



The Effectiveness of Regulations on Lobster Management and an Analysis of Factors Driving the Smuggling of Clear Lobster Seed in Riau Island Province

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ABSTRACT

The smuggling of lobster seeds (BBL) constitutes a serious legal problem that has occurred extensively in the Riau Islands Province. The ineffectiveness of regulations and the discrepancy between legal provisions and conditions in practice have led to the widespread occurrence of smuggling activities, causing significant losses to the state, particularly in terms of the preservation of marine resources. This study aims to identify and analyze the effectiveness of regulations governing the management of lobster seeds (BBL) and to explore the criminogenic factors that influence individuals or groups to commit such criminal acts, where criminogenic factors refer to conditions that cause or trigger criminal behavior. This research employs an empirical juridical method with a statutory approach and is supported by primary data obtained through interviews with public prosecutors and former perpetrators of lobster seed smuggling (BBL). The results indicate that regulations governing lobster seed management have not been effectively implemented due to frequent policy changes that create legal confusion within the community. Furthermore, legal effectiveness has not been achieved as several factors outlined in Soerjono Soekanto's theory remain unfulfilled, including inconsistent legal substance, inadequate facilities and infrastructure for legal education, and the low level of legal awareness among fishing communities. The criminogenic factors contributing to this crime are divided into internal factors, such as low levels of education and inherent individual tendencies, and external factors, including social environmental influences and economic pressures. The strategic geographical location of the Riau Islands further exacerbates this situation. These findings reinforce the conclusion that lobster seed smuggling (BBL) results from a complex interaction of legal, social, economic, and cultural factors, which must be addressed comprehensively through a more consistent, participatory, and educational legal approach.

ARTICLE HISTORY

Received: 2026-04-16

Revised: 2026-06-18

Publishes: 2026-08-30

KEYWORDS

Lobster Seed
Smuggling, Criminogen,
Legal Effectiveness,
Riau Islands.

KATA KUNCI

*Penyelundupan Benih
Bening Lobster,
Kriminogen, Efektivitas
hukum, Kepulauan Riau.*

ABSTRAK

Penyelundupan benih bening lobster (BBL) merupakan permasalahan hukum serius yang terjadi secara masif di Provinsi Kepulauan Riau. Ketidakefektifan regulasi serta ketidaksesuaian antara peraturan dan kondisi di lapangan menyebabkan maraknya praktik penyelundupan yang merugikan negara, khususnya dalam aspek pelestarian sumber daya laut. Penelitian ini bertujuan untuk mengidentifikasi dan menganalisis keefektifan regulasi tentang pengelolaan benih bening lobster (BBL) serta menggali faktor-faktor kriminogen yang mempengaruhi seseorang atau kelompok untuk melakukan tindak pidana tersebut, faktor kriminogen adalah sesuatu yang menjadi penyebab atau pemicu suatu tindak kejahatan. Penelitian ini menggunakan metode yuridis empiris dengan pendekatan perundang-undangan, serta didukung data primer hasil wawancara dengan jaksa penuntut umum dan mantan pelaku penyelundupan benih bening lobster (BBL). Hasil penelitian menunjukkan bahwa regulasi yang mengatur pengelolaan benih lobster belum berjalan secara efektif karena seringnya perubahan kebijakan yang menimbulkan kebingungan hukum di masyarakat. Selain itu, efektivitas hukum dinilai belum tercapai karena tidak terpenuhinya beberapa faktor menurut teori Soerjono Soekanto, seperti faktor substansi hukum yang tidak konsisten, minimnya sarana dan prasarana penyuluhan, serta rendahnya kesadaran hukum masyarakat nelayan. Faktor kriminogen yang memicu terjadinya tindak pidana ini terbagi menjadi dua, yaitu faktor internal seperti rendahnya pendidikan dan faktor bawaan individu, serta faktor eksternal seperti pengaruh lingkungan sosial dan tekanan ekonomi. Letak geografis Kepulauan Riau yang strategis turut memperparah kondisi ini. Temuan ini memperkuat bahwa penyelundupan benih bening lobster (BBL) merupakan hasil dari interaksi kompleks antara faktor hukum, sosial, ekonomi, dan budaya yang perlu ditangani secara menyeluruh melalui pendekatan hukum yang lebih konsisten, partisipatif, dan edukatif.

A. INTRODUCTION

1. Background

The issue of lobster seed smuggling is nothing new to the public, as cases of such smuggling in Indonesia continue to rise over time.¹ The smuggling of lobster seeds is considered illegal fishing, specifically IUU (Illegal, Unreported, and Unregulated), because such actions are not reported to fisheries management agencies or other government-affiliated organisations², thus causing huge losses to the country.³ Since our

¹ Rizki Zukmadianty Putri and Zulkarnain Muchid, "Pengawasan Pemerintah Dalam Pemberantasan Kegiatan Illegal Fishing Di Perairan Kepulauan Riau Tahun 2021-2022," *Jurnal Sosial Dan Sains (SOSAINS)* 4, no. 6 (2024), <https://doi.org/10.59188/jurnalsosains.v4i6.1405>.

² Asiyah Jamilah and Hari Sutra Disemadi, "Penegakan Hukum Illegal Fishing Dalam Perspektif UNCLOS 1982," *Mulawarman Law Review* 5, no. 1 (2020): 29–46, <https://doi.org/https://doi.org/10.30872/mulrev.v5i1.311>.

