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ANALYSIS OF THE EFFECTIVENESS OF THE ARMED FORCES COMMAND OPERATIONS IN SECURING THE RISINGAPORE BORDER TO PREVENT CRIMINAL ACTS AT SEA IN ORDER TO CREATE MARINE SECURITY

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Abstract — This study examines the effectiveness of Fleet Command operations in securing the Indonesia—Singapore maritime border to prevent criminal activities at sea. The Malacca and Singapore Straits, as vital international shipping lanes, are highly vulnerable to security threats such as piracy, smuggling, and territorial violations. As the main naval force, the Indonesian Navy is responsible for maintaining maritime security through border security operations and coordinated patrols with the Royal Singapore Navy. Using a qualitative approach, data were collected through in-depth interviews, literature review and analyzed with NVIVO 12 Pro. Informants included operational officers from, Guspurla and Guskamla. The results indicate that operational effectiveness is determined by three key factors: timely and accurate intelligence dissemination, strong inter-agency and regional cooperation, and optimized deployment of naval assets. The findings suggest that while has performed its duties effectively, improvements are needed in surveillance technology, patrol duration and coordination mechanisms. This research contributes to strengthening maritime security strategies in Indonesia—Singapore border areas, supporting regional stability and international confidence in Indonesia's maritime capabilities.

Keywords — effectiveness, border security, maritime crime, maritime security

I. INTRODUCTION

Maritime security has become a central concern for many coastal states, particularly those located along vital international sea lanes. Indonesia, as the largest archipelagic state in the world with more than 17,000 islands, occupies a strategic position in the global maritime domain. Its sea lanes are not only crucial for domestic connectivity but also serve as transit routes for international shipping. Among these, the Malacca and Singapore Straits represent some of the busiest and most strategically important waterways, connecting the Indian Ocean with the South China Sea and the Pacific. This area accommodates a high density of international maritime traffic, including energy transport and global trade, which makes it highly vulnerable to various maritime security threats such as piracy, armed robbery, smuggling and territorial violations.

Ensuring maritime security in such critical areas requires a robust and coordinated naval presence. The Indonesian Navy (TNI-AL), as mandated by national law, carries out the mission of safeguarding sovereignty, enforcing maritime law, and preventing illegal activities in Indonesian waters. Within this framework, Fleet Command holds a vital role in conducting border security operations in the Indonesia–Singapore maritime frontier. These operations include unilateral patrols, such as Operation Garda Indosin, as well as coordinated patrols (Patkor Indosin) with the Royal Singapore Navy. The aim is not only to deter and prevent maritime crime but also to maintain regional stability and strengthen international confidence in Indonesia's maritime security.

Despite these efforts, several challenges remain. Intelligence dissemination has not always been timely and accurate, limiting operational responsiveness. Furthermore, inter-agency coordination at both national and regional levels often encounters obstacles, reducing the overall efficiency of maritime security operations. Additionally, the increasing density of ship traffic in the Malacca and Singapore Straits creates operational limitations in terms of surveillance coverage, patrol duration, and naval resource deployment. These issues highlight the need for a comprehensive evaluation of the effectiveness of 's operations.

This study seeks to analyze the effectiveness of operations in securing the Indonesia–Singapore maritime border. Specifically, it explores three critical aspects: (1) the role of timely and accurate intelligence dissemination, (2) the development of inter-agency and regional cooperation, and (3) the optimization of operational deployment. By employing a qualitative research design supported by NVIVO software analysis, this study provides empirical insights into how naval operations contribute to maritime security and identifies areas requiring further

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improvement. The findings are expected to inform both policy and operational strategies, thereby strengthening Indonesia's ability to secure its maritime borders and contribute to broader regional stability.

