



## Mass Media Technology in Wildlife Trade in Indonesia

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**Abstract:** *This study examines the role of technology, particularly social media, in facilitating illegal wildlife trade in Indonesia, as well as efforts to combat it. Online wildlife trade has grown along with technological advances, which provide criminals with wider access and anonymity that facilitate illegal transactions. Social media platforms and e-commerce have become the main channels for this trade, with perpetrators taking advantage of anonymity features and effective marketing through paid advertising and visual content. To address this problem, several mitigation efforts that can be made include increasing digital literacy for the community, collaborating with social media and e-commerce platforms to develop reporting mechanisms, developing artificial intelligence-based detection technology, and strengthening law enforcement. This study highlights the importance of collaboration between various parties, as well as the use of technology to detect and prevent wildlife trade more effectively.*

**Keywords:** *Illegal wildlife trade, Social media, Detection technology, and Countermeasures*

**Abstrak:** Penelitian ini mengkaji peran teknologi, khususnya media sosial, dalam memfasilitasi perdagangan satwa liar ilegal di Indonesia, serta upaya-upaya penanggulangannya. Perdagangan satwa liar secara daring semakin berkembang seiring dengan kemajuan teknologi, yang memberikan pelaku kejahatan akses lebih luas dan anonimitas yang mempermudah transaksi ilegal. Platform media sosial dan e-commerce telah menjadi saluran utama dalam perdagangan ini, dengan pelaku yang memanfaatkan fitur anonimitas dan pemasaran efektif melalui iklan berbayar dan konten visual. Untuk menangani masalah ini, beberapa upaya penanggulangan yang dapat dilakukan meliputi peningkatan literasi digital untuk masyarakat, kerjasama dengan platform media sosial dan e-commerce untuk mengembangkan mekanisme pelaporan, pengembangan teknologi deteksi berbasis kecerdasan buatan, serta penguatan penegakan hukum. Penelitian ini menyoroti pentingnya kolaborasi antar berbagai pihak, serta pemanfaatan teknologi untuk mendeteksi dan mencegah perdagangan satwa liar secara lebih efektif.

**Kata kunci:** *Kata kunci: Perdagangan satwa liar ilegal, Media sosial, Teknologi deteksi, dan Penanggulangan.*



## Introduction

Forests are the main habitat for wildlife in Indonesia. In the 1950s, around 84% of Indonesia's land area (around 162 million hectares) was still forest, but currently the government records the area of Indonesian forests at around 138 million hectares. Several other sources state that the area of Indonesian forests is now no more than 120 million hectares. Forest conversion and the decline in the quantity and quality of rare animals are serious problems that threaten the sustainability of wildlife in this country. As a country with very rich biodiversity, Indonesia is recorded as having 3,305 species of amphibians, birds, mammals, and reptiles, with 31.1% of them endemic and 9.9% endangered. In addition, Indonesia also has a marine area of 5.8 million km<sup>2</sup> which is rich in biodiversity, including 590 types of coral reefs representing 37% of the world's marine species and 30% of mangrove types<sup>1</sup>.

Wildlife protection in Indonesia is very important for several reasons. First, Indonesia is the world's center of biodiversity with many unique and rare species, including endemics. Second, wildlife plays a vital role in maintaining the balance of the ecosystem, such as pollination, seed transfer, and pest control. Third, wildlife protection is directly related to environmental conservation and sustainable management of natural resources. Fourth, wildlife has high cultural and spiritual value in Indonesian society. Finally, the decline in the population of endangered wildlife can damage Indonesia's ecosystem and biodiversity.<sup>2</sup>

An animal species is categorized as a protected animal if it meets three criteria, namely, first, it has a very small population, second, it has experienced a significant decline in the number of individuals in nature, and third, it has a limited distribution (endemic). This is in accordance with the provisions of Article 5 paragraph (1) of Government Regulation No. 7 of 1999 concerning the Preservation of Plant and Animal Species. Understanding these provisions is very important to

