

Collaborative Governance in Airspace Sovereignty: Managing the Indonesia Singapore FIR the Kepulauan Riau–Natuna

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ABSTRACT

This article examines how collaborative governance can be mobilised to safeguard Indonesia's airspace sovereignty in the Indonesia Singapore Flight Information Region (FIR) arrangement over the Kepulauan Riau–Natuna corridor. It addresses the tension between international aviation safety requirements, longstanding FIR delegation to Singapore, and Indonesia's constitutional mandate to exercise full and exclusive control over its airspace. Adopting a qualitative case study, the research combines document analysis, focus group discussions, and semistructured interviews with key national stakeholders and experts, and interprets the data through Ansell and Gash's collaborative governance framework. The findings show that historical power asymmetries, fragmented institutional mandates, and limited interoperability of technology and procedures have constrained Indonesia's bargaining position and hindered effective interagency coordination. At the same time, recent regulatory reforms and the 2022 FIR realignment open a policy window to redesign institutional arrangements, clarify roles between KEMENHUB, KEMENHAN, KOOPSUDNAS, KEMENLU, and AirNav Indonesia, and strengthen trustbuilding mechanisms with Singapore and Malaysia. The article concludes by proposing a collaborative governance model that links airspace sovereignty, safety oversight, and regional diplomacy, arguing that only a rulebased, inclusive, and transparently coordinated regime can gradually transform delegated air traffic services into a configuration that secures Indonesia's strategic interests while maintaining the safety and efficiency of international civil aviation routes in Kepulauan Riau–Natuna.

Keywords: Collaborative Governance; Airspace Sovereignty; Flight Information Region (FIR)

INTRODUCTION

Indonesia should manage the delegation of the Indonesia–Singapore Flight Information Region (FIR) over the Kepulauan Riau–Natuna corridor has become a crucial test case for reconciling sovereign rights with the functional demands of international civil aviation governance (Fahrizi, 2019). In legal terms, airspace sovereignty is exclusive and indivisible, yet in operational practice the provision of air navigation services is frequently delegated across borders to optimise safety and efficiency, creating structural tensions between law, politics, and technical regimes (Margaretha & Mahadiansar, 2023). The Indonesia–Singapore FIR arrangement exemplifies this dilemma, as Indonesia's constitution mandates full control over its airspace while the Chicago Convention encourages cooperative arrangements to maintain safe and orderly air traffic flows (Benyamin, 2018).

Over time, this delegation has been criticised domestically as undermining sovereignty and strategic autonomy, particularly in a border region that is also sensitive in security and defence terms (Arafah et al., 2024). At the same time, regional airline operators, safety regulators, and international bodies stress the importance of stability and predictability in FIR management, which they perceive as having been served reasonably well by the existing arrangement (Utomo et al., 2017). These competing narratives illustrate an underlying governance problem, in which multiple actors with divergent preferences must negotiate acceptable institutional configurations (Rhodes, 1996). The present article locates the Indonesia–Singapore FIR question within this broader field of airspace governance debates, moving beyond a narrow sovereignty–versus–capacity framing (Bateman, 2007). By doing so, it connects Indonesian policy discussions to international scholarship on collaborative governance and multilevel regulation of shared functional spaces (Ansell & Gash, 2008).



Figure 1. Navigation Service Areas that have been taken over by Indonesia
Source: FIR, 2022

Existing studies on FIR management and airspace sovereignty have largely been dominated by doctrinal legal analysis, technical aviation perspectives, or realist security approaches that foreground state power and capability while downplaying interorganisational collaboration (Huxham, 2003; Mandell, 2001). Legal commentaries typically focus on the compatibility of FIR delegation with principles of territorial sovereignty and the archipelagic state regime, often arriving at divergent conclusions regarding the limits of permissible delegation (Aziz & Hutahaeen, 2025). Aviation safety literature, by contrast, emphasises performancebased standards, interoperability of systems, and compliance with ICAO norms, placing sovereignty questions in the background as long as safety outcomes are acceptable (Fitri & Sanur, 2019; Porter, 2008).

Strategic and securityoriented works underscore the importance of airspace control for air defence, early warning, and deterrence, particularly in contested maritime regions such as the South China Sea and its adjacent air corridors (Appold & Kasarda, 2013). What is less developed in this body of scholarship is an analysis of how national and regional actors actually negotiate, design, and implement collaborative arrangements at the interface of sovereignty, safety, and diplomacy (Emerson & Nabatchi, 2015). This article therefore positions itself at the intersection of these literatures by applying a collaborative governance lens to a case that has often been treated primarily as a legal or security dilemma (Ansell & Gash, 2008). Through this shift in perspective, the Indonesia–Singapore FIR issue is treated as a complex governance challenge rather than a purely zerosum sovereignty dispute.

