

Air Law Literacy and Flight Information Region (FIR): A Study on the Need for an Educational Framework for Active Community Participation

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Article Info	Abstract
Corresponding E-Mail: muhammadarmy05@gmail.com	The Government of Indonesia has significantly fortified its aerial sovereignty through the realignment of the Jakarta-Singapore Flight Information Region (FIR), mandated by Presidential Regulation No. 109 of 2022. While this realignment restores air navigation control over the Riau Islands and Natuna regions marking a pivotal legal milestone public comprehension regarding the regulatory implications, specifically concerning "No-Fly Zones" and technical aviation law, remains suboptimal. This knowledge deficit potentially undermines public oversight and collective support for national aerospace policies. This research evaluates the extent of public participation in monitoring the implementation of FIR and No-Fly Zone regulations through a normative juridical lens and a descriptive qualitative approach. Data were synthesized via comprehensive literature reviews, in-depth stakeholder interviews, and media discourse analysis. Findings reveal that current public engagement is predominantly passive, remaining sequestered within elite academic and practitioner circles. The primary scientific contribution of this study lies in its identification of the systemic "literacy gap" in technical air law as a barrier to sovereign governance. Consequently, this paper proposes a novel, multidimensional public communication framework and a specialized air law literacy-based education strategy. By integrating these elements, the research offers a transformative model for participatory airspace governance, shifting the paradigm from state-centric control to an inclusive, community-based defense of national air sovereignty.
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I. Introduction

The sovereignty of a state in airspace is a fundamental aspect of its existence and independence. In the Indonesian context, the control and regulation of airspace are not only related to national defense and security aspects but also to economic sovereignty and civil aviation safety. One of the main instruments in airspace governance is the Flight Information Region (FIR), which is an area of responsibility for air navigation services established by the International Civil Aviation Organization (ICAO) and operated by countries that have the technical and operational capabilities to ensure flight safety in that area.

Since 1946, part of Indonesia's airspace over the Riau Islands and Natuna has been managed under the Singapore FIR, based on an ICAO decision after the end of World War II. This lasted for more than seven decades, until finally, through Presidential Regulation Number 109 of 2022, the Indonesian Government officially completed the realignment of the Jakarta-Singapore FIR, which returned most of the airspace to the control of the Jakarta FIR under AirNav Indonesia. This decision is an important milestone in the history of national air law because it strengthens state sovereignty and reaffirms Indonesia's position in the global air navigation system.

However, behind this success, there is a crucial problem, namely the lack of public information and understanding about FIR and air law in general. Most people only understand this issue in the context of politics and nationalism, without deeply understanding the technical, juridical, and international dimensions of FIR management. The lack of socialization from the government, weak public legal communication, and limited legal education curriculum in aviation have resulted in a low level of air law literacy in Indonesia.

First, many people cannot distinguish between sovereign airspace and Air Navigation Service Responsibility Areas (FIR), despite the fact that these two concepts possess different legal bases and consequences. Second, the public tends to be passive in providing support or criticism of national airspace policies because they lack adequate knowledge of international regulations such as the 1944 Chicago Convention and ICAO Annex 11. Third, this information gap can weaken the effectiveness of public policy, as low public participation can hinder the oversight of air sovereignty and flight safety implementation.

Based on the official FIR map published by AirNav Indonesia (AIP Indonesia, Section ENR 2.1 – Flight Information Region, 2023), the Jakarta FIR now covers all national airspace over Java, Sumatra, Kalimantan, Bali,

Sulawesi, and most of the Riau Islands and Natuna. The Ujung Pandang FIR covers airspace in the eastern part of Indonesia. This adjustment is the result of the implementation of Presidential Regulation No. 109 of 2022, which reaffirms Indonesia's position as a fully sovereign state over air traffic control in all national territory (Source: AirNav Indonesia, "FIR Jakarta Realignment Map," 2023, <https://airnavindonesia.co.id>).