³ Didik Kurniawan and Akhmad Firdiansyah, "Menjaga Daerah Pabean Indonesia Dari Kegiatan Penyelundupan Ekspor Benih Lobster Ilegal Dengan Teknik Asesmen Risiko," *Jurnal Perspektif Bea Dan Cukai* 6, no. 2 (2022): 284–303, <https://doi.org/https://doi.org/10.31092/jpbpc.v6i2.1774>.

country consists of numerous islands, the people living on them rely on marine resources for their livelihoods. One of the provinces that is a major producer of marine resources in Indonesia is the Riau Islands.⁴ because 96% of its territory is dominated by water⁵, The vast expanse of waters in the Riau Islands makes the province vulnerable to criminal acts and unlawful activities. One such crime involving marine resources is the smuggling of lobster larvae.⁶

From a legal perspective, there is a discrepancy between the current situation and the ideal state of affairs regarding the rampant smuggling of lobster seeds abroad.⁷ In reality, a review of applicable laws reveals that our country already possesses numerous regulations governing such crimes—such as Law of the Republic of Indonesia Number 45 of 2009 (amending Law Number 31 of 2004 on Fisheries) and the Regulation of the Minister of Marine Affairs and Fisheries Number 7 of 2024 concerning the management of lobsters (*Panulirus* spp.), mud crabs (*Scylla* spp.), and blue swimming crabs (*Portunus* spp.), alongside the obligations impose Nonetheless, lobster larvae smuggling is common since many people continue to rely on this business for a living, resulting in social inequities.⁸

The crime of lobster seed smuggling persists due to a number of motivating factors, including considerable market demand in neighbouring countries, particularly Singapore and Vietnam.⁹ This criminal act, which contradicts Sustainable Development

⁴ Muhammad Alfarizi, "Ekonomi Biru Kepulauan Riau Berkelanjutan: Tantangan, Peluang Dan Langkah Strategik Berbasis Kolaborasi Pentahelix," *Jurnal Archipelago* 03, no. 1 (June 2024): 1–15, <https://doi.org/https://doi.org/10.69853/ja.v3i01.85>.

⁵ Ayu Veronica and Kabib Nawawi, "Penegakan Hukum Pidana Terhadap Penyelundupan Baby Lobster," *PAMPAS: Journal Of Criminal* 1 (2020): 2020.

⁶ Febri Alfayed et al., "Peran Badan Keamanan Laut Dalam Melakukan Pengawasan Di Kawasan Perairan Kepulauan Riau Tahun 2022," in *Aufklarung: Jurnal Pendidikan*, vol. 3, no. 2 (2023).

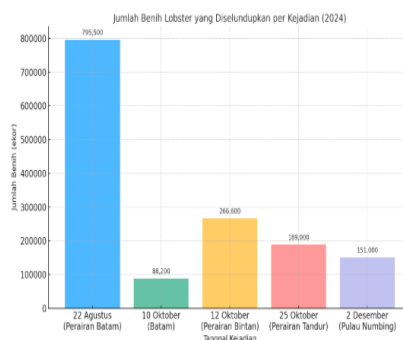
⁷ H. Ronaldo Munthe and Endang Prasteyawati, "Analisis Analisis Pertanggungjawaban Tindak Pidana Penyelundupan Benih Lobster Yang Dibudidayakan Dan Siap Dipasarkan Keluar Negeri (Studi Putusan Nomor 9/Pid.B/LH/2020/PN.Tjk)," *Binamulia Hukum* 10, no. 1 (July 2021): 31–44, <https://doi.org/10.37893/jbh.v10i1.304>.

⁸ Fatihah Rizkiyah et al., "The Efforts Of The Indonesian Government In Overcoming Seed Smuggling Benur Lobsters Overseas," *International Journal Of Humanities Education And Social Sciences* 2, no. 6 (2023): 2022–33. Peni Susetyorini, "Kebijakan Kelautan Indonesia Dalam Perspektif UNCLOS 1982," *Masalah-Masalah Hukum* 48, no. 2 (April 2019): 164, <https://doi.org/10.14710/mmh.48.2.2019.164-177>. I. Putu Adi Juniwinata, "Strategi Direktorat Kriminal Khusus POLDA Jawa Timur Dalam Penegakan Hukum Penyelundupan Benih Lobster," in *Jurnal Kawruh Abiyasa*, vol. 1, no. 1 (2021).

⁹ Ali Suman et al., "Penangkapan, Parameter Populasi Serta Tingkat Pemanfaatan Lobster Pasir (*Panulirus* Homarus) Dan Lobster Batu (*Panulirus Penicillatus*) Di Perairan Gunung Kidul Dan Sekitarnya," *Jurnal Penelitian Perikanan Indonesia* 25, no. 3 (September 2019): 147, <https://doi.org/10.15578/jppi.25.3.2019.147-160>. Rizkiyah et al., "The Efforts Of The Indonesian Government In Overcoming Seed Smuggling Benur Lobsters Overseas."

Goal 14 (SDG 14) on the conservation and sustainable use of marine resources, which Indonesia ratified thru Presidential Regulation Number 111 of 2022, poses a significant threat to conservation efforts, specifically the smuggling of clear lobster larvae (BBL). As a result, combating this illegal activity in the Riau Islands poses a significant challenge for law enforcement organisations.

