

MODERNIZING CUSTOMS FOR CITES ENFORCEMENT: ENHANCING TRANSPARENCY AND CROSS-BORDER COOPERATION IN MALAYSIA

Mohd Hairul Mohd Salleh

mhairul.salleh@customs.gov.my, Royal Malaysian Customs Department Malaysia

Abstract

This review examines the strategic role of the Royal Malaysian Customs Department (RMCD) in enhancing transparency and cross-border cooperation for the enforcement of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Given Malaysia's position as a critical transit hub for wildlife trafficking, this study addresses key challenges such as fragmented data systems, weak interagency coordination, and limited species identification capacity. Using a qualitative, narrative-based approach, the review analyzes literature, regional initiatives (e.g., ASEAN-WEN), and customs modernization tools, including ePermits, non-intrusive inspection, and AI-based risk profiling. The results reveal progress in digitization and regional cooperation, yet underscore persistent gaps in real-time data interoperability, legal harmonization, and officer training. Discussion highlights the need for standardized procedures, cross-border intelligence exchange, and policy reform to align enforcement practices with international biodiversity goals. Conclusively, the study proposes a multi-layered strategy—integrating technological innovation, regulatory alignment, and regional capacity building—to enhance CITES enforcement and position RMCD as a regional leader in biodiversity protection.

Keywords: *CITES enforcement, wildlife trafficking, customs modernization, biodiversity protection, regional cooperation, Malaysia*

Abstrak

Kajian ini menilai peranan strategik Jabatan Kastam Diraja Malaysia (JKDM) dalam meningkatkan ketelusan dan kerjasama rentas sempadan bagi penguatkuasaan Konvensyen Perdagangan Antarabangsa Spesies Fauna dan Flora Liar Terancam (CITES). Malaysia sebagai hab transit utama perdagangan hidupan liar berdepan cabaran seperti sistem data yang berpecah, koordinasi antara agensi yang lemah, dan kekurangan keupayaan pengecaman spesies. Menggunakan pendekatan kualitatif berbentuk ulasan naratif, kajian ini menganalisis literatur, inisiatif serantau (contohnya ASEAN-WEN) dan alatan pemodenan kastam termasuk ePermit, pemeriksaan tanpa sentuhan dan penilaian risiko berasaskan kecerdasan buatan (AI). Dapatan menunjukkan kemajuan dalam digitalisasi dan kerjasama serantau, tetapi jurang masih wujud dalam perkongsian data masa nyata, penyelarasan undang-undang dan latihan pegawai. Perbincangan menekankan keperluan kepada prosedur piawai, perkongsian risikan rentas sempadan, dan reformasi dasar untuk sejajar dengan matlamat biodiversiti antarabangsa. Kesimpulannya, kajian ini mencadangkan strategi pelbagai lapisan—gabungan inovasi teknologi, pelarasan peraturan dan pembinaan kapasiti serantau—untuk memperkukuh penguatkuasaan CITES dan memperkasa peranan JKDM sebagai peneraju serantau dalam perlindungan biodiversiti.

Kata Kunci: *Penguatkuasaan CITES, pemerdagangan hidupan liar, pemodenan kastam, perlindungan biodiversiti, kerjasama serantau, Malaysia*

INTRODUCTION

Wildlife trafficking continues to threaten global biodiversity, with Malaysia increasingly recognized as a key transit hub in this illicit trade, particularly for high-value species such as ivory (Krishnasamy, 2016). The country's strategic geographic location, coupled with expanding international trade, places immense pressure on its border enforcement systems. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) plays a crucial role in regulating international wildlife trade, yet its effectiveness hinges on national-level enforcement (Sajeva et al., 2007).