The specific context of Kepulauan Riau–Natuna further heightens the relevance of this inquiry, as the region functions simultaneously as a frontier of Indonesian maritime sovereignty, a node in global aviation networks, and a site of emerging geopolitical contestation (Supriyadi et al., 2020). Kepulauan Riau’s proximity to Singapore and major shipping lanes makes its airspace central to the management of dense flight paths linking East Asia, Southeast Asia, and beyond. Natuna, meanwhile, has been highlighted in Indonesian policy documents as a strategic outpost for safeguarding natural resources and asserting presence in the periphery of the South China Sea (Dewi & Atman, 2025; Rahmadi, 2016).

The longstanding delegation of air traffic services in parts of this airspace to Singapore has thus been interpreted by some domestic actors as incongruent with Indonesia’s broader maritime and airspace strategy (Muhammad et al., 2025). At the same time, regional industry stakeholders have pointed to the technical sophistication of Singapore’s air navigation services and their role in maintaining high safety standards in a congested environment (Booher & Innes, 2017). These competing interpretations of the Indonesia–Singapore FIR arrangement generate a complex policy space in which legal, technical, and strategic considerations intersect (Drajat, 2023). Understanding how these dimensions are negotiated requires an analytical framework attuned to collaboration, bargaining, and institutional design (Ansell & Gash, 2008).

The core issue examined in this article can therefore be summarised as the challenge of designing a governance arrangement that enables Indonesia to affirm and exercise its airspace sovereignty while also meeting international obligations and preserving the safety and efficiency of regional air traffic (Iyer & Thomas, 2021; Jeong et al., 2021). This challenge is sharpened by historical power asymmetries between Indonesia and Singapore in the realms of aviation capacity, regulatory credibility, and technological infrastructure (Debrah et al., 2000). For decades, the delegation of FIR responsibilities has been justified on the basis of Singapore's superior technical capabilities and the perceived benefits of centralised control in a hightraffic region (Febriyanti et al., 2024). However, domestic reforms in Indonesia's aviation sector, including the strengthening of AirNav Indonesia and investments in radar and communication facilities, have altered the landscape of feasible governance arrangements (Husna & Riyanto, 2019).

The 2022 FIR realignment agreement between Indonesia and Singapore, which was the product of prolonged negotiations, has been presented by both governments as a balanced solution that advances sovereignty while safeguarding safety and efficiency (Sari, 2024). Yet, the extent to which this agreement remedies underlying coordination problems within Indonesia and embeds robust collaborative mechanisms with external partners remains an open empirical question.

The urgency of addressing this issue is underscored by evolving regional security dynamics, particularly the intensification of strategic competition in the broader IndoPacific and its spillover into air and maritime domains (Bueger, 2015; Manullang, 2024). As greatpower rivalries manifest in increased military flights, freedomofnavigation operations, and surveillance activities, the management of airspace over strategically located archipelagic states acquires heightened salience (Simanjuntak, 2020). For Indonesia, which has articulated a vision of itself as a Global Maritime Fulcrum, the governance of its airspace, especially in peripheral yet strategic zones such as Kepulauan Riau–Natuna, becomes integral to asserting a credible defensive posture and avoiding inadvertent escalation.

Weak or fragmented governance arrangements may increase the risk of misunderstanding, jurisdictional disputes, or operational gaps in air traffic management at precisely the moment when regional skies are becoming more crowded and contested (Van Tatenhove, 2013). These conditions magnify the costs of institutional inertia and ad hoc policy responses, thereby generating a strong imperative for carefully designed, collaborative governance solutions (Emerson & Nabatchi, 2015). Against this backdrop, the Indonesia–Singapore FIR case offers a timely opportunity to examine how an archipelagic state can recalibrate inherited arrangements under conditions of strategic flux (Ansell & Gash, 2008).

Parliamentary debates and media discourses have occasionally highlighted these coordination problems, framing them as evidence of a broader governance deficit in managing strategic infrastructure and sovereignty-sensitive issues. Addressing such deficits requires more than technical capacitybuilding; it calls for institutional arrangements that foster joint problemdefinition, shared ownership of decisions, and mutual accountability among domestic stakeholders (Brand & Gaffikin, 2007). The article therefore treats the FIR question as a window into the broader state of collaborative governance in Indonesia's airspace regime (Agung, 2024).

In addition to security and governance considerations, there are significant economic and developmental reasons for treating the Indonesia–Singapore FIR delegation as a pressing policy issue. The Kepulauan Riau region, including Batam and Bintan, has been envisioned as a key node in Indonesia's efforts to leverage its geographic position for trade, tourism, and investment, particularly through special economic zones and crossborder industrial cooperation with Singapore and Malaysia (Samin & Poti, 2022; Yudiantmaja et al., 2020). Efficient and safe air traffic management is essential to realising these ambitions, as it underpins connectivity, investor confidence, and the integration of local economies into regional and global value chains (ICAO, 2016).