Diagram 1. 2024 Clear Lobster Seed (BBL) Smuggling Cases



Source: <https://kkp.go.id/>

Recent studies on clear lobster seed (benih bening lobster or BBL) governance have approached the issue through different dimensions of regulatory policy and law enforcement. Suadi et al. examined the changing policy landscape governing puerulus exploitation in Indonesia and demonstrated that repeated regulatory shifts, inadequate institutional capacity, weak enforcement, international market demand, and established transnational networks may generate unintended incentives for illegal trade.¹⁰ Their findings are particularly significant because periods of prohibition did not necessarily eliminate smuggling and, under certain conditions, could intensify illicit activity when legal economic alternatives were insufficiently developed. Nugroho, Zami, and Sidi subsequently evaluated the government's prohibition on lobster seed exports, emphasizing its consequences for resource sustainability, domestic cultivation, fishermen's welfare, and export performance.¹¹ Their analysis indicates that regulatory effectiveness is closely connected to policy consistency and the political-economic

¹⁰ Suadi and others, "Caught in the Net: Unravelling Policy Challenges and Smuggling Dynamics in Indonesia's Puerulus Exploitation," *Marine Policy*, 2024.

¹¹ Farhan Rizki Nugroho, Mohamad Zaki Zam Zami, and Suhelmy Novanto Sidi, "Analisis Kebijakan Pemerintah Terkait Larangan Ekspor Benih Lobster Serta Dampak Yang Ditimbulkan," *Jurnal Ilmiah Ekonomi Dan Manajemen* 3, no. 2 (2025).

environment surrounding lobster management. At the local enforcement level, Jamba and Arman specifically investigated lobster seed smuggling in Batam City, identifying legal policy, limited public awareness, enforcement obstacles, and the combination of pre-emptive, preventive, and repressive measures as central components of smuggling control.¹²

Although these studies provide important explanations of policy instability, export restrictions, and criminal-law enforcement, the persistence of BBL smuggling in the Riau Islands raises a different regulatory question. The province occupies a strategically distinctive position because its maritime geography and proximity to international borders create conditions in which domestic lobster management rules interact directly with cross-border illicit distribution networks. Indeed, enforcement operations in Batam and other Riau Islands waters have continued to uncover substantial quantities of BBL intended for illegal overseas transportation, demonstrating that formal regulation and repeated enforcement operations have not eliminated the underlying incentives for smuggling. The analytical problem therefore cannot be reduced to whether regulations exist or whether enforcement agencies conduct interdiction operations. It requires an examination of why regulated actors continue to choose illegal distribution channels despite regulatory restrictions and enforcement risks, including the interaction between economic incentives, international price differentials, livelihood pressures, regulatory complexity, geographical accessibility, enforcement capacity, intermediary networks, and opportunities created by maritime border characteristics.

The novelty of “The Effectiveness of Regulations on Lobster Management and an Analysis of Factors Driving the Smuggling of Clear Lobster Seed in Riau Island Province” consequently lies in connecting regulatory effectiveness with the causal structure of continued non-compliance in a specific maritime-border jurisdiction. Rather than examining lobster policy and smuggling as separate problems, the study seeks to determine whether weaknesses in regulatory design and implementation themselves contribute to the economic and institutional environment in which illegal BBL trade persists. Its objectives are to evaluate the effectiveness of the existing lobster-management regulatory framework in the Riau Islands and to identify and analyze the

¹² Padrisan Jamba and Zuhdi Arman, “Pemberantasan Tindak Pidana Penyelundupan Benih Lobster Di Kota Batam,” *Semarang Law Review* 6, no. 1 (2025): 198–210.

legal, economic, social, institutional, geographical, and market-related factors that encourage BBL smuggling. Through this approach, the research is expected to explain the gap between formal regulatory objectives and actual compliance behavior, while providing a basis for developing a more responsive governance model that combines conservation, viable economic opportunities for coastal communities, regulatory certainty, coordinated enforcement, and effective disruption of cross-border smuggling networks.

2. Research Questions

Based on the foregoing background, this study seeks to address the following two primary research questions. First, how effective is the legal regulation governing clear lobster seed (BBL) management in providing legal certainty and preventing violations among fishing communities in the Riau Islands? Second, how do individual, educational, environmental, geographical, and economic factors interact in motivating individuals to engage in such criminal activities?

3. Research Methods

This study is a legal research project that takes a particular methodological approach. The researcher used the empirical-juridical legal research approach, which entails collecting primary data directly from the community to unearth facts that will serve as the foundation for the study. Sound empirical research must be conducted in a transparent manner and be based on real-world scenarios or direct observation.¹³ The choice of this approach is motivated by the need to get a concrete grasp of community issues; as a result, the researcher will perform direct field observations to collect concrete and relevant data for the research subject. The paper explores the restrictions controlling the smuggling of clear lobster seeds (BBL) using both a statutory and an empirical method.

Because this study takes an empirical-juridical approach, the major data used is gathered thru interviews with a previous perpetrator of clear lobster seed (BBL) smuggling and a public prosecutor. Secondary data includes Law of the Republic of

¹³ David Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum," *Nusantara: Jurnal Ilmu Pengetahuan Sosial* 8, no. 8 (2021): 2463-78, <https://doi.org/10.31604/jips.v8i8.2021.2463-2478>.