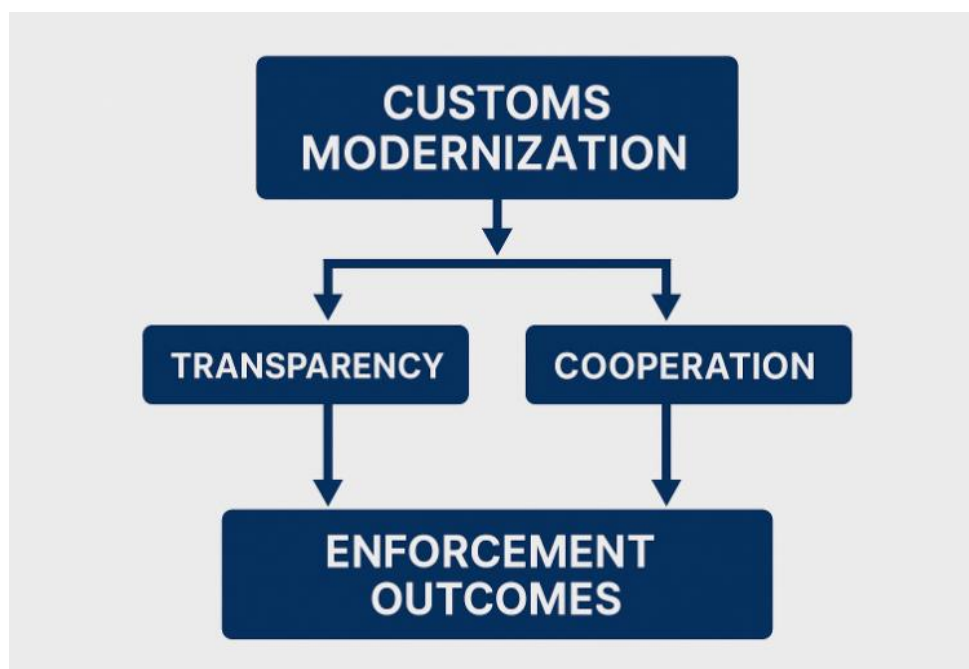
In Malaysia, the Royal Malaysian Customs Department (RMCD) serves as a frontline agency responsible for intercepting illegal wildlife products at the borders. However, enforcement is hindered by several systemic issues, including fragmented data systems, limited species identification capacity, and weak interagency coordination. While CITES compliance is supported by legal frameworks and permit systems, operational implementation often lacks transparency, efficiency, and cross-border cooperation (Николаевич, 2014).

Recent advancements in customs modernization—such as non-intrusive inspection tools, ePermit digitalization, and AI-based risk profiling—offer potential solutions to these challenges (Zucca et al., 2020). In parallel, regional initiatives such as the ASEAN Wildlife Enforcement Network (ASEAN-WEN) and collaborations with the International Criminal Police Organization (INTERPOL) and the International Consortium on Combating Wildlife Crime (ICWC) underscore the importance of international cooperation (Aguiar et al., 2025; Alexandroff & Laird, 2008; Kusumaningrum, 2013; Rahman, 2024; Sundram, 2024). Nevertheless, critical gaps remain in real-time data interoperability, harmonization of legal frameworks, and capacity-building for enforcement personnel (Ramadhan et al., 2023; Wyatt, n.d.).

Despite the growing body of literature on CITES and biodiversity conservation, limited attention has been given to the strategic role of customs authorities in Southeast Asia. This review seeks to bridge that gap by analyzing the operational, technological, and policy dimensions of RMCD's enforcement of CITES. It aims to examine how customs modernization and regional partnerships can enhance transparency, strengthen enforcement, and position Malaysia as a regional leader in biodiversity protection.

The analysis is guided by the conceptual framework in Figure 1.1, which links modernization tools, institutional transparency, and enforcement outcomes in the context of CITES. By identifying both opportunities and persistent barriers, this review contributes actionable recommendations to reinforce the role of RMCD in regional and global efforts to curb illegal wildlife trade.