In the case of the Indonesia–Singapore FIR, the complexity of technical, legal, and diplomatic dimensions renders purely hierarchical or marketbased coordination mechanisms inadequate, as they fail to account for the dense interdependence among domestic and external stakeholders. By applying a collaborative governance perspective, the article explores how institutional design choices such as the configuration of interagency forums, informationsharing protocols, and joint monitoring arrangements shape the trajectory of negotiations and implementation (Habersam et al., 2013; Ramadhan et al., 2024). This approach enables a more nuanced understanding of why certain reform efforts succeed or stall, and how path dependencies and power asymmetries can be mitigated through deliberate governance interventions.

While prior scholarship has examined aspects of the Indonesia–Singapore FIR arrangement, few studies have systematically integrated insights from collaborative governance theory with detailed empirical analysis of domestic coordination and crossborder negotiation processes (Chow & Tsui, 2019; Krainara & Routray, 2015). Works that focus on legal compatibility or strategic implications have tended to treat domestic institutional dynamics as a background condition rather than a central explanatory variable (Emerson et al., 2012). Conversely, the broader collaborative governance literature often draws its empirical cases from environmental management, urban policy,

or social services, with relatively limited application to airspace and maritime governance in the Global South (Ansell & Gash, 2008).

This article seeks to bridge this gap by situating the Indonesia–Singapore FIR case within comparative discussions of how states manage shared functional spaces through collaborative mechanisms (Novianto, 2022). The originality of the article thus lies in its effort to bring theoretical insights on collaborative governance into dialogue with a concrete, highstakes sovereignty issue in Southeast Asia. By doing so, it contributes both to refining the analytical tools available for studying complex sovereignty arrangements and to enriching policy debates on airspace governance in Indonesia and beyond.

Table 1. Core issue, urgency, and analytical approach in the study of the Indonesia–Singapore FIR over Kepulauan Riau–Natuna

Dimension	Focus in this Article	Key Illustrative Questions
Core Issue	Reconciling Indonesia's airspace sovereignty with delegated air navigation services in the Kepulauan Riau–Natuna region	How can sovereignty, safety, and efficiency be balanced in the design of FIR governance arrangements?
Urgency	Security, governance, and economic pressures generated by regional geopolitics and domestic institutional fragmentation	Why is institutional reform necessary now, and what are the risks of maintaining the status quo?
Analytical Approach	Application of collaborative governance frameworks to domestic and crossborder coordination	Which institutional configurations and interaction patterns enable more effective and legitimate FIR management?

Source: Author, 2024

The remainder of the article is structured to progressively build the argument that a collaborative governance framework offers a robust basis for reconfiguring the Indonesia–Singapore FIR arrangement in a way that advances Indonesia's strategic and developmental objectives. Following this introduction, the second section reviews relevant literature on airspace sovereignty, FIR governance, and collaborative governance theory, situating the Indonesia–Singapore case within comparative debates on shared functional spaces. The fifth section synthesises these findings through the collaborative governance lens and proposes a model for a more integrated and transparent governance arrangement involving key Indonesian agencies and regional partners.

METHODOLOGY

The research adopts a qualitative descriptive–interpretive case study design to examine how collaborative governance operates in the management of the Indonesia–Singapore Flight Information Region (FIR) over the Kepulauan Riau–Natuna corridor. This approach is considered appropriate because the study seeks to understand processes, perceptions, and institutional dynamics rather than to test causal relationships through statistical generalisation (Coast & Jackson, 2017; Leavy, 2022; Patton, 2002). The case study focuses on the period surrounding the negotiation and implementation of the 2022 FIR realignment agreement, with particular attention to how Indonesian state institutions coordinate among themselves and interact with regional partners. By concentrating on a single, informationrich case, the research aims to generate indepth insights that can inform both theory on collaborative governance and policy debates on airspace sovereignty.

The target population for this study consists of national and regionallevel stakeholders directly involved in or affected by FIR governance, including officials from the Ministry of Transportation, Ministry of Defence and Air Force Command, Ministry of Foreign Affairs, AirNav Indonesia, provincial and local governments in Kepulauan Riau–Natuna, and selected aviation industry actors. From this population, participants were selected using purposive and snowball sampling to ensure the inclusion of individuals with substantive knowledge of airspace policy, operational management, and interagency coordination.

The final sample comprised key informants occupying strategic positions in policymaking, technical operations, and regional administration, complemented by local stakeholders who could articulate perceptions of sovereignty, security, and connectivity at the subnational level. Clear inclusion criteria such as direct involvement in FIR negotiations, regulatory oversight roles, or responsibility for regional development planning were applied to enhance the relevance and credibility of the data.