II. METHOD

Research Design

This study employed a qualitative research design to examine the effectiveness of Fleet Command operations in securing the Indonesia–Singapore maritime border. A qualitative approach was chosen to enable an in-depth exploration of the dynamics, challenges and operational realities faced in maritime border security, which cannot be fully captured through quantitative measurement alone. The design allowed the researcher to interpret the perspectives of key informants while also incorporating secondary sources to triangulate findings.

Unit of Analysis and Participants

The unit of analysis in this study was the operational activities of related to border security in the Indonesia—Singapore maritime frontier. Informants were selected through purposive sampling based on their expertise and operational roles in naval security operations. Key participants included: The Assistant for Operations of Fleet Command, The Assistant for Operations of Sea Combat Group and The Assistant for Operations of Sea Security Group. These officers were directly involved in planning and executing naval operations, thus providing critical insights into intelligence, coordination, and operational effectiveness.

Data Collection

Primary data were obtained through in-depth semi-structured interviews with the selected informants. Interviews were conducted face-to-face and guided by an interview protocol designed to elicit detailed information on intelligence dissemination, inter-agency cooperation and operational practices. The interviews were supplemented by observational notes and official documents provided by the Indonesian Navy.

Secondary data were collected through a literature review of relevant sources, including government regulations, international conventions, previous academic studies, and official reports on maritime operations. This provided both theoretical grounding and comparative perspectives to enrich the analysis.

Data Processing and Analysis

Data analysis followed an iterative process of coding, categorization, and theme development. The collected interview transcripts, documents and notes were processed using NVIVO 12 Pro software to ensure systematic management and interpretation of qualitative data. The analysis was structured around three stages:

- 1. Data reduction organizing, coding, and condensing data into meaningful units.
- 2. Data display presenting coded information through matrices, visual maps, and thematic diagrams to identify emerging patterns.
- 3. Conclusion drawing and verification synthesizing findings to address the research questions, while validating them through triangulation across sources.

Triangulation was applied by comparing insights from different informants, cross-checking with secondary literature and verifying consistency across data types. This process enhanced the reliability and validity of the study.

Research Timeline

The research was conducted between March and October 2025. The process included preparation (proposal drafting, permissions, and instrument development), fieldwork (data collection and interviews) and finalization (analysis, interpretation and writing).

III. RESULTS AND DISCUSSION

1. Effectiveness of Intelligence Dissemination

The findings show that the effectiveness of operations depends heavily on the speed, accuracy, and reliability of intelligence dissemination. Interviews with operational officers revealed that intelligence is collected through both human sources and technological platforms; however, limitations in communication equipment, surveillance systems, and satellite access hinder timely responses to threats. NVIVO analysis highlighted recurring themes such as delays in information flow, technical gaps and the need for improved interconnectivity. These limitations have direct consequences for operational readiness, particularly in high-density shipping lanes where maritime crime can escalate rapidly.

This aligns with previous studies on maritime security, which emphasize that intelligence fusion and timely



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communication are prerequisites for effective naval operations in international straits. The study underlines that without real-time situational awareness, the deterrent effect of patrols is reduced, and criminal actors may exploit information gaps.

2. Inter-Agency and Regional Cooperation

The second major finding concerns cooperation between the Indonesian Navy and maritime stakeholders at both national and regional levels. The study reveals that coordination between, Bakamla, law enforcement agencies, and the Royal Singapore Navy is crucial but not yet fully optimized. While the Patkor Indosin (coordinated patrols) demonstrate strong bilateral collaboration, gaps remain in intelligence-sharing protocols and joint response mechanisms. NVIVO coding of interview transcripts highlighted interoperability, trust-building, and policy alignment as central issues raised by informants. The presence of overlapping jurisdictions between national agencies also complicates operational efficiency. Nonetheless, the continuation of joint patrols with Singapore contributes positively to deterrence and reinforces Indonesia's diplomatic posture in the region. These results confirm the importance of cooperative security frameworks, as argued in existing maritime security literature, which stresses that shared maritime challenges cannot be addressed unilaterally.