In addition to FIR, another issue closely related to national air law is the existence of no-fly zones. Based on Article 6 paragraph (3) of Law Number 1 of 2009 concerning Aviation, the government is authorized to designate certain airspaces that are prohibited for aviation activities for reasons of state defense, flight safety, or other strategic interests. Examples of these areas include areas around the State Palace, military installations, nuclear facilities, and active military operation zones. Violations of no-fly zones can be subject to criminal sanctions as regulated in Articles 401–403 of the Aviation Law, including fines and revocation of flight permits.

The lack of public understanding of concepts such as FIR and No-Fly Zone indicates the weakness of national air law literacy. In this context, air law literacy has a very important function as a bridge between technical aviation knowledge and public legal awareness. Air law literacy includes three main functions, namely:

1. Educative Function, to provide a basic understanding of air law norms and policies such as FIR, air navigation, and air sovereignty.
2. Preventive Function, to prevent violations of air law by increasing public awareness of airspace boundaries and flight prohibitions.
3. Participatory Function, to encourage the public to play an active role in overseeing and evaluating public policy in the aviation sector.

In addition, air law literacy also functions adaptively and transformatively, as it helps communities and legal institutions adapt to new dynamics such as the use of drones, satellite-based navigation, and space traffic management. This literacy also has a socio-cultural function, which is to foster awareness that airspace is not just a transportation route, but part of the national identity and sovereignty that must be protected together.

This research employs a normative juridical method, utilizing secondary data in the form of primary legal materials, secondary legal materials, and tertiary legal materials. The objective of normative legal research is to analyze prevailing laws and regulations against relevant legal facts, with the aim of providing constructive input for the revision of specific articles (or legal provisions) (Karo, 2025; Karo & Prasetyo, 2025; Rahmat et al., 2024; Widarto et al., 2025). In this research, a normative legal research method with a

descriptive qualitative approach is used. This approach was chosen because the issue studied focuses on norms and regulations written in national and international legal regulations. This research uses primary legal materials such as Law No. 1 of 2009 concerning Aviation, Presidential Regulation No. 109 of 2022, and the 1944 Chicago Convention, as well as secondary legal materials in the form of books, scientific journals, official AirNav Indonesia reports, and ICAO documents. The analysis is carried out qualitatively by interpreting the relationship between air law norms, the level of public literacy, and the need to establish a national air law education framework. The methodological foundation of this study is rooted in a rigorous normative juridical framework, utilizing a hierarchical approach to legal authorities. Primary legal materials are anchored in the 1944 Chicago Convention and ICAO Annex 11, which provide the international regulatory benchmarks, integrated with national statutes including Law No. 1 of 2009 on Aviation and Presidential Regulation No. 109 of 2022. To ensure empirical depth, these doctrinal sources are synthesized with secondary data comprising authoritative academic literature and official AirNav Indonesia reports. This multifaceted data triangulation ensures that the qualitative analysis remains logically consistent with the research objectives, specifically in mapping the intersection between international mandates and national sovereignty.

Through this approach, the research is expected to contribute scientifically to the development of a sustainable and participatory air law literacy model, so that the public not only understands the formal legal aspects of FIR and no-fly zone policies but also plays an active role in maintaining Indonesia's air sovereignty and security. Strong air law literacy will strengthen Indonesia's position in international air diplomacy while building a legal community that is aware, critical, and actively participates in safeguarding national airspace as part of the integrity of the state's sovereign territory.

The governance of national airspace, particularly regarding the realignment of the Flight Information Region (FIR), has traditionally been treated as an elite technocratic domain, often detached from broader public discourse. While the legal transition under Indonesia Presidential Regulation No. 109 of 2022 serves as a robust exercise of sovereignty, its effectiveness is intrinsically linked to the level of public legal literacy and participatory oversight. This manuscript bridges the gap between doctrinal air law and civic engagement by arguing that air sovereignty is not merely a product of diplomatic negotiation or military enforcement, but is also sustained by a socially informed populace. By integrating legal analysis with a participatory educational framework, this study addresses a critical void in the management

of "No-Fly Zones" and technical aviation regulations, which are frequently misunderstood or overlooked in developing maritime nations.