Table 2. Overview of data sources, participants, and analytical purpose

Data Source	Participant/Material Type	Primary Analytical Purpose
Semistructured interviews	National policymakers, regulators, AirNav, defence, MFA	Explore institutional roles, perceptions, and coordination

Focus group discussions	Local government, community, and aviation stakeholders	Capture regional perspectives and experiential narratives
Policy and legal documents	Laws, regulations, bilateral agreements, strategic plans	Trace evolution of FIR policy and formal governance design
Parliamentary and media	Plenary debates, commission hearings, news articles	Identify public discourses and political contestation
ICAO/technical materials	ICAO guidance, technical reports, aviation statistics	Provide international standards and technical context

Source: Author, 2024

Data collection procedures were implemented in a structured and sequential manner. Preparatory steps included the development and piloting of interview and FGD guides, obtaining institutional access, and scheduling sessions with participants. Interviews were conducted faceto face or via secure online platforms, audiorecorded with permission, and subsequently transcribed verbatim. FGDs followed a similar protocol, with facilitation designed to encourage balanced participation and to document points of consensus and divergence. Document collection was carried out systematically by identifying relevant policy archives, official websites, and publicly accessible parliamentary records. Throughout the process, informed consent was obtained, confidentiality was assured, and participants were given the option to withdraw at any time, in line with standard ethical guidelines for research involving human subjects (Bowen, 2009).

For data analysis, the study employs qualitative content and thematic analysis supported by a collaborative governance framework. Transcripts of interviews and FGDs, as well as key documents, are coded using a combination of deductive categories derived from concepts such as starting conditions, institutional design, facilitative leadership, and collaborative process dynamics and inductive codes that emerge from the empirical material (Kurmanalieva & Crewett, 2019; Wu & Huang, 2023). Coding and thematic development are conducted iteratively to identify patterns of cooperation, conflict, and institutional adaptation in Indonesia's management of the FIR delegation. Triangulation across data sources enhances the robustness of the findings, while member checking with selected participants is used to validate interpretations where feasible. Ethical considerations include prior approval from a relevant institutional review board (IRB), anonymisation of respondents, secure data storage, and strict adherence to principles of voluntary participation and nonmaleficence, thereby reinforcing the transparency, rigour, and replicability of the research design.

RESULTS AND DISCUSSION

Starting Conditions of Collaborative Governance in Indonesia–Singapore FIR Management

The findings indicate that collaborative governance around the Indonesia–Singapore FIR over the Kepulauan Riau–Natuna corridor emerged from highly asymmetrical starting conditions, marked by historical delegation patterns, unequal technical capacity, and divergent perceptions of sovereignty. Longstanding reliance on Singapore's advanced air navigation infrastructure contributed to a path dependency in which safety performance and operational predictability became powerful arguments for maintaining the status quo, even as domestic political discourse increasingly questioned the legitimacy of continued delegation. Interviewed officials acknowledged that, for decades, Indonesia's institutional and technological readiness to assume full control over the delegated airspace was limited, reinforcing a narrative of “necessary dependence” that shaped negotiation positions. At the same time, domestic legal and defence communities progressively reframed the arrangement as inconsistent with constitutional imperatives and strategic autonomy, thereby creating a discursive gap between technocratic and sovereignty-focused actors. These competing starting narratives structured subsequent collaboration attempts by defining what each side considered negotiable and what was treated as a nonnegotiable core interest.

In addition to narrative asymmetries, the starting conditions were characterised by fragmented domestic mandates that weakened Indonesia's collective bargaining strength. The Ministry of Transportation, Ministry of Defence, Air Force Command, Ministry of Foreign Affairs, AirNav Indonesia, and other agencies entered the FIR debate with distinct institutional histories, legal authorities, and performance indicators, which often led to different interpretations of “national interest” in airspace governance. Interviews revealed that early interagency meetings were frequently dominated by sectoral concerns such as safety metrics, defence posture, or diplomatic signalling rather than by a shared, integrative framework. This fragmentation meant that external counterparts, particularly Singapore, sometimes received mixed or evolving signals regarding Indonesia's priorities and red lines. As a result, collaborative dynamics at the international level were constrained by unresolved coordination problems at home, with domestic actors struggling to speak with one voice while negotiating complex technical and legal issues.

Trust and mutual understanding between Indonesian institutions and their regional counterparts were also uneven at the outset of the collaborative process. On the one hand, longterm operational cooperation between air navigation service providers had fostered professional trust at the technical level, with controllers and engineers emphasising a shared safety culture and routine information exchange. On the other hand, strategic and legal communities in Indonesia tended to view the same arrangement through a lens of vulnerability, perceiving the delegation as a symbol of incomplete sovereignty and a potential source of strategic disadvantage in crisis scenarios. This duality produced an ambivalent trust environment in which technical actors were inclined to preserve existing working relationships, while political and security actors sought more assertive renegotiation. Consequently, collaborative governance was confronted from the beginning with the challenge of bridging technical trust and political suspicion within and across national boundaries.