Indonesia Number 45 of 2009 concerning Amendments to Law Number 31 of 2004 on Fisheries as amended by Law Number 6 of 2023 regarding the Enactment of Government Regulation in Lieu of Law Number 2 of 2022 on Job Creation and Regulation Number 7 of 2024 concerning the Management of Lobster (*Panulirus* spp.), Mud Crab (*Scylla* spp.), and Blue Swimming Crab (*Portunus* spp.). In addition, the researcher consults secondary legal sources such as journals, books, past study findings, and other scholarly literature.

B. DISCUSSION/ ANALYSIS

1. The Effectiveness of Legislation Governing Lobster Management

The effectiveness of legislation can serve as a primary benchmark for assessing the extent to which the law succeeds in achieving its intended objectives of regulating societal behavior and establishing legal certainty.¹⁴ In practice, the effectiveness of a regulation is determined not only by its normative wording but also by the balance and consistency of its implementation. This is a crucial consideration regarding the regulation of clear lobster seed (BBL) management in Indonesia; the rules have undergone frequent changes in recent years, creating a perception of inconsistency. Between 2016 and early 2024, the Ministry of Marine Affairs and Fisheries (KKP) issued a series of conflicting ministerial regulations. In essence, these regulations alternated between banning and permitting the export of clear lobster larvae (BBL) over short periods. This situation has given rise to fundamental issues regarding legal effectiveness particularly concerning the provision of certainty to the public, specifically the fishermen who are the primary actors on the ground.

In 2016, the government through Regulation of the Minister of Marine Affairs and Fisheries No. 56 of 2016 strictly prohibited the harvesting and export of clear lobster seeds (BBL), citing reasons related to the conservation of marine resources.¹⁵ The implementation of this regulation aims to ensure resource sustainability, ensuring that the resources enjoyed by one generation do not come at the expense of the interests of future generations, who hold an equal right to available resources. However, the ban on

¹⁴ Ellya Rosana, "Kepatuhan Hukum Sebagai Wujud Kesadaran Hukum Masyarakat," *Jurnal Teropong Aspirasi Politik Islam* 10, no. 1 (2014).

¹⁵ Widia Herdiana, Lies Sulistiani, and Imamulhadi Imamulhadi, "Penanganan Barang Bukti Benih Bening Lobster Melalui Mekanisme Pelepasliaran Sebagai Upaya Melestarikan Komoditas Lobster," *LITRA: Jurnal Hukum Lingkungan, Tata Ruang, Dan Agraria* 2, no. 2 (April 2023): 232–49, <https://doi.org/10.23920/litra.v2i2.1276>.

the management of clear lobster seeds (BBL) remained in effect for only a few years. This was due to the introduction of a new policy in 2020 specifically, Regulation of the Minister of Marine Affairs and Fisheries No. 12 of 2020 which primarily authorized the export of clear lobster seeds. Yet, after just one year, the policy underwent further changes. In mid-2021, the government reimposed a total ban on the management of clear lobster seeds (BBL) through Ministerial Regulation No. 17 of 2021. A similar situation recurred in 2024, when a policy shift enacted via a regulation from the Minister of Marine Affairs once again opened the door for BBL exports, albeit under stricter conditions than those of the previous rules.

The high frequency of policy changes has given rise to significant legal issues. For fishing communities, policies that constantly shift without adequate dissemination can lead to confusion and uncertainty.¹⁶ Many fishermen in the Riau Islands region are unaware of these regulatory changes; consequently, they continue to catch and sell clear lobster larvae. This lack of awareness subsequently led to economic losses and caused fishermen to become entangled in legal proceedings for alleged violations of Article 92 in conjunction with Article 26 paragraph (1) of Law of the Republic of Indonesia Number 45 of 2009 concerning Amendments to Law Number 31 of 2004 concerning Fisheries—as amended by Law Number 6 of 2023 concerning the Enactment of Government Regulation in Lieu of Law of the Republic of Indonesia Number 2 of 2022 concerning Job Creation into Law.¹⁷ This situation highlights the limited effectiveness of the regulation, which ideally should be clearly understood and capable of being implemented by the relevant legal subjects.

To assess the effectiveness of the role played by the Regulation of the Minister of Marine Affairs and Fisheries, the researcher employs Soerjono Soekanto's theory of legal effectiveness. This theory is frequently utilized in research to address issues concerning the implementation of legislative instruments. Soekanto's theory defines legal effectiveness—or the degree of success achieved by the law—based on five factors: the law itself, law enforcement, facilities and infrastructure, the community, and culture.

¹⁶ A. Aazami, SM Moghimi, and A. Nargesian, "Representing a Framework for Regulatory Impact Assessment of the Formulation of Cultural Policies," *Iranian Journal of Public ...*, no. Query date: 2026-04-26 12:39:54 (2025), https://jppolicy.ut.ac.ir/article_101188_en.html.

¹⁷ P. Lawrence, "Justice for Future Generations: Environment Discourses, International Law and Climate Change," *Environmental Discourses in Public and International Law*, 2012, 23–46, Scopus, <https://doi.org/10.1017/CBO9781139094610.005>.