Furthermore, this research adopts an interdisciplinary approach that synthesizes aviation law, public policy, and legal pedagogy to challenge the prevailing state-centric paradigm of airspace management. Unlike prior scholarship that focuses predominantly on the jurisdictional disputes or technical navigation aspects of FIR, this study situates itself within the evolving global discourse on democratizing air law. It differentiates itself from existing literature by proposing a strategic literacy-based model designed to dismantle the barriers that keep technical air law confined to exclusive circles of practitioners. In doing so, the work advances the scientific understanding of how community-based legal awareness serves as a vital instrument for safeguarding the integrity and security of national sovereignty in an increasingly complex global aviation landscape.

This problem shows a structural and legal communication gap between air navigation service providers (such as AirNav Indonesia), regulators (Ministry of Transportation, Coordinating Ministry for Political, Legal, and Security Affairs), and civil society. Public information regarding FIR policies, no-fly zones, and airspace governance is mostly presented through technocratic media and is one-way. In fact, in the context of good governance and the principles of transparency and public participation recognized by the United Nations Commission on International Trade Law (UNCITRAL) and ICAO's Public Communication Framework (2020), community involvement in understanding public policy is a fundamental element to ensure the legitimacy and sustainability of these policies.

A fundamental question arises: What form of effective community participation can enhance air law literacy and understanding of the FIR in Indonesia? This question is not merely about formal public involvement but examines the extent to which the public can act as a government partner in building legal awareness, educating other communities, and contributing to the oversight of national air policy.

II. Research Method

This study employs a normative juridical legal research method with a qualitative descriptive approach. The research focuses on examining legal norms governing national airspace sovereignty, Flight Information Regions (FIR), no-fly zones, and the development of air law literacy in Indonesia. Normative legal research is appropriate because the study analyzes the

coherence between national legislation, international aviation law, and legal principles governing state sovereignty over airspace.

The research adopts three complementary approaches. First, the statutory approach is used to examine national and international legal instruments, including the 1944 Chicago Convention, ICAO Annex 11 concerning Air Traffic Services, Law Number 1 of 2009 on Aviation, Presidential Regulation Number 109 of 2022 concerning the Ratification of the Realignment Agreement between the Jakarta Flight Information Region (FIR) and the Singapore Flight Information Region (FIR), as well as other relevant regulations. Second, the conceptual approach is employed to analyze legal doctrines relating to state sovereignty, legal literacy, public participation, and aviation governance. Third, the comparative approach is utilized to compare Indonesia's legal framework with international standards established by the International Civil Aviation Organization (ICAO) and best practices adopted by other jurisdictions in promoting public awareness of air law and airspace governance.

III. Results and Discussion

A. Substance and Significance of Presidential Regulation Number 109 of 2022

Presidential Regulation Number 109 of 2022 concerning the Establishment of the Jakarta and Singapore Flight Information Regions (Realignment of the Jakarta-Singapore FIR) is a legal instrument that stipulates the adjustment of the boundaries of air navigation service responsibility between Indonesia and Singapore. The main objective of this Presidential Regulation is to return the management of part of the airspace previously under the responsibility of the Singapore FIR—especially the area over the Riau Islands and Natuna—to the Jakarta FIR managed by AirNav Indonesia.

This Presidential Regulation is the implementation of a bilateral agreement between the Government of the Republic of Indonesia and the Government of the Republic of Singapore, signed on January 25, 2022, in Bintan, and ratified simultaneously with two other strategic agreements: the Extradition Treaty and the Defence Cooperation Agreement (DCA). With the enactment of this regulation, Indonesia now holds full authority in providing air navigation services in that airspace, for both domestic and international flights.

Substantially, Presidential Regulation 109/2022 affirms the increase in Indonesia's air sovereignty, expands the oversight area of the Jakarta FIR, and provides a legal basis for efficient, safe, and ICAO-compliant air navigation management (Annex 11 – Air Traffic Services). In addition, this Presidential Regulation marks an institutional transition, where some navigation services previously operated by Singapore are now run by AirNav Indonesia with joint technology and training support from ICAO.