Figure 1.1. Conceptual Framework: Linking Modernization, Transparency, and Enforcement Outcomes



LITERATURE REVIEW

2.1 CITES Structure and Enforcement Challenges Globally

The CITES aims to regulate international wildlife trade to prevent species extinction. Despite its widespread ratification, enforcement remains inconsistent due to various challenges (Table 2.1) (Waeber et al., 2023). These include disparities in national legislation, limited resources, and varying levels of political commitment (Macdonald, 2023; Pitman, 2020). The effectiveness of CITES largely depends on national authorities, which often face resource constraints and lack specialized training, hindering their ability to detect and intercept illegal wildlife trade (Macdonald, 2023). This situation is exacerbated by issues such as corruption, poor interagency coordination, and inadequate intelligence sharing, which further complicate enforcement efforts (Giwa, 2025; Pitman, 2020; Waeber et al., 2023).

While CITES provides a crucial framework for regulating international wildlife trade, its effectiveness is hindered by various challenges. Addressing these issues requires a concerted effort to strengthen legal frameworks, improve resource allocation, and enhance coordination among enforcement agencies. This approach can help ensure that CITES achieves its goal of protecting endangered species from the threats posed by international trade.

Table 2.1. Challenges and Potential Solutions in CITES Implementation

Challenges	Description	Potential Solutions
Disparities in National Legislation	Varying legal frameworks and commitment levels across countries result in inconsistent enforcement of CITES. Some nations lack comprehensive laws (Macdonald, 2023; Wyatt, 2021).	Strengthening Legal Frameworks: Align national laws with CITES and learn from jurisdictions with effective enforcement (Macdonald, 2023; Salmin, 2023).
Resource Constraints	Many authorities (e.g., customs) lack adequate resources and specialized training, limiting their ability to detect and intercept illegal wildlife trade (Macdonald, 2023; Polner, 2015).	Capacity Building: Invest in training programs and provide adequate resources for enforcement bodies (Jones & Honorato, 2016; Macdonald, 2023).
Corruption and Coordination Issues	Corruption within enforcement agencies and weak coordination among institutions impede effective regulation (Fijnaut & Huberts, 2002; Giwa, 2025; Macdonald, 2023).	Enhancing Coordination & Oversight: Improve interagency collaboration and implement anti-corruption measures. (Bautista-Beauchesne, 2022; Gikunda et al., 2025).
Discretionary Interpretation	Different parties interpret CITES regulations inconsistently, creating enforcement loopholes exploited by traffickers (Macdonald, 2023; Reeve, 2014; Sollund & Maher, 2015).	Clarifying Guidelines: Promote consistent interpretation of CITES rules across parties to reduce loopholes (Reeve, 2014).

2.2 Overview of ASEAN-WEN, EU-TWIX, and Other Regional Collaborations

To effectively counter transnational wildlife trafficking, regional platforms like the ASEAN Wildlife Enforcement Network (ASEAN-WEN) and the European Union Trade in Wildlife Information eXchange (EU-TWIX) database have emerged, each with distinct operational frameworks and challenges. ASEAN-WEN aims to enhance cooperation among Southeast Asian nations but faces limitations such as informal cooperation, inconsistent funding, and a lack of legal binding power (Bi et al., n.d.; Himawan, 2012). In contrast, the EU-TWIX database has successfully supported enforcement efforts by providing centralized access to critical information, demonstrating greater effectiveness when integrated within broader legal frameworks like the EU Action Plan against Wildlife Trafficking (Jiao et al., 2021; Wyatt, n.d.).

The ASEAN-WEN was established in 2005. ASEAN-WEN focuses on improving law enforcement against wildlife crime in Southeast Asia (Himawan, 2012). Challenges: Evaluations indicate limited impact due to informal cooperation frameworks and inconsistent funding (Bi et al., n.d.; Van, 2017). Impact: Despite challenges, ASEAN-WEN has contributed to increased case resolutions and enhanced law enforcement capacity in member states (Himawan, 2012).

The EU-TWIX Database provides customs and enforcement officers with centralized access to seizure records and species identification tools (Wyatt, n.d.). Effectiveness: Studies show that EU-TWIX is more effective when part of comprehensive legal frameworks, enhancing its operational success (Jiao et al., 2021).