When this theory is applied to the findings obtained through interviews, the results are as follows:¹⁸

a. Legal Factor

From a legal perspective, Indonesia possesses a regulatory framework governing the management of clear lobster seeds specifically, regulations issued by the Minister of Marine Affairs and Fisheries. However, the substance of these regulations reveals a pattern of inconsistency. Policy shifts have occurred repeatedly within a relatively short timeframe: starting with a ban on BBL exports under Regulation No. 56/2016, followed by the authorization of exports under Regulation No. 12/2020, a subsequent return to a ban under Regulation No. 17/2021, and most recently, a new policy permitting limited BBL exports under Regulation No. 5/2024. These rapid and inconsistent changes have caused significant public confusion. When legal norms do not evolve linearly or provide certainty, the public struggles to comply with or adapt to them. Consequently, the legal provisions within these ministerial regulations are deemed ineffective in establishing legal certainty.¹⁹

b. Law Enforcement Factor

"Law enforcers" refers to the parties authorized to enforce the law. In the Riau Islands region, the entities playing a role in upholding justice specifically by successfully thwarting numerous cases of clear lobster seed smuggling include the Marine Police, Customs and Excise, the Riau Islands High Prosecutor's Office, local District Prosecutor's Offices, and District Courts, all of which have effectively carried out their duties. This demonstrates an institutional commitment to preserving fishery resources and combating illegal practices that could cause financial loss to the state.²⁰ Despite frequent changes to regulations, law enforcement agencies consistently strive to adapt to the new rules to the best of their ability.

c. Facilities Factor

¹⁸ Galih Orlando, "Efektivitas Hukum Dan Fungsi Hukum Di Indonesia," *Tarbiah Bil Qalam: Jurnal Pendidikan, Agama Dan Sains* 6, no. 1 (2022): 49–58.

¹⁹ Ahmad Muliadi, "Applying Principles of Legal Certainty and Equal in the Implementation of Investment in Indonesia," *European Research Studiess Journal* XX, no. 4A (2017).

²⁰ A. Burcu Bayram, E. Keels, and ..., "Enforcement of International Human Rights Law: A Comparative Exploration of Alternative Public Opinion Channels," *The British Journal of ...*, no. Query date: 2026-06-07 18:17:45 (2025), <https://doi.org/10.1177/13691481241305975>.

Regulations cannot function effectively without robust legal and administrative infrastructure. In practice, regulations issued by the Minister of Marine Affairs and Fisheries regarding the management of clear lobster seeds are often implemented without adequate support.²¹ Many coastal areas lack extension officers who actively communicate policy changes to fishers. Without these resources and infrastructure, legal implementation falls short of its potential. Consequently, violations frequently occur due to limited access to information rather than deliberate intent.

d. Societal Factors

The local community consists of fishermen; previous research indicates that low levels of education contribute to non-compliant behavior. Many fishermen in the remote islands of the Riau Islands province still lack adequate access to information regarding the law. Consequently, when regulations shifted from permitting the export of clear lobster seeds to imposing a total ban, many fishermen continued their established practices, unaware that their actions had become unlawful.

e. Cultural Factors

Public habits regarding legal compliance are fundamentally shaped by practical experience and intergenerational traditions. Local communities have long engaged in the management of clear lobster seeds. When formal laws change without adequate dissemination or public awareness efforts, communities tend to cling to established cultural practices or habits that they do not perceive as violating moral or social norms.

Based on research findings analyzed through the lens of Soerjono Soekanto's theory of legal effectiveness, the legislation governing the management of clear lobster larvae (BBL) is not yet effective, as it fails to satisfy the five factors outlined in the theory. The unmet factors are: 1) the legal factor, where changes have created legal uncertainty; 2) the facilities/resources factor, due to the absence of comprehensive outreach regarding regulatory changes; 3) the societal factor, characterized by a lack of legal compliance; and 4) the cultural factor, as the management of clear lobster larvae has become deeply ingrained in the culture of fishing communities.

²¹ N. Bawembang and K. Wowor, "Enforcement of Constitutional Rights through Constitutional Complaint as an Embodiment of the Law State," *Gema Wiralodra*, no. Query date: 2026-05-25 15:01:38 (2023), <https://gemawiralodra.unwir.ac.id/index.php/gemawiralodra/article/view/496>.

2. Criminogenic Factors in the Smuggling of Clear Lobster Seeds

The word "criminogenic" is derived from the Greek terms *krima* (meaning crime) and *genes* (meaning origin or cause); thus, in general, it refers to something that causes or triggers a criminal act.²² In the context of criminology, the term is used to identify conditions that can precipitate or facilitate the commission of a crime by a group or an individual.²³

Criminogenic factors play a role in or contribute to the likelihood of an individual engaging in malicious or criminal behavior. These factors represent a highly complex social phenomenon rooted in conditions that heighten the risk of crime and the initiation of criminal acts; furthermore, criminogenic factors can lead to the emergence of new types of criminal offenses. The criminogenic factors underlying the smuggling of lobster seeds in the Riau Islands comprise both internal factors (originating from the individual) and external factors (arising from outside the individual). It is the combination of these two factors that drives individuals or groups to commit the crime of smuggling lobster seeds.