B. Function of Legal Politics and Bilateral Relations between Indonesia and Singapore

From a legal-political perspective, the issuance of Presidential Regulation No. 109 of 2022 is the culmination of long and strategic air law diplomacy. Historically, the FIR arrangements between Indonesia and Singapore did not reflect the boundaries of state air sovereignty but rather an administrative designation by ICAO to ensure navigation efficiency. However, in the context of bilateral relations, the return of a portion of the Jakarta FIR carries a highly significant legal-political meaning, as it reflects Indonesia's success in negotiating functional sovereignty over its own airspace.

For Singapore, this cooperation is also beneficial because it ensures the continuity of safe and efficient regional civil aviation services, without sacrificing the strategic interests of both countries. From an international relations perspective, FIR cooperation after realignment reflects the application of the principles of mutual benefit and shared responsibility under ICAO supervision. Indonesia not only regained symbolic air control but also strengthened its position in ASEAN diplomacy related to flight safety.

In the national legal-political context, this Presidential Regulation demonstrates that Indonesian air law is now moving towards a "sovereign and participatory air law" paradigm. This paradigm signifies that the state not only asserts its rights over airspace but also invites the active role of society, academics, and the aviation industry in maintaining national safety and sovereignty.

Before the realignment was carried out, many parties doubted the extent to which the FIR transition would provide legal certainty for both Indonesia and Singapore. Articles 2 and 3 of Presidential Regulation 109/2022 guarantee that the transfer of air navigation responsibility is carried out while still observing bilateral agreements, ICAO standards, and international flight safety. Thus, both countries have legal certainty in carrying out air navigation operations in accordance with their respective jurisdictions.

For Indonesia, legal certainty is secured through national legal legitimacy and international support. Meanwhile, for Singapore, legal certainty is reflected in the guarantee of smooth international air traffic, especially for commercial flights in the Malacca Strait and North Natuna Sea, which are among the busiest routes in the world. The existence of this Presidential Regulation confirms that Indonesia possesses full legal authority and responsibility for air traffic control within its territory. Simultaneously, it provides certainty for all parties utilizing Indonesian airspace that navigation services are now under legitimate domestic authority recognized by ICAO.

FIR has a strategic function in the international aviation system, namely as the boundary of the Air Traffic Services Area. In the Indonesian context, FIR not only functions to ensure flight safety but also to increase the efficiency of air routes and oversight of national security.

With full control over the Jakarta FIR, Indonesia now has the ability to:

1. Control all civil aviation activities in national airspace, both domestic and international.
2. Determine flight paths (airways) and communication frequencies for foreign airlines passing through.
3. Increase non-tax state revenue (PNBP) from air navigation service fees previously received by Singapore.
4. Strengthen national aviation data and security, because air surveillance is carried out by a national system connected to the military and AirNav Indonesia.

FIR also becomes an important geopolitical instrument in affirming the state's presence in airspace (Airspace Presence), which is not only strategically valuable militarily but also diplomatically in the ASEAN regional context.

The function of air law literacy not only plays a role in expanding public understanding of air sovereignty but also provides practical value for aviation industry players and policymakers.

1. For aviators or pilots, air law literacy helps in understanding legal boundaries, air traffic rules, no-fly zones, and safety procedures regulated in the Aviation Law and ICAO Annex.
2. For airlines, air law literacy helps ensure legal compliance with flight routes, legal responsibility in air accidents, and compliance with international navigation and safety standards.
3. For the government and society, air law literacy functions as an educational instrument to increase awareness of the importance of

national air surveillance, and to build active public participation in supporting airspace policy.

