IWT) differs from typical wildlife crimes in that it uses intricate and quickly changing digital channels like social media, e-commerce sites, and encrypted communication networks. This change has increased the accessibility, difficulty of tracking, and organization of wildlife crimes. Furthermore, combating transnational wildlife trafficking networks requires public-private partnerships and international coordination. The sophisticated operations of wildlife traffickers that take advantage of the anonymity and speed of the digital world can be disrupted by efficient cross-border intelligence sharing, harmonization of legal standards, and coordinated enforcement methods.

In conclusion, preventing wildlife cybercrime necessitates a multifaceted, cooperative strategy that includes community involvement, dynamic policy reforms, improved digital

infrastructure, heightened law enforcement, and international collaboration. In the digital age, safeguarding endangered species from the dangers of illicit trafficking is not only required by law but also morally necessary for maintaining ecological balance and biodiversity. The future of the planet's wildlife depends on persistent work, creative solutions, and shared responsibility from all facets of society.

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