While regional platforms like ASEAN-WEN face significant hurdles, the success of EU-TWIX highlights the importance of integrating wildlife enforcement initiatives within robust legal frameworks. This suggests that enhancing legal cooperation and institutional support could improve the effectiveness of regional efforts against wildlife trafficking.

2.3 Previous Studies on Customs Roles in Wildlife Trafficking

Customs authorities play a pivotal role in combating illegal wildlife trade, yet their contributions are often overlooked in academic discourse. Their responsibilities encompass border inspections, risk profiling, and intelligence sharing, which are essential for effective enforcement against wildlife trafficking (Ronzhina et al., 2022; Salleh, 2024). However, challenges such as the prioritization of traditional contraband and a perception of wildlife crime as low-risk hinder their effectiveness (Mikuriya, 2017). The following Table 2.2 delves into the critical aspects of customs' roles and the associated challenges. While customs authorities are essential in the fight against wildlife trafficking, their efforts are often undermined by systemic challenges and a lack of prioritization. Addressing these issues through targeted training and interagency collaboration could significantly enhance their effectiveness in combating this pressing global issue (Giwa, 2025; Macdonald, 2023).

Table 2.2. Customs Functions in Wildlife Trade Enforcement and Challenges Faced by Customs Authorities

Category	Details	Sources
Customs Functions in Wildlife Trade Enforcement		
Border Inspections	Customs inspect goods at borders to identify and prevent the entry of illegal wildlife and their derivatives into markets.	Ronzhina et al., 2022
Risk Profiling	Enables efficient allocation of resources by targeting high-risk shipments likely to involve illegal wildlife.	Ananta et al., 2024
Intelligence Exchange	Sharing information with law enforcement agencies helps track and dismantle wildlife trafficking networks.	Rosen & Smith, 2010
Challenges Faced by Customs Authorities		
Limited Awareness and Training	Lack of specialized training leads customs to prioritize traditional contraband like drugs over wildlife products.	Korenblik et al., 2016; Macdonald, 2023

Category	Details	Sources
Perception of Low Risk	Wildlife trafficking is often underestimated, resulting in low institutional prioritization and funding.	Siegel & Uhm, 2012
Need for Interagency Collaboration	Effective enforcement requires better cooperation across different governmental agencies.	Yudha et al., 2024

2.4 Digital Customs Modernization: E-Permits, Single Window, and Risk-Based Inspections

The emergence of regional platforms like the ASEAN-WEN and the EU-TWIX database highlights the collaborative efforts to combat transnational wildlife trafficking. While the ASEAN-WEN aims to enhance cooperation among Southeast Asian nations, its effectiveness is hindered by informal frameworks, inconsistent funding, and limited legal authority (Bi et al., n.d.; Himawan, 2012). In contrast, the EU-TWIX database has demonstrated success by providing centralized access to vital information, which is further strengthened by its integration into broader legal frameworks like the EU Action Plan against Wildlife Trafficking (Jiao et al., 2021; Wyatt, n.d.).

The ASEAN-WEN challenges include informal cooperation, funding issues, and legal limitations. **Informal Cooperation:** The ASEAN-WEN relies on voluntary participation, leading to inconsistent engagement among member states (Bi et al., n.d.). **Funding Issues:** Limited financial resources restrict operational capabilities and enforcement activities (Himawan, 2012). **Legal Limitations:** The lack of binding legal power diminishes the network's authority in enforcing wildlife protection laws (Bi et al., n.d.).

The EU-TWIX effectiveness is a centralized database and legal integration. **Centralized Database:** Provides customs and enforcement officers with essential tools for identifying species and tracking seizures (Wyatt, n.d.). **Legal Integration:** Its effectiveness is enhanced when embedded within comprehensive legal frameworks, facilitating coordinated actions against wildlife trafficking (Jiao et al., 2021).