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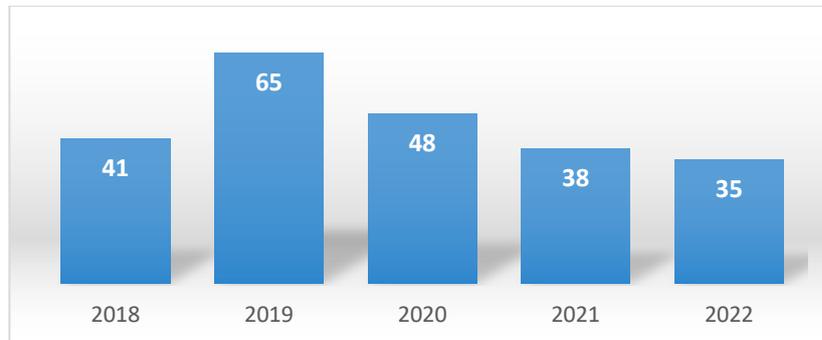
<sup>1</sup>Central Bureau of Statistics (BPS). (nd). *Wildlife hunting data 2018-2022*. Central Bureau of Statistics.

<sup>2</sup>Wildlife Conservation Society (WCS) Indonesia Program & KLHK., *Online wildlife trade study in Indonesia (2021-2022)*. Wildlife Conservation Society, 2022



facilitate the determination of rare animals that need to be protected, as well as to prevent their extinction through legal protection and conservation efforts.<sup>3</sup>

**Chart 1 Wildlife Hunting Data 2018-2022**



*Source: Central Bureau of Statistics*

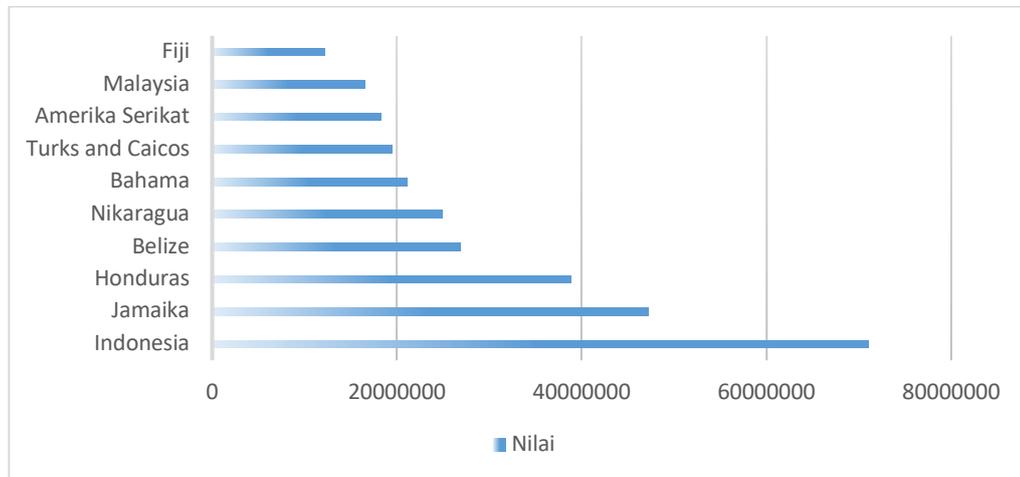
In 2018, there were 41 illegal TSL trade cases that were processed by law. The number then jumped significantly to 65 cases in 2019. The cases in that year were the largest captured and processed by law during 2018-2022. Then in 2020 it dropped to 48 cases. Then the following years also experienced a decline, namely 2021 as many as 38 cases and 2022 as many as 35 cases. Indonesia has become the largest exporter of wild animals in the world. This is recorded in the International Socioeconomic Inequality Drives Trade Patterns in the Global Wildlife Market research report compiled by Jia Huan Liew et al., a research team from Hong Kong and Singapore (May 2021). According to the report, during the period 1998-2018 Indonesia had exported around 71 million wild animals to dozens of countries, the highest compared to other exporting countries. The animal groups include several types of birds, fish, shellfish, amphibians, anthozoa (such as anemones, soft and hard corals), arachnids (spiders and scorpions), hydrozoa (such as jellyfish and fire corals), insects, mammals (such as orangutans), reptiles, sharks/rays, and snails. In an effort to protect protected wildlife in Indonesia, a communication mechanism is needed between the relevant parties.<sup>4</sup>

<sup>3</sup>Central Bureau of Statistics (BPS). (nd). *Wildlife hunting data 2018-2022*. Central Bureau of Statistics.