The persistence of clear lobster seed (benih bening lobster or BBL) smuggling cannot be attributed exclusively to regulatory weaknesses, economic structures, or the geographical characteristics of the Riau Islands. Based on interviews with public prosecutors, several determinants originate at the individual level and influence the manner in which persons understand, evaluate, and respond to legal restrictions governing lobster resources. These internal conditions are particularly significant because regulatory compliance depends not only upon the existence of prohibitions and sanctions but also upon the ability and willingness of regulated communities to understand and internalize applicable legal norms. The findings indicate that limited legal knowledge, individual economic motivation, and behavioral patterns developed within family and immediate social environments may interact in shaping an individual's decision to participate in illegal BBL distribution.

²² Kadek Febytara et al., "Tinjauan Kriminologis Terhadap Tindak Pidana Perdagangan Orang (Human Trafficking) Yang Dilakukan Oleh Perempuan (Studi Kasus Di Lembaga Pemasyarakatan Perempuan Kelas III Mataram)," *Unizar Recht Journal* 2, no. 2 (2023), <https://doi.org/https://doi.org/10.36679/urj.v2i2.107>.

²³ S. Ahmed, "The Fatal Flaw of Glocal 'Solutions' to Illicit Financial Flows," *Journal of Economic Criminology* 7 (2025), Scopus, <https://doi.org/10.1016/j.jeconc.2024.100116>.

Educational limitations constitute one of the factors affecting compliance with regulations concerning the capture, transportation, distribution, and trade of clear lobster seed. The interviews indicate that some individuals involved in BBL smuggling have an inadequate understanding of the distinction between activities that are legally permitted, restricted, and prohibited. This condition does not necessarily imply complete ignorance of fisheries regulation.²⁴ Rather, it may reflect difficulties in understanding the substance and practical implications of a regulatory framework that has undergone repeated changes. Fishers and other actors within the lobster supply chain may be aware that government restrictions exist while remaining uncertain about which rules are currently applicable, what requirements must be satisfied, and what conduct may result in administrative or criminal consequences. The problem therefore concerns legal literacy and accessibility of regulatory information as much as formal educational background.

Frequent regulatory adjustments may further intensify this difficulty when they are not followed by systematic and continuous legal dissemination. Changes in lobster-management policy may be necessary to respond to conservation objectives, resource sustainability, market developments, and national economic interests.²⁵ Nevertheless, regulatory dynamism can undermine compliance when information concerning new rules does not effectively reach those whose livelihoods are directly affected. In such circumstances, communities may continue to rely on previous practices, informal information, or understandings derived from intermediaries even though the applicable legal regime has changed. A substantial gap may consequently emerge between the law formally enacted by the government and the law actually understood by regulated communities. This condition demonstrates that the effectiveness of regulation cannot be assessed solely from the completeness of its normative provisions; it must also be evaluated according to the extent to which those provisions are communicated, understood, and capable of directing behavior.

²⁴ Tahegga Primananda Alfath and Riyo Lian Nugroho, "Diplomasi Soft Power Asimetris Berbasis Sumber Daya Kelautan Lintas Batas dalam Penyelesaian Sengketa Laut Cina Selatan," *Jurnal Ilmiah Hukum LEGALITY* 24, no. 2 (February 2017): 157, <https://doi.org/10.22219/jihl.v24i2.4267>.

²⁵ DR Afdhali and H. Prasetyo, "Pengaturan Undang-Undang Darurat Nomor 7 Tahun 1955 Dalam Rangka Pemberantasan Kejahatan Ekonomi Di Indonesia," *Journal Evidence Of Law*, no. Query date: 2026-06-03 23:10:56 (2024).

The findings further reveal that participation in BBL smuggling may result from conscious individual motivation, particularly where illegal transactions promise substantial economic benefits. Certain individuals may understand that the conduct is prohibited but nevertheless choose to participate because the expected financial return is perceived as greater than the risk of detection and punishment.²⁶ The commercial value of clear lobster seed, combined with demand from international markets and the existence of distribution networks capable of connecting local suppliers with foreign buyers, can create strong incentives for such conduct. From this perspective, criminal behavior emerges from an interaction between individual willingness and an environment that provides economically attractive opportunities for illegal activity.

Individual motivation, however, should not be simplified into an assumption of personal greed. Decisions to participate in illegal BBL trading may be influenced by unstable income, limited employment opportunities, economic dependence on marine resources, household financial pressures, relationships with collectors, and differences between the economic returns available through lawful and unlawful distribution channels. These circumstances do not eliminate individual responsibility for knowingly violating the law, but they are relevant in explaining why criminal prohibitions may fail to produce the expected deterrent effect. Where the benefits associated with illegal transactions remain substantial and the perceived probability of detection is relatively low, formal sanctions alone may be insufficient to alter individual calculations. Regulatory effectiveness therefore requires not merely stronger punishment but also measures capable of reducing the profitability and accessibility of illegal markets while providing realistic lawful economic alternatives for coastal communities.

Another internal dimension identified through the interviews concerns the influence of family and immediate social environments. This factor should not be interpreted as suggesting that criminal tendencies are biologically inherited.²⁷ A more appropriate criminological explanation concerns the intergenerational transmission of behavior through social learning and repeated exposure. Individuals who grow up in

²⁶ M. Arafat, "Paradigma Pemidanaan Baru Dalam KUHP 2023: Alternatif Sanksi Dan Transformasi Sistem Peradilan Pidana Indonesia," *Jurnal Ilmu Hukum*, no. Query date: 2026-06-11 23:19:21 (2025), <https://www.putrapublisher.org/ojs/index.php/jjih/article/download/1047/1186>.