Despite these advancements, challenges remain in achieving comprehensive international cooperation, particularly in addressing the complexities of transnational organized crime and the pervasive influence of corruption in wildlife trafficking (Giwa, 2025; Van, 2017).

2.5 Gaps in Regional Data Interoperability, Enforcement Capacity, and Species Misidentification

Limited data interoperability, inconsistent enforcement capacities, and inadequate training for species identification exacerbate the challenges in combating wildlife trafficking. Despite advancements in digitization and regional collaboration, significant gaps remain in real-time data exchange and risk assessment capabilities (Figure 2.1). Conversely, while technological advancements offer promising solutions, the reliance on these tools may inadvertently divert attention from the need for comprehensive policy reforms and community engagement in wildlife conservation efforts.

Figure 2.1. Wildlife Trade Enforcement Key Issues and Solutions (Arroyo-Quiroz & Wyatt, 2019; Ferber et al., 2023; Hughes et al., 2021; Korenblik et al., 2016; Kusumaningrum, 2013; Macdonald, 2023; Ramadhan et al., 2023; Rosen & Smith, 2010)



METHODS

This study employs a qualitative narrative review to examine Malaysia’s efforts in enforcing CITES, with a particular focus on the strategic role of the RMCD as presented in Figure 3.1. The review explores how customs modernization and regional cooperation contribute to improving transparency and biodiversity protection.

3.1 Data Sources and Search Strategy

Literature was sourced from academic databases, including Scopus, Web of Science, and Google Scholar, as well as official documents and reports from RMCD, the CITES Secretariat, ASEAN-WEN, the Trade Record Analysis of Flora and Fauna in Commerce (TRAFFIC), and INTERPOL. Searches were conducted using keywords such as “CITES enforcement Malaysia,” “wildlife trafficking customs,” “customs modernization Southeast Asia,” and “biodiversity protection through enforcement.” The timeframe for literature selection was from 2002 to 2025, ensuring coverage of both foundational studies and recent developments.

3.2 Inclusion and Exclusion Criteria

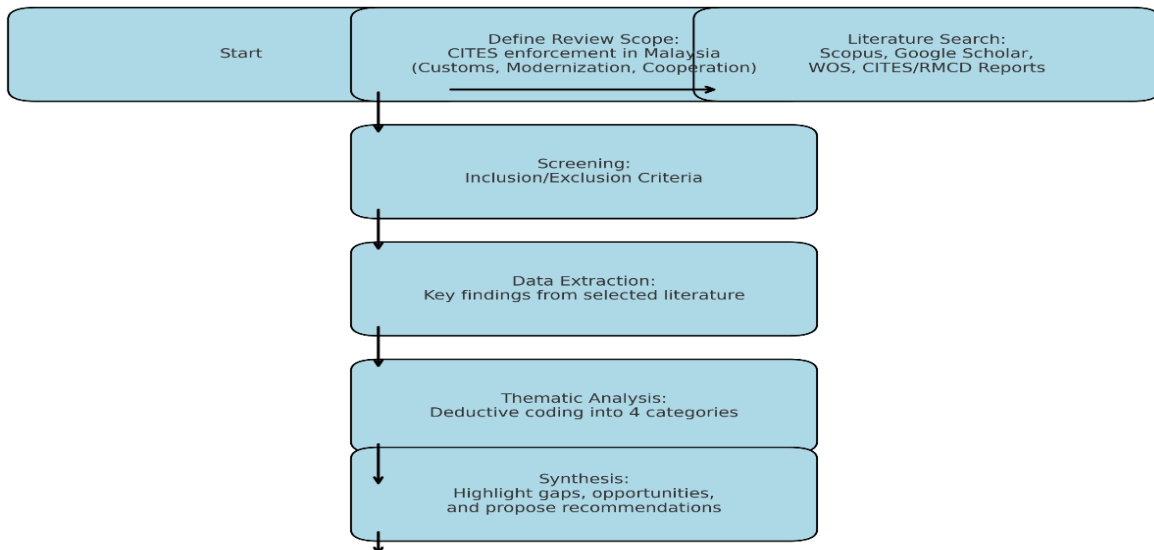
Only publications in Malay and English that directly addressed CITES enforcement, customs operations, or cross-border wildlife trade mechanisms in Southeast Asia were included. Studies that focused solely on ecological, legal, or conservation aspects without discussing enforcement mechanisms were excluded.