The starting conditions were further shaped by the broader geopolitical context of the IndoPacific and the growing salience of the South China Sea in regional security calculations. Indonesia's articulation of itself as a Global Maritime Fulcrum, combined with heightened attention to Natuna as a strategic outpost, elevated expectations that airspace governance should reflect a more proactive assertion of sovereignty. At the same time, international aviation bodies and regional airlines stressed the importance of avoiding disruptions to established flight paths, warning that abrupt changes in FIR configuration could generate operational risks and commercial uncertainty. These external pressures complicated Indonesia's internal debates, as domestic actors had to weigh reputational and economic costs against perceived sovereignty gains. The resulting starting environment was thus not merely domestic but embedded in multilevel expectations from international organisations, neighbouring states, and privatesector stakeholders.

Table 1. Key starting conditions shaping collaborative governance in Indonesia–Singapore FIR management

Dimension	Indonesian Context at Outset	Regional/International Context	Implications for Collaboration
Power and capacity	Limited historical capacity, fragmented roles	Highcapacity counterpart, strong reputation	Asymmetrical bargaining position and path dependency
Narratives of interest	Sovereignty, defence, development, safety	Safety, stability of routes, predictability	Competing framings of “national” and “regional” goals
Trust configurations	Technical trust vs political suspicion	Professional trust in operations	Ambivalent trust requiring careful bridgebuilding
Institutional mechanisms	Existing but weak interagency forums	Established bilateral and ICAO channels	Uneven platforms for joint decisionmaking
Data and evidence	Fragmented, unevenly shared	Robust but externally curated data	Difficulties in building shared factual baselines

Source: Author, 2024

Another key starting condition concerned the availability and quality of data to inform decisionmaking and negotiation strategies. Although various agencies collected information on flight movements, safety incidents, defence exercises, and economic indicators, these data were not always shared systematically across institutions. Some interviewees described early discussions as hampered by inconsistent datasets and divergent interpretations of risk, capacity, and potential benefits, which made it difficult to build a shared factual baseline. This informational fragmentation limited the ability of Indonesian actors to present unified, evidencebased arguments in negotiations and to model alternative governance scenarios in a transparent manner. The collaborative process thus began under conditions where both technical and political uncertainties were significant, and where competing data narratives could be mobilised to support different institutional preferences.

The empirical material also highlights the role of leadership and policy entrepreneurship in shaping the early trajectory of collaboration. Certain senior officials and political leaders acted as “boundary spanners,” seeking to reframe the FIR issue from a zerosum sovereignty dispute into a problem of designing a more balanced and futureoriented governance arrangement. These leaders convened interagency forums, commissioned studies, and used public communication to signal both resolve on sovereignty and openness to cooperative solutions. However, their efforts were periodically challenged by shifts in political priorities, bureaucratic turnover, and changes in the regional security environment, which sometimes diluted the continuity of collaborative initiatives. The presence of such leadership provided windows of opportunity for more integrative approaches, but the sustainability of these efforts depended on institutionalisation rather than charisma alone.

Public and parliamentary discourses formed another element of the starting conditions, introducing additional layers of accountability and constraint into the collaborative arena. Media reporting and legislative debates often simplified complex technical questions into more easily communicable narratives of national pride or perceived concession, putting pressure on negotiators to adopt visibly assertive stances. While this public scrutiny contributed to greater transparency and democratic oversight, it also risked narrowing the perceived space for compromise,

especially when nuanced technical tradeoffs were portrayed as onesided losses. Collaborative governance thus had to navigate not only interagency and interstate dynamics but also the domestic politics of symbolism, where the optics of sovereignty could overshadow substantive gains in safety, coordination, or economic opportunity.

Institutional Design and InterAgency Coordination within Indonesia

The results reveal that institutional design for airspace governance in Indonesia has historically been characterised by overlapping mandates and segmented accountability among key ministries and agencies. The Ministry of Transportation holds primary responsibility for civil aviation regulation and oversight, while the Ministry of Defence and the Air Force Command are tasked with safeguarding national airspace from a security perspective. AirNav Indonesia operates as the main provider of air navigation services, and the Ministry of Foreign Affairs manages diplomatic interactions related to bilateral and multilateral agreements. Provincial and local governments in Kepulauan Riau–Natuna, though not central to formal FIR negotiations, are nonetheless stakeholders in the developmental and symbolic implications of airspace arrangements. This complex constellation of actors creates significant coordination demands that were not fully matched by robust institutional mechanisms prior to the FIR realignment process.

Empirical evidence from interviews suggests that early interagency coordination was predominantly ad hoc and issuedriven, with meetings convened in response to immediate negotiation milestones or external events rather than according to a stable, formalised schedule. In such settings, agendas were often dominated by urgent technical or legal questions, leaving limited time for broader strategic discussions on longterm governance models. Moreover, the absence of a clearly designated “lead institution” with both convening authority and responsibility for integrating inputs contributed to a perception that coordination was more about information sharing than about joint decisionmaking. As a result, policy coherence depended heavily on interpersonal relationships, informal networks, and individual initiative, which made the process vulnerable to leadership changes and bureaucratic turnover.