3. Operational Deployment and Resource Optimization

The third dimension of analysis concerns the deployment of naval forces and assets. has conducted extensive patrols, including 240-day annual operations in border areas. However, data analysis shows that limited naval platforms, high traffic density in the Malacca and Singapore Straits, and restricted patrol duration remain major challenges. Informants emphasized that the vast operational area cannot be fully covered with the available resources, leading to surveillance gaps and occasional lapses in law enforcement. Visual analysis from NVIVO revealed that operational discussions frequently referenced resource constraints, patrol coverage and force readiness. The study suggests that enhancing operational effectiveness requires a combination of longer patrol cycles, the integration of advanced monitoring technologies such as drones and AIS (Automatic Identification Systems), and increased resource allocation.

4. Implications for Maritime Security

Overall, the study indicates that operations have been moderately effective in deterring maritime crime along the Indonesia–Singapore border, with measurable successes in law enforcement and cooperative patrols. However, three interrelated gaps intelligence dissemination, inter-agency coordination and resource optimization continue to reduce operational effectiveness.

The results reinforce the view that maritime security in high-density straits requires not only naval presence but also integrated approaches that combine technology, governance and regional partnerships. Strengthening real-time intelligence networks, clarifying institutional roles and investing in naval modernization will be essential for sustaining Indonesia's maritime security posture.

IV. CONCLUSION

This study examined the effectiveness of Fleet Command operations in securing the Indonesia–Singapore maritime border, one of the busiest and most strategic sea lanes in the world. The findings demonstrate that operational effectiveness is shaped by three critical determinants: (1) the timely and accurate dissemination of intelligence, (2) the degree of cooperation with national and regional maritime stakeholders, and (3) the optimized deployment of naval assets and operational patterns. While Fleet Command has carried out its mandate in accordance with national defense objectives, several challenges persist, including limitations in surveillance coverage, patrol duration, and inter-agency coordination. Addressing these issues is essential to sustaining deterrence, preventing maritime crimes, and reinforcing Indonesia's role in regional maritime stability. The analysis further highlights that the growing density of vessel traffic in the Malacca and Singapore Straits underscores the urgency of enhancing operational strategies. This includes leveraging modern technologies for real-time monitoring, strengthening intelligence systems, and fostering stronger partnerships with both domestic institutions and regional counterparts, particularly the Royal Singapore Navy.

Overall, the research underscores the importance of adopting integrated maritime security approaches to safeguard strategic sea lanes. By improving inter-agency synergy, enhancing naval professionalism, and optimizing operational deployment, Indonesia can consolidate its maritime security posture while reinforcing regional stability and international trust. The study contributes both theoretical insights and practical recommendations, making it a valuable reference for defense policymakers, maritime practitioners and scholars of naval strategy and border security.

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From a practical standpoint, strengthening surveillance capabilities through the integration of satellite monitoring, unmanned systems and advanced communication platforms will significantly improve situational awareness. Building robust training programs to enhance the legal and operational competencies of naval personnel will further professionalize maritime law enforcement. Expanding coordinated patrols and joint exercises with regional partners, particularly Singapore, will foster trust and operational synergy, contributing to a stronger maritime security architecture in Southeast Asia.

From a policy perspective, the findings highlight the need for an integrated maritime security framework that combines defense, law enforcement, and diplomacy. Policymakers should prioritize investment in maritime domain awareness systems, allocate sufficient resources to extend patrol duration and coverage, and institutionalize interagency cooperation linking the Navy, coast guard, customs and port authorities. Regionally, Indonesia should continue to advance cooperative security initiatives with neighboring states, reinforcing its credibility as both a stabilizing force and a reliable maritime security partner. By adopting these measures, Indonesia will not only enhance the effectiveness of naval operations but also strengthen its strategic posture in safeguarding critical sea lanes, thereby contributing to both national sovereignty and regional security.