3.3 Data Analysis

A deductive thematic analysis was conducted, guided by the study’s main objectives. Literature and reports were manually coded and categorized under four major themes, including enforcement challenges, digital customs modernization, interagency coordination, and strategic recommendations. These themes were iteratively refined to identify patterns, critical gaps, and opportunities within Malaysia’s enforcement ecosystem. Emphasis was placed on triangulating insights from academic, institutional, and policy-level documents to ensure depth and reliability.

While efforts were made to include the most comprehensive and current materials, the analysis was limited by restricted access to confidential or operational enforcement data, particularly frontline practices within RMCD. This limitation is acknowledged as a potential constraint on the depth of institutional insight.

Figure 3.1. Workflow of the Narrative Review Methodology Used to Examine Malaysia’s CITES Enforcement Efforts Through Customs Modernization and Regional Cooperation.



RESULTS AND DISCUSSION

4.1 Malaysia’s Customs Transparency in CITES Enforcement

Malaysia's customs transparency in CITES enforcement is crucial for regulating the international trade of endangered species. The publication of procedures and permit requirements through platforms like the Customs Portal, the Ministry of Investment, Trade and Industry Malaysia (MITI), and MyTRADELINK is essential for ensuring compliance with CITES regulations (Ronzhina et al., 2022). However, there are significant gaps in real-time access to species-level data and a need for standardized Harmonized System (HS) codes for endangered species to enhance monitoring and enforcement (Junquera-Varela & Lucas-Mas, 2024). These issues are critical for Malaysia, a mega-biodiverse country, to protect its wildlife from unsustainable exploitation (Ramadhan et al., 2023).

Publication of Procedures and Permit Requirements: Malaysia utilizes platforms such as the Customs Portal, MITI, and MyTRADELINK to disseminate information on procedures and permit requirements for CITES enforcement (Ariffin & Mustafa, 2013). These platforms aim to provide transparency and facilitate compliance with international trade regulations for endangered species.

Gaps in Real-Time Access to Species-Level Data: Current systems lack comprehensive, real-time access to species-level data, which is crucial for effective monitoring and enforcement of CITES regulations (Chan et al., 2015; Gerson et al., 2008; Ramadhan et al., 2023). The absence of standardized reporting requirements for species information hinders the ability of customs authorities to capture accurate and accessible data (Gerson et al., 2008).

Need for Standardized HS Codes for Endangered Species: The implementation of standardized HS codes for endangered species is necessary to improve the accuracy and efficiency of data collection and monitoring (Chan et al., 2015; Gerson et al., 2008). A standardized coding system would facilitate better organization and retrieval of wildlife trade data, contributing to more effective enforcement and decision-making (Gerson et al., 2008).

While Malaysia has made strides in publishing procedures and permit requirements, the lack of real-time data access and standardized HS codes presents challenges in CITES enforcement. Addressing these gaps is essential for enhancing the transparency and effectiveness of customs operations in protecting endangered species. However, the complexity of international trade and the diverse range of species involved make it challenging to implement a universally standardized system, highlighting the need for ongoing international collaboration and reform (Ramadhan et al., 2023; Reeve, n.d.).

4.2 Regional Cross-Border Cooperation

Malaysia plays a pivotal role in regional cross-border cooperation, particularly through frameworks like the ASEAN-WEN, INTERPOL, and the Regional Harmonization of Data and Information Analysis (RHODIA) platform. These initiatives aim to combat transnational crime and enhance security across Southeast Asia. However, challenges persist in areas such as data exchange, real-time intelligence sharing, and legal harmonization among member states

(Kusumaningrum, 2013; Rahman, 2024; Ramadhan et al., 2023; Soewondo & Kadarudin, 2022; Sundram, 2024).