Table 2. Distribution of roles and coordination mechanisms in Indonesia’s airspace

Level / Arena	Key Institutions Involved	Primary Functions	Coordination Mechanisms	Main Challenges Identified
Strategic policy	Ministry of Transportation, Ministry of Defence, MFA, Cabinet	Define national position, approve agreements	Interministerial committees, cabinet briefings, ad hoc task forces	Fragmented priorities, unclear lead institution
Operational management	AirNav Indonesia, Air Force Command, airport authorities	Provide ATS, ensure safety and security	Technical protocols, joint exercises, control room liaison officers	Integrating civil–military procedures, data sharing
Legal and regulatory	Ministry of Transportation (DGCA), legal units, parliament	Draft laws, ratify agreements, oversight	Legislative hearings, legal review teams, policy working groups	Translating technical needs into coherent legal texts
Diplomatic interface	Ministry of Foreign Affairs, embassies, transport attachés	Conduct bilateral/multilateral negotiations	Diplomatic notes, joint commissions, ICAO forums	Balancing sovereignty rhetoric and cooperative posture
Regional/local input	Provincial government, local agencies in Kepulauan Riau–Natuna	Articulate regional concerns and development goals	Occasional consultations, outreach meetings, informal political links	Limited institutionalised channels, peripheral influence

Source: Author, 2024

The process of renegotiating the FIR and preparing for the 2022 realignment acted as a catalyst for institutional redesign, prompting the establishment or revitalisation of several crossministerial coordination platforms. Task forces and working groups were created to bring together representatives from transportation, defence, foreign affairs, AirNav, and other relevant agencies, with explicit mandates to formulate negotiation positions, assess technical feasibility, and anticipate implementation challenges. Over time, these platforms evolved from primarily consultative bodies into arenas where more integrative discussions could occur, including on matters such as sequencing of capacitybuilding measures, risksharing arrangements, and public communication strategies.

CrossBorder Negotiation Dynamics and the 2022 FIR Realignment

The analysis of crossborder negotiation dynamics reveals that the process leading to the 2022 FIR realignment was protracted, multilayered, and highly sensitive to shifts in domestic and regional politics. Negotiations unfolded over several years through a combination of formal diplomatic dialogues, technical working groups, and highlevel

political meetings, often punctuated by periods of stagnation and renewed momentum. Indonesian and Singaporean negotiators approached the talks with different starting assumptions: Indonesia emphasised the restoration and affirmation of airspace sovereignty over Kepulauan Riau–Natuna, while Singapore prioritised continuity of safety performance and the protection of its role as a regional aviation hub. Bridging these positions required not only technical compromise but also mutual recognition of symbolic and strategic concerns that could not be easily quantified.

Interview data indicate that, at various points, negotiations were influenced by broader developments in bilateral relations, including cooperation in defence, trade, and investment. Episodes of tension in one domain could spill over into perceptions of trust and willingness to compromise in others, demonstrating the interconnectedness of issue areas in smallstate–middlepower relations. Conversely, positive developments, such as successful joint exercises or investment agreements, created windows of goodwill that negotiators could leverage to advance the FIR agenda. This interdependence meant that FIR talks were rarely isolated technical discussions; they were embedded in a larger diplomatic tapestry where signals, gestures, and sequencing of decisions mattered significantly. Negotiators had to navigate carefully to avoid unintended linkages that could either derail or unduly constrain the aviation-specific dialogue.

From a collaborative governance perspective, one of the key findings is that the negotiation process gradually evolved from positional bargaining toward more problemsolving-oriented interactions. Early stages were characterised by reiterations of longheld positions regarding sovereignty, capacity, and historical arrangements, with each side seeking to establish legitimacy and garner domestic support. Over time, however, the accumulation of technical studies, joint simulations, and scenario analyses helped to shift the conversation toward concrete questions: how to ensure seamless transition of responsibilities, how to allocate costs and benefits of new infrastructure, and how to preserve safety margins during and after realignment. This shift did not eliminate underlying tensions but did provide a shared problem space in which collaborative exploration of options became more feasible.

Table 3. Stylised timeline of key phases in the Indonesia–Singapore FIR negotiation and realignment

Phase	Approximate Period	Dominant Features of Interaction
Historical baseline	Pre2010	Legacy delegation, limited Indonesian capacity, low public salience
Issue politicisation	2010–2015	Rising sovereignty discourse, parliamentary debates, media attention
Structured dialogue	2015–2019	Formal negotiation rounds, joint technical studies, scenario analyses
Agreement formation	2019–2022	Intensive bargaining, highlevel political engagement, ICAO references
Implementation start	2022–onward	Gradual transfer, capacitybuilding, joint monitoring mechanisms

Source: Author, 2024

The 2022 FIR realignment agreement emerged as a hybrid solution that attempted to reconcile Indonesia’s demand for expanded FIR responsibility with Singapore’s interest in maintaining operational efficiency and safety. According to interviewees, the agreement included provisions on the gradual transfer of certain responsibilities, mechanisms for joint oversight, and commitments to capacitybuilding and technology upgrades in Indonesian facilities. Although detailed terms are subject to confidentiality and formal legal texts, the general pattern suggests an incremental approach rather than a sudden reconfiguration, thereby reducing operational risks. This incrementalism, while sometimes criticised domestically as insufficiently assertive, can be interpreted as a collaborative strategy that recognises the complexity of altering deeply embedded technical systems while managing political expectations on both sides.