²⁷ N. Kenney, *International Human Rights Law in the Context of the Convention on Biological Diversity's Financial Mechanism: The Responsibility of the Global Environment Facility's ...* (stax.strath.ac.uk, 2024), <https://stax.strath.ac.uk/concern/theses/w9505109k>.

environments where family members or close associates have participated in illegal fisheries activities may become accustomed to such practices and perceive them as an ordinary means of generating income. Continuous exposure may gradually weaken the perceived illegitimacy of the conduct, particularly where illegal activity has become economically embedded within household or community practices.

Family and social networks may also facilitate the transmission of practical knowledge necessary for illegal activities. Information concerning collection points, buyers, transportation routes, methods of avoiding enforcement, market prices, and connections with intermediaries can circulate through established interpersonal relationships. Consequently, what might superficially appear to be an “innate” tendency toward offending is more accurately conceptualized as the social reproduction of unlawful practices. The individual learns not only how illegal activity is conducted but also the attitudes and justifications through which such behavior becomes normalized. This distinction is important because it shifts the policy response from assumptions about inherent criminality toward the social circumstances through which non-compliant behavior is learned and sustained.

These internal factors do not operate independently. Limited understanding of regulatory requirements may make individuals more susceptible to recruitment into illegal networks; economic pressure or expectations of substantial profit may strengthen their willingness to participate; and family or community environments in which smuggling has become normalized may reduce the perceived moral and legal seriousness of the conduct. Their interaction with external factors—including international demand, price disparities, maritime geography, enforcement capacity, and organized distribution networks can further strengthen the persistence of BBL smuggling. Accordingly, an effective regulatory response in the Riau Islands cannot rely exclusively upon prosecution after an offence has occurred. It requires an integrated strategy combining consistent law enforcement with regulatory clarity, continuous legal education, community-based prevention, disruption of illegal distribution networks, and the development of sustainable economic opportunities. Such an approach would enable lobster-management policy to address not only the manifestation of smuggling but also the individual and social conditions through which unlawful conduct is understood, rationalized, learned, and repeatedly reproduced.

The external conditions contributing to the smuggling of clear lobster seed (benih bening lobster or BBL) in the Riau Islands demonstrate that illegal trade is closely connected to the social environment in which offenders operate and the geographical characteristics of the region. Interviews with former individuals involved in BBL smuggling indicate that participation in illegal activities frequently develops through interaction with persons who are already connected to smuggling networks. Such relationships provide potential participants with access to information, contacts, distribution channels, and practical knowledge concerning the movement of BBL outside Indonesian territory. Continuous interaction with actors engaged in illegal trade may also contribute to the normalization of smuggling as an economically acceptable activity, particularly where the practice has become embedded within particular coastal communities. In this context, the surrounding social environment does not merely provide an opportunity to commit an offence but may actively influence the process through which individuals are introduced to, learn about, and ultimately participate in illegal BBL distribution.

The environmental dimension is further reinforced by the geographical configuration of the Riau Islands. Interviews with public prosecutors identify the province's position near international maritime boundaries as one of the principal conditions facilitating cross-border smuggling.²⁸ Batam, Bintan, Karimun, and numerous smaller islands are situated within maritime corridors connecting Indonesia with neighboring States, particularly Singapore and Malaysia, while regional distribution networks may extend further toward countries such as Vietnam. The relatively short maritime distances between these territories create significant opportunities for rapid cross-border transportation. Unlike illegal activities conducted entirely within continental territory, BBL smuggling can exploit numerous coastal departure points, small ports, informal jetties, and maritime routes that are difficult to supervise continuously. The archipelagic character of the province consequently creates a structural enforcement challenge because the geographical area requiring surveillance is substantially broader than the institutional capacity that may be available to monitor every possible route.

²⁸ Aulia Malik Affif and N. Novrial, "Implementasi Crime Prevention Through Environmental Design (CPTED) Pada Fasilitas Parkir Sepeda Motor (Studi Kasus: Kampus Fakultas Ilmu Budaya USU)," *TATALOKA* 23, no. 1 (February 2021): 127–37, <https://doi.org/10.14710/tataloka.23.1.127-137>.

This geographical advantage becomes particularly significant when combined with the biological and commercial characteristics of clear lobster seed. BBL can be transported in relatively compact quantities while retaining substantial economic value, allowing smugglers to move commercially valuable consignments without requiring transportation infrastructure comparable to that necessary for larger fisheries commodities. Short maritime routes can reduce transportation time and logistical costs while simultaneously providing opportunities to alter routes in response to enforcement operations.²⁹ The effectiveness of law enforcement therefore depends not merely on inspections at formal ports but also on intelligence-based surveillance capable of identifying informal departure points, transportation networks, storage facilities, intermediaries, and cross-border connections. The findings suggest that geographical proximity itself does not cause smuggling; rather, it becomes a criminogenic opportunity when combined with established networks, market demand, enforcement gaps, and the availability of maritime transportation.