The ASEAN-WEN: Focuses on combating wildlife crime, with Malaysia actively participating in joint operations and capacity-building efforts (Sundram, 2024). INTERPOL-World Customs Organization (WCO) Cooperation: Facilitates information sharing and operational support against customs-related crimes, enhancing regional security (Kusumaningrum, 2013; Rahman, 2024). RHODIA Platform: Aims to improve regional responses to drug trafficking and organized crime through collaborative strategies (Soewondo & Kadarudin, 2022).

Challenges in Bilateral Cooperation in Data Exchange: Varying legal frameworks hinder effective data sharing between countries, complicating intelligence operations (Kusumaningrum, 2013; Sundram, 2024). Real-Time Intelligence: The lack of integrated systems limits timely responses to emerging threats (Fabia et al., n.d.; Ramadhan et al., 2023). Legal Harmonization: Disparities in national laws create obstacles for joint operations and prosecutions (Kalfoglou & Yükseloğlu, 2024; Ramadhan et al., 2023).

Positive Examples of Joint Operations. Operation Cobra: A successful initiative targeting organized crime across borders, showcasing effective collaboration among ASEAN nations. Operation Thunderstorm: Focused on combating human trafficking, demonstrating the potential of coordinated efforts in addressing transnational issues (Lusaka Agreement Task Force, 2015; Sundram, 2024). Despite these collaborative efforts, the complexities of transnational crime and varying capabilities among ASEAN member states continue to pose significant challenges. A more integrated approach may be necessary to enhance the effectiveness of these initiatives.

4.3 Modernization Initiatives in the RMCD

Modernization initiatives in RMCD have been pivotal in enhancing efficiency and compliance with international standards. These initiatives include the implementation of the Malaysian Customs Import/Export Document System (MyCIEDS), a risk management system, and non-intrusive inspection (NII) tools, which collectively aim to streamline customs processes and improve monitoring capabilities. Additionally, the digital submission of CITES permits via ePermit under the MITI has been introduced to facilitate better regulation of wildlife trade. However, there are still gaps in training and capacity-building, particularly in species recognition and environmental law, which need to be addressed to ensure comprehensive enforcement (De Wulf & Sokol, 2005; Macdonald, 2023; Malay-Mail, 2025; theSun, 2025).

The MyCIEDS and Risk Management System: The MyCIEDS is an abbreviation for the support document system for import and export, which serves as a support system for the import and export assessment process at the RMCD (Royal Malaysian Customs Department, n.d.; Wulf & Sokol, 2004). The risk management system helps in identifying high-risk consignments, allowing for targeted inspections and reducing unnecessary delays for low-risk goods (Wulf & Sokol, 2005).

Non-Intrusive Inspection (NII) Tools: NII tools, such as X-ray scanners, are employed to inspect cargo without physical unpacking, thus speeding up the inspection process and minimizing disruptions (Wulf & Sokol, 2005).

Digital Submission of CITES Permits: The ePermit system under MITI allows for the electronic submission and processing of CITES permits, facilitating better compliance with international wildlife trade regulations (Ariffin & Mustafa, 2013). This digital approach helps in maintaining accurate records and quick data retrieval, essential for monitoring and enforcement (Chan et al., 2015).

Training and Capacity-Building Gaps: There is a recognized need for enhanced training in species recognition and environmental law to improve the effectiveness of customs officers in enforcing wildlife trade regulations (Ariffin & Mustafa, 2013; Macdonald, 2023). Addressing these gaps is crucial for ensuring that customs officials are well-equipped to handle the complexities of international wildlife trade (Chan et al., 2015).