Negotiation dynamics were further shaped by the involvement of international organisations and normative frameworks, particularly those of ICAO. Both Indonesia and Singapore invoked ICAO guidance and safety standards to legitimise their positions and proposals, using international norms as a shared reference point in moments of disagreement. ICAO’s emphasis on safety and efficiency provided a form of “anchor” that constrained extreme options and encouraged solutions that could be justified in technocratic terms. At the same time, the sovereignty-sensitive nature of FIR allocation meant that international norms could not fully dictate outcomes; they had to be negotiated within the political and legal constraints of each state. The result was a process in which international and domestic logics interacted, sometimes reinforcing and sometimes complicating collaborative efforts.

The empirical material also highlights the role of interpersonal trust and professional networks among negotiators and technical experts in facilitating crossborder collaboration. Individuals who had worked together in previous regional aviation initiatives or in ICAO forums often served as informal brokers, helping to clarify misunderstandings, explore offtherecord options, or temper rhetorical escalations. These personal relationships did not replace formal institutions but complemented them, creating channels for candid dialogue that might not have been possible in highly scripted formal sessions. Such relational capital is a key asset in collaborative

governance, particularly in highstakes negotiations where misinterpretation can lead to prolonged deadlock or escalatory rhetoric.

Renewal of the Ansell & Gash Collaborative Governance Model in the Implementation of Airspace Sovereignty and Security Policies in the Riau Islands–Natuna Region

The study of the implementation of airspace sovereignty and security policies in the Riau Islands–Natuna region can enrich the Collaborative Governance model proposed by Ansell and Gash by introducing new dimensions. The renewal of this model within Collaborative Governance theory, as applied to the policy implementation of airspace sovereignty and security in the Riau Islands–Natuna region, is reflected in the addition of new indicators. The enhancement of the leadership facilitation indicator is implemented to increase decisionmaking effectiveness and interagency coordination. Meanwhile, new indicators in policy implementation namely Communication, Bureaucratic Structure, Resources, and Disposition are added to identify and strengthen the key elements that support more comprehensive and structured policy operationalization.

In addressing the issues of sovereignty and airspace security in the Riau Islands–Natuna region, Collaborative Governance becomes a highly necessary approach, given the complexity of the challenges. One of the key indicators in the implementation of this policy is communication. Effective communication among all involved parties including the central government, regional governments, the military, and international partners becomes a crucial factor for success. Through effective communication, information regarding ontheground conditions, resource needs, and policy developments can be conveyed quickly and accurately. Transparency in communication is also essential in building trust among actors, particularly in negotiations and the implementation of agreements such as the FIR arrangement with Singapore, where openness about its implications for Indonesia's sovereignty must be carefully maintained.

Effective communication among all actors engaged in a collaborative process especially between the central government, regional governments, the military, and international partners plays an extremely vital role in achieving successful governance. Open and wellstructured communication enables all parties to share a common understanding of the ongoing situation, including policy developments, field challenges, and urgent resource needs. In this context, communication functions not only as a tool for information exchange, but also as a medium to align goals and ensure that each actor can contribute optimally. Without effective communication, misinterpretation and misalignment between central policies and local implementation can occur, ultimately hindering collaborative success. Therefore, building effective communication channels among various stakeholders is essential to ensure that all decisions and actions move in the same direction.

Transparency in communication is also a key element in strengthening trust among actors involved in the collaborative process. Particularly in the context of international relations such as negotiations concerning the Flight Information Region (FIR) agreement with Singapore transparency is crucial for maintaining decision legitimacy and minimizing potential diplomatic tensions. Openness regarding the policy's implications for Indonesia's sovereignty must be preserved carefully, given the sensitivity surrounding state sovereignty and bilateral relations. Ambiguity or lack of transparency in conveying positions and considerations may trigger distrust among parties.

Conversely, transparency allows each actor to feel valued, to have the right to provide input, and to be involved in decisionmaking processes that influence joint policies. Moreover, effective communication facilitates early identification and resolution of potential problems, especially in negotiations or policy implementation that involve multiple levels of government and international actors. For instance, in the context of policies related to FIR sovereignty, transparent communication enables the Indonesian government to clearly articulate its position and national interests to Singapore and other international stakeholders. With open information, both negotiation parties and the public can understand the rationale behind decisions, thereby strengthening ownership and support for policy implementation. Effective communication also enhances coordination in responding to situational changes and urgent resource needs, optimizing information flow in dealing with new challenges that may arise in the field. Ultimately, the success of collaborative governance and international relations relies significantly on the quality of communication established among all actors.