<sup>4</sup>CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), CITES: *Convention on International Trade in Endangered Species of Wild Fauna and Flora*. CITES Secretariat, 1973.



**Chart 2. Data on World Wildlife Exporters**



Source: *Source: International Socioeconomic Inequality Drives Trade Patterns in the Global Wildlife Market (2021)*

As technology advances and internet users increase, wildlife trade is growing with the presence of online trading platforms. According to the International Fund for Animal Welfare (IFAW), illegal online wildlife trade has been rampant since 2004. A study conducted by the environmental organization Wildlife Conservation Society (WCS) Indonesia Program together with the Ministry of Environment and Forestry, in April 2021 - March 2022 found that there were almost a thousand advertisements from 421 marketplace accounts offering wildlife or their body parts in Indonesia. These accounts advertise animals on various types of marketplaces. Among them are Shopee, Lazada, Bukalapak, and Tokopedia. Meanwhile, on social media, wildlife trade is known to occur a lot on Facebook and Kaskus. One wildlife seller account can use two or more different platforms. The majority of animals traded online are protected animals. Most of them come from the bird group, followed by the mammal and reptile groups. In addition, there are also products from wildlife, one of which is elephant ivory. Based on the search results, these accounts were detected in DKI Jakarta (161), West Java (80), and Central Java (55).<sup>5</sup>

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### **Methods**

The research method used is a qualitative method. Qualitative Research Methodology, is: "Qualitative research methods are distinguished from quantitative research methods in the sense that qualitative research methods do not rely on evidence based on mathematical logic, numerical principles or statistical methods. The information that is explored in depth is related to the progress of social media technology related to handling wildlife trade in the Special Region of Jakarta Province.



## Results

Technological advances, especially the internet and digital platforms, have changed various aspects of life, including wildlife trade in Indonesia. Communication technology makes it easier for illegal wildlife traders to operate and reach wider markets, both nationally and internationally. In the context of Indonesia, which is one of the largest exporters of wild animals, this technology opens up huge opportunities for illegal wildlife trade through online platforms.<sup>6</sup> Findings from environmental organizations such as the Wildlife Conservation Society (WCS) Indonesia and the Ministry of Environment and Forestry (KLHK) show that online wildlife trade in Indonesia is increasing along with the increase in internet users. E-commerce platforms such as Shopee, Lazada, Bukalapak, and Tokopedia, as well as social media such as Facebook and Kaskus, are often used by perpetrators to sell wildlife and products from protected animals, including birds, mammals, reptiles, and products such as elephant ivory.<sup>7</sup>

While online trading facilitates wildlife transactions, it also complicates monitoring and law enforcement. Sellers often operate under anonymous accounts or use multiple platforms,<sup>8</sup> making them difficult to track. Various parties have recorded hundreds of marketplace accounts offering wildlife in Indonesia, especially in areas such as DKI Jakarta, West Java, and Central Java. This trend requires serious handling because illegal online wildlife trade not only threatens the existence of endangered species but also disrupts the balance of the ecosystem.

On the other hand, technological advances also provide opportunities for authorities and conservation organizations to track and address wildlife trafficking. Governments and non-governmental organizations can utilize analytical technology, social media monitoring, and geographic information systems to detect trade patterns and identify networks of perpetrators. In addition, technology also allows for rapid and widespread dissemination of information to raise public awareness of the importance of wildlife conservation. With the right

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<sup>6</sup>McQuail, D, *Mass communication theory* (6th ed.). (Sage Publications. 2010)

<sup>7</sup>Wildlife Conservation Society (WCS) Indonesia Program & KLHK. (2022). *Online wildlife trade study in Indonesia (2021-2022)*, Wildlife Conservation Society, 2022)

<sup>8</sup>McQuail, D, *Mass communication theory* (6th ed.), (Sage Publications. 2010)



communication strategies, such as digital campaigns and socialization through mass media, the public can be educated about the negative impacts of wildlife trafficking and the importance of protecting protected animals.