While these modernization initiatives have significantly improved the efficiency of the RMCD, challenges remain, particularly in the area of capacity-building. Ensuring that customs officials are adequately trained in species recognition and environmental law is essential for the effective enforcement of international trade regulations. This highlights the need for ongoing investment in training and development to complement technological advancements.

4.4 Opportunities and Gaps

The integration of artificial intelligence (AI) in customs and border management presents significant opportunities while also revealing critical gaps (Table 4.1). AI-assisted scanners and machine learning can enhance species tracking and streamline customs processes, fostering collaboration between customs and NGOs (Chen, 2024). However, challenges such as limited interagency integration and inconsistent procedures at border posts hinder these advancements (Khan, 2024). While AI offers transformative potential, the challenges of data governance and ethical considerations must be addressed to fully realize its benefits in customs and border management (Alam et al., 2023; Chen, 2024).

Table 4.1. Opportunities and Gaps in AI Applications for Customs and Wildlife Trade Monitoring

Category	Aspect	Description	Source
Opportunities	AI-Assisted Scanners	Enhance risk assessment and anomaly detection for efficient customs clearance.	Chen, 2024
	Customs–NGO Collaboration	Facilitate partnerships that improve compliance and efficiency in monitoring.	Kafando, 2020
	Machine Learning for Species Tracking	Optimize species tracking to support conservation and regulatory compliance.	Alam et al., 2023

Category	Aspect	Description	Source
Gaps	Limited Interagency Integration	Lack of cohesive data sharing reduces AI effectiveness.	Ozturk, 2024
	Lack of Predictive Analytics	Absence of predictive tools hinders proactive threat management.	Khan, 2024
	Inconsistent Procedures at Border Posts	Operational variability leads to inefficiencies and security vulnerabilities.	Chen, 2024

RECOMMENDATIONS

To address several issues, several recommendations can be implemented to strengthen the strategic role of RMCD in regional biodiversity protection (Table 4.2). While these recommendations focus on enhancing customs operations, it is also essential to consider the broader context of international cooperation and the need for comprehensive policies that address the root causes of biodiversity loss.

Table 4.2. Recommendations to strengthen the strategic role of RMCD in regional biodiversity protection

Focus Area	Recommendation	Expected Outcome
Upgrading CITES Database Integration	Integrate CITES species databases with customs risk management systems.	Streamlined species identification and improved regulatory compliance.
	Enhance data sharing across agencies.	Better monitoring of illegal wildlife trade and support for conservation efforts.
Mandating Interagency Standard Operating Procedures (SOPs)	Develop standardized enforcement procedures among relevant agencies.	Ensures consistency in CITES enforcement and reduces enforcement gaps.
Expanding Real-Time Cross-Border Communication	Establish secure communication channels between customs agencies.	Improves coordination and regional cooperation in addressing illegal trade.
Training on Species Identification and CITES Regulations	Provide specialized training for customs officers.	More accurate inspections and decisions; enhanced biodiversity protection.

CONCLUSION

This review highlights the strategic importance of customs modernization in strengthening Malaysia’s enforcement of the CITES, particularly through enhanced transparency and cross-border cooperation. Despite commendable efforts such as the implementation of digital permitting

systems, participation in regional platforms like ASEAN-WEN, and the development of risk-based inspection frameworks, substantial gaps persist in real-time data interoperability, species identification, and interagency coordination. Addressing these deficiencies requires a multi-pronged approach involving standardized procedures, capacity-building initiatives, and the integration of advanced technologies such as AI-powered inspection tools. By positioning the RMCD as a frontline actor in biodiversity protection, this study underscores the urgent need for targeted policy reforms and regional collaboration to disrupt transnational wildlife trafficking networks and safeguard Southeast Asia's ecological heritage. Future research should explore the effectiveness of integrated digital systems in real-time species tracking, assess the institutional readiness of customs authorities for AI adoption, and evaluate cross-border legal harmonization mechanisms that could enhance operational coherence in combating wildlife trafficking across ASEAN jurisdictions.

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