Economic considerations constitute another major external factor shaping participation in illegal BBL trading. Based on interviews with public prosecutors, many fishers and coastal residents in the Riau Islands remain economically dependent on marine resources as a principal or supplementary source of household income. Within this livelihood structure, clear lobster seed possesses particular economic attractiveness because of its substantial commercial value and strong demand in international markets. The possibility of receiving comparatively high returns within a short period may encourage individuals to participate in illegal collection and distribution, particularly where alternative sources of income provide lower or less predictable returns. The economic motivation for smuggling must therefore be situated within the broader relationship between coastal livelihoods, market demand, and the unequal distribution of benefits generated by valuable marine resources.

The attraction of illegal BBL trading may become stronger when the price obtainable through illicit distribution substantially exceeds the economic benefits available through lawful activities. This condition creates a regulatory problem in which individuals compare the immediate economic advantages of non-compliance with the

²⁹ Alfi Latifah et al., "Kompetensi Kerja Dan Kinerja Pemeriksaan Kapal: Bukti Empiris Kelaiklautan Kapal Di Indonesia," *Jurnal Manajemen Bisnis Transportasi Dan Logistik* 10, no. 1 (2024): 58–67.

perceived probability and consequences of enforcement. Where international buyers maintain strong demand, intermediaries are readily available, and illegal distribution networks can provide rapid payment, criminal sanctions may not independently generate sufficient deterrence. The economic structure of the illegal market may consequently reproduce itself: international demand creates high prices, high prices attract suppliers and intermediaries, and the continued availability of suppliers sustains the distribution networks through which BBL is moved across borders. This cycle illustrates why enforcement directed exclusively toward individual couriers or fishers may produce only temporary disruption without substantially reducing the economic incentives sustaining the wider market.

Economic pressure must nevertheless be distinguished from economic opportunity. Some individuals may participate because of livelihood insecurity, limited employment alternatives, fluctuating fishing income, or increasing household expenditure, whereas others may be motivated primarily by the exceptional profits generated by illegal trade. These circumstances require different regulatory responses. Where participation results from economic vulnerability, prevention should include the development of sustainable alternative livelihoods and lawful fisheries activities capable of generating competitive income. Where participation is driven predominantly by organized profit-seeking, stronger financial investigation, asset tracing, disruption of financing arrangements, and enforcement against coordinators and beneficiaries may be more effective than concentrating primarily on actors occupying the lowest levels of the distribution chain. Such differentiation is important for ensuring that enforcement strategies respond proportionately to the actual structure of BBL smuggling.

The research findings therefore indicate that external factors operate through an interconnected system rather than as isolated causes. Social relationships may introduce individuals to illegal networks; the maritime geography of the Riau Islands provides accessible routes for cross-border transportation; international demand creates substantial economic incentives; and livelihood conditions may increase the willingness of coastal communities to participate in activities offering immediate financial returns. These factors may become even more influential when combined with the internal conditions identified previously, including limited legal literacy and the normalization of unlawful practices. The persistence of BBL smuggling should consequently be

understood as the product of an interaction between individual decision-making and a surrounding environment that provides both incentives and opportunities for regulatory violations.

Accordingly, the effectiveness of lobster-management regulation in the Riau Islands cannot be measured merely by the number of prohibitions enacted, offenders prosecuted, or consignments intercepted. A more substantive assessment must consider whether the regulatory system is capable of reducing the structural opportunities and economic incentives that sustain illegal trade. This requires coordinated maritime surveillance, intelligence sharing among enforcement institutions, supervision of informal transportation routes, disruption of organized distribution and financing networks, continuous engagement with coastal communities, and the creation of economically viable lawful alternatives. Regulatory stability and accessible public communication are equally important because enforcement is unlikely to achieve sustainable compliance where affected communities experience uncertainty regarding the applicable rules. The findings ultimately demonstrate that reducing BBL smuggling requires an integrated regulatory strategy that connects law enforcement, border governance, economic intervention, community participation, and sustainable fisheries management, rather than relying predominantly on punitive measures after illegal transactions have already occurred.

C. CONCLUSION

The Regulation of the Minister of Marine Affairs and Fisheries governing the management of clear lobster seeds has not yet been effectively implemented in the Riau Islands. This is evidenced by an assessment based on the five factors of legal effectiveness according to Soerjono Soekanto's theory, correlated with the analysis and data obtained by the researcher. Furthermore, the primary drivers behind the illegal smuggling of clear lobster seeds in the Riau Islands are internal factors stemming from low levels of education, innate traits, and individual desire which are triggered by external factors, predominantly economic and environmental in nature.

The researchers offer several recommendations: 1) the Ministry of Marine Affairs and Fisheries must ensure legal certainty regarding the Ministry of Marine Affairs and Fisheries Regulation Number 7 of 2024 concerning the management of lobsters

(*Panulirus* spp.), mud crabs (*Scylla* spp.), and blue swimming crabs (*Portunus* spp.) by refraining from frequently altering its provisions; 2) relevant authorities in the Riau Islands including the Water Police, Customs, the Prosecutor's Office, and the courts must collaborate to enhance infrastructure and resources, such as by deploying patrol vessel fleets for surveillance, establishing a special task force, and conducting legal outreach for the fishing community; 3) the local government must design programs to ensure equitable access to education across the small islands of the Riau Islands; and 4) the government should collaborate with the fishing community to curb the illegal smuggling of clear lobster seeds.

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