Communication and information technology, although it opens up opportunities for illegal trade, can also be a tool to improve conservation efforts and strengthen cooperation between agencies and the international community in protecting biodiversity. In this case, synergy between the government, conservation organizations, technology companies, and the community is very important so that technological progress can be directed to suppress illegal trade and maintain the sustainability of wildlife in Indonesia. So in this case the author presents an analysis related to technological progress and/or mass media that have an impact on wildlife trade as follows:<sup>9</sup>

1. The Role of Social Media in Wildlife Trade: The role of social media in wildlife trade is increasingly significant with the existence of extensive social networks that allow criminals to connect easily and quickly. Platforms such as Facebook, Instagram, and TikTok have created a borderless communication space, where individuals involved in wildlife trade can get to know each other, interact, and transact very efficiently. This network also provides the advantage of very open access to a wider market, both locally and internationally. The anonymity features available on social media, such as the use of fake accounts and privacy settings, make it easier for perpetrators to hide behind untraceable identities, making it increasingly difficult for authorities to identify and arrest them. In fact, perpetrators can transact without fear of being caught, considering the large number of accounts that cannot be monitored directly.

In addition, social media has become a very effective marketing tool for the illegal wildlife trade. Criminals can use paid advertising and attractive visual content to promote wildlife products, whether in the form of live animals, animal parts, or other related products. By using attractive images

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<sup>9</sup> Liew, JH, & Team, *International socioeconomic inequality drives trade patterns in the global wildlife market*, (International Socioeconomic Inequality Research, 2021)



and videos, perpetrators can attract the attention of potential buyers, especially those who may not know or care about the legal status of the animal. Furthermore, social media has also become a place for the formation of online communities that specifically discuss the wildlife trade. Within these communities, members can share information, techniques, and tricks on how to avoid detection by authorities, including ways to package and ship wildlife illegally. The existence of these communities strengthens the illegal trade network, while eliminating the barriers that usually arise in the form of fear or confusion when conducting illegal transactions. With the convenience offered by social media, the wildlife trade is not only taking place in the real world, but is also increasingly developing in the digital realm, making it increasingly difficult to protect wildlife.

2. Impact of Technology on Wildlife Trade: The impact of technology on wildlife trade has been significant, especially in terms of ease of access and efficiency of transactions. Technology has made it easier to access global markets, allowing wildlife traders to transact across borders much more easily. Through online platforms, traders can reach buyers from all over the world without having to have direct contact, which previously required more complicated physical distribution channels. This increased access has opened up opportunities for wildlife trade to grow rapidly and without geographical barriers.

In addition, technology also contributes to lower transaction costs. The use of online trading platforms and digital payment systems allows traders to reduce operational costs, speed up transaction processes, and avoid lengthy and expensive procedures that are common in traditional trade. This also allows transactions to be carried out quickly and efficiently, increasing the volume of illegal wildlife trade in a shorter time.

Increased secrecy is also one of the impacts of technology that worsens the situation. The use of encryption technology and more secure digital payment systems makes wildlife transactions difficult for authorities to track. In this way, traders can transact without leaving easily identifiable



traces, making law enforcement even more difficult. In addition, technology has also enabled product diversification in the wildlife trade. Not only live animals are traded, but derivative products such as animal skins, horns, ivory, and bones are now more easily marketed through various online platforms. This expands the market reach for illegal goods that were previously more difficult to distribute, making the wildlife trade even more complex and difficult to control.

3. Implications of Communication Theory: Social Network Theory explains how wildlife traffickers form tight social networks on social media, allowing them to collaborate with each other and share information effectively. Through platforms such as Facebook, Instagram, and instant messaging apps, they can build relationships with other traffickers, share tips on how to avoid detection, and create communities that reinforce their illegal activities. These networks provide a space for traffickers to support each other and increase the efficiency of wildlife trafficking.