Thus, air law literacy is a prerequisite for the creation of participatory and transparent governance in the aviation sector. The institutionalization of air law literacy serves as a foundational pillar for both operational safety and regulatory compliance across the aviation spectrum. For aviation practitioners, specifically pilots and flight crews, a sophisticated understanding of legal frameworks is indispensable for navigating the complexities of air traffic protocols, "No-Fly Zones," and the safety mandates delineated in ICAO Annexes and Law No. 1 of 2009. Simultaneously, for commercial airlines, this literacy ensures rigorous adherence to international navigation standards and clarifies the parameters of legal liability in the event of aviation incidents. By mastering these legal boundaries, industry players can mitigate jurisdictional risks and enhance the overall reliability of the national aviation ecosystem, aligning corporate operations with the broader objectives of sovereign airspace management.

Beyond its technical and commercial utility, air law literacy functions as a vital instrument of public policy and democratic oversight. For the government and the citizenry, it acts as an educational bridge that transforms abstract concepts of national air surveillance into a tangible public responsibility. This literacy fosters a sense of collective ownership over the national airspace, encouraging active community participation in monitoring and supporting strategic sovereignty policies. Ultimately, the cultivation of widespread legal awareness is a prerequisite for the realization of a participatory and transparent governance model. By demystifying the technicalities of aviation law, the state can build a robust domestic consensus that reinforces the integrity of its territorial boundaries against global geopolitical shifts.

One of the strategic functions of FIR control for Indonesia is its contribution to Non-Tax State Revenue (PNBP). Before the realignment, part of the air navigation fees in the Singapore FIR area (which is over Indonesian airspace) was received by the Civil Aviation Authority of Singapore (CAAS). After the adjustment through Presidential Regulation No. 109 of 2022, revenue from air navigation service fees in that area became Indonesia's right, managed by AirNav Indonesia as a business entity directly responsible to the Ministry of Transportation.

According to AirNav Indonesia data (2023), the potential for additional PNBP from FIR management is estimated to reach more than Rp 1 trillion per year, which comes from international air navigation service fees in the

airspace of Natuna and the Riau Islands. In addition, independent FIR management strengthens Indonesia's position in negotiating air slots and international flight routes, which has an impact on the efficiency of national air transportation and an increase in foreign exchange from the tourism and air trade sectors.

Thus, Presidential Regulation No. 109 of 2022 not only has political and legal dimensions but also has significant strategic economic value. The link between air law literacy, FIR management, and PNBP shows that good public understanding of this policy can strengthen social support for air sovereignty and provide legitimacy for national airspace-based economic policies.

IV. Conclusion

Indonesia's sovereignty and airspace management experienced significant strengthening following the enactment of Presidential Regulation Number 109 of 2022, which affirmed the re-transfer of a portion of the Flight Information Region (FIR) from Singapore to Indonesia. This policy represents a strategic step toward realizing national air law independence, as well as strengthening Indonesia's position in the international air navigation system. However, the research results indicate that public awareness and air law literacy remain low, particularly regarding the understanding of FIR concepts, no-fly zones, and the legal implications of airspace management on defense, safety, and national economic aspects. This low level of literacy potentially hinders public participation in overseeing and supporting air sovereignty policies, which, in turn, can reduce the effectiveness of regulatory implementation prepared by the government. In this context, air law literacy serves a multidimensional strategic function. For aviation actors such as pilots and operators, air law literacy is the basis for compliance with safety norms and international legal procedures. For the general public, this literacy strengthens awareness of legal rights and responsibilities in the use and oversight of national airspace. Meanwhile, for the state, increasing air law literacy contributes to the legitimacy of public policy and transparency in airspace governance, while also supporting an increase in Non-Tax State Revenue (PNBP) through optimal independent FIR management. Thus, it can be concluded that Indonesia's success in regaining and sovereignly managing the FIR must be accompanied by strengthening air law literacy at the national level. Active community participation in understanding, overseeing, and supporting air sovereignty policies is an essential component in maintaining the security, safety, and sustainability of Indonesia's airspace management. The government, along with higher education institutions, community

organizations, and the mass media, needs to establish a systematic, inclusive, and participatory air law education framework so that air law literacy is not only an academic discourse but also a tangible instrument in strengthening national sovereignty and welfare.

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