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An Interdisciplinary Approach to the Illegal Wild Life Trade

Intro

The illegal trade of wildlife is a significant environmental and ethical issue today, endangering biodiversity, ecosystem balance, and worldwide security. With an incredible annual value of billions of dollars, this underground sector functions at the intricate crossroads of technology, criminology, and economics. While we struggle with the harmful impact of this illegal trade on at-risk species and delicate environments, the quick progress of technology provides a glimmer of hope. New creative ideas coming from the technology industry offer unique chances to identify, stop, and dismantle wildlife trafficking networks that have evaded conventional policing techniques until now.

This study will identify the different techniques in the fields of technology, criminology, and economy in order to solve the Illegal Wildlife Trade. By exploring advanced techniques like artificial intelligence, blockchain technology, satellite imaging, and DNA analysis, we will investigate how these tools can be utilized to safeguard endangered species and habitats. In addition, this study will explore how these technology solutions intersect with criminological theories and economic principles to develop a more thorough and efficient strategy for wildlife conservation. Integrating state-of-the-art technological advancements with criminological insights and economic analysis develops a multifaceted and interdisciplinary approach to combating the illegal wildlife trade effectively. This approach will address the root causes of wildlife trafficking, disrupt sophisticated criminal networks, enhance law enforcement capabilities, and promote sustainable conservation efforts, ultimately contributing to the preservation of global biodiversity and the rule of law in the digital age.

In the battle against illegal wildlife trade, technology is essential for improving monitoring, detection, and enforcement through innovative solutions. One major development involves utilizing artificial intelligence (AI) to monitor protected areas in real time (Zahir, 2017). Platforms powered by artificial intelligence, like wpsWatch, use information from camera traps and other sensors to identify potentially illegal actions such as poaching. By screening out unimportant information and concentrating on useful insights, these systems enable conservationists and law enforcement to rapidly and efficiently address potential dangers. Mobile apps are also playing a pivotal role in combatting wildlife crime. Applications such as SEE Shell and HAWK give people the ability to recognize illegal wildlife items and alert authorities about questionable behaviors (August, 2019). The use of AI by SEE Shell helps differentiate between authentic and fake tortoiseshell items, allowing users to confidently refrain from supporting illegal trading. At the same time, HAWK acts as a centralized tool for reporting wildlife crimes, improving coordination among stakeholders in prevention and prosecution efforts. Sophisticated detection technologies are essential for reducing illicit wildlife trafficking. Thermal cameras have been effectively used in places such as Kenya to identify poachers working at night. These cameras allow law enforcement to catch criminals before they have a chance to harm wildlife. DNA testing is also essential for identifying wildlife products and tracing their origins. This approach to scientific inquiry aids in legal matters and also helps dismantle trafficking operations by providing substantial evidence of unlawful activities.

Moreover, advanced shipping technologies and forensic science provide strong strategies for interrupting the supply chain of unlawful wildlife trafficking. Intelligent shipping containers fitted with sensors can identify illegal items while in transit, stopping them from arriving at their destination. Forensic methods, like fingerprinting tools for ivory, allow officials to track the sources of wildlife products to particular poaching events or areas. These technologies together improve the capability of law enforcement agencies to effectively tackle wildlife crime and hold offenders accountable.

Alongside viewing technology as a field to effectively address the intricate problem of illegal wildlife trafficking, the economic sector offers several strategies to fight the illegal wildlife trade by addressing both demand and supply factors in the market. One approach is to boost the monetary incentives for lawful wildlife commerce and conservation efforts. Communities can achieve economic advantages by promoting sustainable tourism and lawful wildlife businesses, which can assist in reducing participation in illegal actions. For instance, in Southern Africa, conservation efforts led by local communities have demonstrated that financing wildlife protection can result in significant financial gains, such as increased revenue from tourism activities. Additionally, employing cost-benefit analyses can assist policymakers in understanding the economic impact of illegal wildlife trafficking and identifying areas for conservation funding. In Namibia, research indicated that funding anti-poaching initiatives resulted in considerable economic benefits, highlighting the importance of continued backing for wildlife preservation (Africa Renewal). This approach emphasizes the potential economic advantages of curbing illegal activities and informs decision-makers about the broader socio-economic impacts of wildlife crime.

It is essential to comprehend the economic significance of illegal wildlife trade in order to create successful policy interventions. It's believed that this trade is valued at \$20 billion per year, ranking it as one of the biggest illegal markets globally (2023). By measuring its economic effects, governments, and international organizations can better distribute resources to address this problem. In addition, the incorporation of economic techniques like market analysis and financial monitoring can disturb the financial systems that support illicit trade, thus decreasing its profitability and appeal to criminal groups. In general, utilizing economic principles and tools can greatly improve efforts to address illegal wildlife trade by aligning conservation objectives with economic incentives, enhancing resource allocation, and dismantling financial networks that sustain illicit activities.

Criminology is another essential discipline for comprehending and tackling the illegal wildlife trade. This cross-disciplinary area studies the actions, incentives, and organizational frameworks of individuals engaged in wildlife offenses. By examining the criminal dimensions of IWT, criminologists can formulate efficient tactics to address this worldwide problem. A crucial element of criminology regarding IWT is the examination of organized crime syndicates. These networks frequently engage in the illicit wildlife trade, employing advanced techniques to hunt, traffic, and sell wildlife goods. Grasping the framework and functioning of these criminal groups is crucial for creating focused interventions (2023). Criminologists examine the social and economic influences that motivate people to engage in wildlife crime, including poverty, the absence of alternative livelihoods, and strong demand for wildlife products.

Another significant aspect of criminology is the legal structure related to wildlife offenses. This involves the creation and implementation of laws and regulations designed to safeguard endangered species2. Criminologists collaborate with policymakers to enhance legal frameworks and guarantee that wildlife offenses are regarded as significant crimes. They also examine how effective current laws are and suggest enhancements to improve enforcement and deterrence. Behavioral research is another essential aspect of criminology in combating IWT. By grasping the motivations and actions of poachers and traffickers, criminologists can create strategies to combat wildlife crime. This encompasses community-driven initiatives, educational and awareness programs, and the application of technology to oversee and identify unlawful activities.

Ultimately, criminology aids in fostering the international collaboration necessary to tackle IWT. Wildlife crime is an international concern, necessitating cooperation among nations to exchange intelligence, align enforcement actions, and bring perpetrators to justice. Criminologists collaborate with global entities like INTERPOL and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to create and execute worldwide strategies to tackle

In conclusion, tackling illegal wildlife trafficking requires a diverse and cooperative approach that involves technology, criminology, and economics. By utilizing advanced technology for real-time tracking and evaluation of data, we can enhance the detection and prevention of wildlife offenses. Knowledge from criminology regarding criminal networks facilitates targeted enforcement strategies and highlights the importance of worldwide cooperation. Simultaneously, economic strategies seek to promote conservation objectives, support sustainable alternatives to poaching, and assess the financial impacts of wildlife crime. These areas collaborate to form a cohesive strategy that improves regulation and addresses the root causes of illegal wildlife trafficking. Collaborating globally allows us to protect biodiversity, encourage sustainable development, and build a future where wildlife thrives.

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