## **Discussion**

In this context, the Diffusion of Innovation Theory explains how new technologies, such as instant messaging applications and e-commerce platforms, are quickly adopted by criminals to facilitate wildlife trafficking. These technologies enable transactions to be faster, easier, and more hidden, making it easier for criminals to reach a wider market. The use of these technology-based applications accelerates the spread of information related to wildlife trafficking, even beyond national borders, expanding the scope of the trade.

Framing theory also plays an important role in how criminals try to justify their actions. Perpetrators often use positive framing, for example by claiming that wildlife products have medicinal properties or other benefits, even though they are actually involved in illegal hunting and trade. This framing serves to create a better perception in the eyes of consumers or the public, reducing guilt and strengthening motivation to continue the trade.



Agenda Setting Theory, on the other hand, describes how social media can influence public perception of wildlife trafficking. Through the selection and emphasis of certain issues, social media can shape public views of the issue, either positively by highlighting the benefits or negatively by highlighting the negative impacts of wildlife trafficking. Social media has the power to set the agenda and influence how the public views the issue, which in turn can influence the policies and actions taken to address the issue.

Prevention efforts that can be done are by Efforts to overcome online wildlife trade require a comprehensive approach and involve various sectors. One important step is increasing digital literacy, which aims to raise public awareness of the dangers of wildlife trade and provide an understanding of how to recognize indications of illegal wildlife sales in cyberspace. Through education and training, the public is expected to be more sensitive to suspicious content, such as illegal wildlife advertisements or animal body parts, and can report such illegal activities. Counseling based on digital literacy also plays a role in reducing ignorance that is often exploited by criminals.

Collaboration with social media and e-commerce platforms is also a strategic step in addressing this issue. Collaboration between the government, non-governmental institutions, and digital platform providers can produce more effective mechanisms in dealing with illegal content. For example, the development of a reporting system that is easily accessible to users and cooperation to accelerate the removal of illegal content containing wildlife trade. Large platforms such as Facebook, Instagram, Shopee, and Tokopedia can be involved in implementing stricter policies and actively monitoring suspicious transactions.

In addition, the development of detection technology using artificial intelligence (AI) and data analysis is also an increasingly relevant solution. By using sophisticated algorithms, online platforms can identify suspicious behavioral patterns, such as repeated transactions involving wildlife or their derivative products. This technology allows for faster and more precise detection, so that preventive measures can be taken earlier. The use of technology like this also allows



for large-scale monitoring of wildlife trade activities without sacrificing speed and accuracy.

Finally, strengthening law enforcement is essential to ensure that wildlife trade regulations are strictly enforced. Increasing the capacity of law enforcement to investigate and prosecute cases that occur on online platforms is a step that cannot be postponed. This includes involving special training for law enforcement officers on the use of technological tools in combating online crime, as well as strengthening cooperation with international institutions to handle cases involving cross-border trade. Strict law enforcement will provide a deterrent effect and narrow the room for criminals to carry out wildlife trade in cyberspace.

### **Conclusion**

The conclusion of this study shows that technological advances, especially social media and e-commerce platforms, have had a significant impact on the illegal wildlife trade in Indonesia. Social media such as Facebook, Instagram, and Shopee have become the main means for criminals to promote, sell, and distribute wildlife illegally. The existence of anonymous features offered by these platforms allows perpetrators to hide their identities, make it easier for them to make transactions, and reach a wider audience. Digital payment technology and integrated logistics systems have also accelerated the transaction process, making it more efficient and reducing operational costs. In addition, wildlife trade now includes not only live animals, but also derivative products such as skin, horns, and bones. Although these technological advances make it easier for criminals, they also increase the challenges for law enforcement in handling this case. Online wildlife trade has a major impact on the preservation of biodiversity and is detrimental to the country's economy. Therefore, comprehensive efforts are needed to address this problem, including increasing digital literacy, cross-sectoral collaboration between the government, the community, and technology platforms, developing artificial intelligence-based detection technology, and strengthening law enforcement. With these steps, it is hoped that it can reduce the illegal wildlife trade and protect Indonesia's biodiversity.



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