V. REFERENCES

- [1] Adolf, Huala, Aspek-aspek Negara dalam Hukum Internasional Cetakan ke 5, Bandung: diperbanyak Keni Media, 2015.
- [2] Agustinova, Eko Danu. Memahami Metode Penelitian Kualitatif Teori & Praktis. Yogyakarta: Calpulis, 2015.
- [3] Anonim, Kamus Besar Bahasa Indonesia, Departemen Pendidikan dan Kebudayaan, Balai Pustaka, Jakarta, 1994.
- [4] Arikunto, Suharsimi. Prosedur Penelitian Suatu Pendekatan Praktek Cetakan ke-15. Jakarta: Rineka Cipta, 2013
- [5] Arsana, I Made Andi, Batas Maritim Antar Negara Sebuah Tinjauan Teknis dan Yuridis, Yogyakarta, Gadjah Mada University Press, 2007.
- [6] Asshiddiqie, J. (2006). Hukum tata negara dan konstitusi Indonesia. Jakarta: Konstitusi Press.
- [7] Booth, Ken, Navies and Foreign policy, London, Groom Helm, 1973.
- [8] Bungin, B. (2017). Metodologi penelitian kualitatif: Aktualisasi metodologis ke arah ragam varian kontemporer. Jakarta: Rajawali Pers.
- [9] Bungin, Burhan. Metodologi Penelitian Kualitatif Aktualisasi Metodologis ke Arah Ragam Varian Kontemporer. Jakarta: Rajawali Pers, 2001.
- [10] Bungin, Burhan. Metodologi Penelitian Kualitatif: Aktualisasi Metodologis ke Arah Ragam Varian Kontemporer. Depok: Rajawali Pers, 2017.
- [11] Buntoro, Kresno, Lintas Navigasi di Nusantara Indonesia, Rajawali Pers, Jakarta, 2014.
- [12] Buntoro, Kresno. "Penegakan Hukum di laut dan Ketahanan Nasional", Majalah Forum Hukum Dinas Pembinaan Hukum TNI AL, Vol. 4, No. 4, (2007).
- [13] Creswell, J. W. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage.
- [14] Creswell, John. W. Research Design Pendekatan Metode Kualitatif, Kuantitatif, dan Campuran Edisi keempat. Yogyakarta: Pustaka Pelajar, 2016.
- [15] Del Castillo, Lilian. Law of the Sea, from Grotius to the International Tribunal for the Law of the Sea. The Netherlands Brill Nijhoff, 2015.
- [16] Departemen Kantor Kelautan Distrik Selatan China, Atlas Peta Penangkapan Ikan Laut Selatan, Ghuangdong, 1994.
- [17] Depdiknas. Kamus Besar Bahasa Indonesia (KBBI) Edisi Ketiga. Jakarta: Balai Pustaka, 2007.
- [18] Fitriana. (2023). Analisis Operasi Malacca Strait Sea Patrol (MSSP) guna menjaga keamanan maritim di Selat Malaka (Tesis, Sekolah Staf dan Komando TNI Angkatan Laut, Jakarta).
- [19] Friedman, L. M. (1975). The legal system: A social science perspective. New York: Russell Sage Foundation.
- [20] Indonesia. (1973). Undang-Undang Republik Indonesia Nomor 7 Tahun 1973 tentang Pengesahan Perjanjian antara Republik Indonesia dan Republik Singapura Mengenai Penetapan Garis Batas Laut Wilayah di Selat Singapura. Jakarta.
- [21] Indonesia. (1985). Undang-Undang Republik Indonesia Nomor 17 Tahun 1985 tentang Pengesahan United Nations Convention on the Law of the Sea (UNCLOS) 1982. Jakarta.
- [22] Indonesia. (2004). Undang-Undang Republik Indonesia Nomor 34 Tahun 2004 tentang Tentara Nasional Indonesia. Jakarta.

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- [23] Indonesia. (2010). Undang-Undang Republik Indonesia Nomor 4 Tahun 2010 tentang Pengesahan Perjanjian antara Republik Indonesia dan Republik Singapura Mengenai Penetapan Garis Batas Laut di Bagian Barat Selat Singapura. Jakarta.
- [24] Kementerian Kordinator Kemaritiman, Pembaharuan Peta NKRI 2017 dengan Penetapan dan Perubahan Wilayah Laut Natuna yang Berada di Laut Cina Selatan menjadi Laut Natuna Utara. Jakarta, 2017.
- [25] Ken, B. (1977). Navies and foreign policy. London: Croom Helm.
- [26] Kurnia, Aan, Between Threats and Opportunities Diantara Ancaman dan Peluang, Jakarta: Tim Petro Energy, 2017.
- [27] Lintang Suprobiningrum dan Yandry Kurniawan, 2017, "Diplomasi Maritim Dalam Keberhasilan Patroli Terkoordinasi Indonesia-Malaysia-Singapura di Selat Malaka", Jurnal Politica, Departemen Ilmu Hubungan Internasional Universitas Indonesia, Vol 8 No. 2 (2017).
- [28] Lusy K.F.R Gerungan, "Penegakkan Hukum di Wilayah Perairan Indonesia", Jurnal Lex et Societatis, Universitas Sam Ratulangi, Vol 4 No 5 (2016).
- [29] Mappiare AT, Andi. Dasar-Dasar Metodologi Riset Kualitatif Untuk Ilmu Social Dan Profesi. Malang: Jenggala Pustaka Utama, 2009.
- [30] Marsetio, Strategi TNI Angkatan Laut Dalam Pengamanan Batas Maritim NKRI: Kajian Historis-Strategis, Jurnal Sejarah Citra Lekha, Vol XVII, No. 1 (2013).
- [31] Martono. Metode Penelitian Sosial Analisis Isi dan Analisis Data. Jakarta: PT. Cendikia, 2018.
- [32] Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage.
- [33] Nikki Krisadtyo, "Extended Continental Shelf Regime International Law: Its Application in Indonesia". Jurnal Hukum Internasional, Vol 12 No. 3 (2015).
- [34] Radbruch, G. (2006). Legal philosophy. Oxford: Oxford University Press.
- [35] Rumegan, Andre Putra tahun 2015, "Kewenangan TNI AL Dalam Pemberantasan Tindak Illegal Fishing Menurut Perpres RI No. 115", Jurnal Lex Et Societatis Vol. 4 No. 21 (2016).
- [36] Simela Victor Muhammad, "Illegal Fishing di Perairan Indonesia: Permasalahan dan Upaya Penangannya Secara Bilateral di Kawasan", Jurnal DPR RI, Politica, Vol 3 No. 1 (2012).
- [37] Soekanto, Soerjono dan Mamudji, Sri. Penelitian Hukum Normatif: Suatu Tinjauan Singkat. Jakarta: Raja Grafindo Persada, 2006.
- [38] Solihin, Akhmad, "Hak Ekonomi Nelayan Tradisional Indonesia di Wilayah Perbatasan", Opinio Juris Vol. 3, (2011).
- [39] Sugiyono. (2019). Metode penelitian kualitatif, kuantitatif, dan R&D. Bandung: Alfabeta.
- [40] Sugiyono. Metode Penelitian Pendidikan Pendekatan Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta, 2013.
- [41] Tuesang, Harie, Upaya Penegakan Hukum dalam Era Reformasi. (Jakarta: Restu Agung, 2009.
- [42] United Nations. (1982). *United Nations Convention on the Law of the Sea (UNCLOS)*. Montego Bay: United Nations.
- [43] Yudik, F. (2024). Analisis efektivitas Opskamla di Alur Laut Kepulauan Indonesia dalam penegakan hukum dan menjaga keamanan laut (Tesis, Sekolah Staf dan Komando TNI Angkatan Laut, Jakarta).