Another important indicator is the existence of a clear and organized bureaucratic structure, which enables effective coordination among government bodies such as the Ministry of Defense, the Ministry of Transportation, and the Indonesian Air Force (TNI AU). Bureaucratic efficiency is also required to minimize obstacles in policy execution, particularly in crisis situations that demand rapid responses. A welldefined and organized bureaucratic structure is one of the primary indicators of successful policy implementation within the Collaborative Governance model, particularly when multiple government institutions with distinct roles such as the Ministry of Defense, Ministry of Transportation, and TNI AU are involved. A clear structure ensures clear communication pathways, efficient coordination flows, and a uniform understanding of each party's roles and responsibilities. Without such structure, overlapping roles may occur, leading to confusion, delays, and inefficiencies in decisionmaking.

Therefore, it is essential that each participating institution has an adequate managerial system, with clearly defined authority and tasks from the outset to avoid gaps or coordination conflicts that may hinder policy implementation.

Furthermore, bureaucratic efficiency is crucial for supporting smooth policy implementation, especially during emergencies or crises that require fast and accurate responses. In such situations, delays or inaccuracies in decisionmaking can be detrimental, making the bureaucracy's ability to operate quickly and effectively essential. A wellstructured bureaucracy with clear rules and standardized procedures enables faster decisionmaking and more responsive action toward emerging problems. For instance, in crises involving security or transportation, coordination among the Ministry of Defense, Ministry of Transportation, and TNI AU must occur without unnecessary bureaucratic obstacles to ensure swift and appropriate actions. Simplifying procedures and reducing redundant bureaucratic layers greatly improves efficiency and accelerates decisionmaking flows.

However, while bureaucratic efficiency is important, it must be balanced with accountability. Every action taken in crisis situations must remain legally and transparently accountable. This requires a bureaucratic structure that is not only efficient but also open in terms of reporting and oversight. In crisis responses involving multiple institutions, mechanisms for flexible yet controlled coordination are needed to enable prompt decisions without neglecting evaluation and transparency. Without strong accountability mechanisms, even if policies are swiftly implemented, longterm impacts may pose legal risks and damage public trust in the government. Thus, in designing an efficient bureaucracy, it is equally important to ensure that all processes are properly monitored and remain adherent to transparency and accountability principles.

Resources also play a critical role in the implementation of this policy, including the availability of advanced technologies and adequate infrastructure required to manage the FIR independently. Competent and welltrained human resources are essential, along with sufficient budget allocation to support all aspects of policy implementation from infrastructure development to technology procurement and human resource training.

The analysis of resource roles in the implementation of Collaborative Governance highlights the importance of advanced technology and adequate infrastructure as foundational components for independently executing this policy. Modern technologies such as realtime databased information systems, online collaborative platforms, and bigdata analytics enable stakeholders to coordinate more efficiently, access information rapidly, and evaluate or adjust policies with greater accuracy. Strong infrastructure, including stable communication networks, integrated data centers, and adequate physical facilities, is also required to support seamless policy operations. Without sufficient investment in technology and infrastructure, Collaborative Governance implementation may be hindered, or even fail, due to limited access to information and coordination among stakeholders.

Beyond technology and infrastructure, competent and welltrained human resources (HR) are decisive in ensuring successful implementation. Stakeholders from government, private sector, and civil society must be capable of working collaboratively, understanding policy dynamics, and utilizing available technologies to support decisionmaking. Thus, HR training and capacity building become essential for strengthening the capabilities of all actors involved. HR enhancement should include not only technical proficiency but also managerial and communication skills that enable conflict resolution, mediation of differing interests, and maintenance of constructive relationships among stakeholders.

Budget allocation is equally crucial to support the implementation of Collaborative Governance. Adequate funding is required to meet various needs throughout the implementation process, such as infrastructure development, technology procurement, and HR training programs. Without sufficient budget support, this policy may remain merely conceptual, as resource limitations hinder the completion of necessary implementation stages. Therefore, careful budget planning with clear allocations for each component of implementation along with oversight and accountability for budget use is necessary to ensure positive impacts for society. In addition, inclusive financing models involving the private sector and other contributors should be considered to support the success of this policy.

CONCLUSION

This article has examined how collaborative governance can be mobilised to manage the Indonesia–Singapore FIR delegation over the Kepulauan Riau–Natuna corridor in a way that strengthens Indonesia's airspace sovereignty while maintaining the safety and efficiency of international civil aviation. By applying a qualitative descriptive–interpretive case study and drawing on Ansell and Gash's collaborative governance framework, the study has shown that historical power asymmetries, fragmented institutional mandates, and uneven datasharing practices created highly asymmetrical starting conditions that constrained Indonesia's bargaining position and complicated interagency coordination. At the same time, longstanding technical cooperation and shared safety norms provided a reservoir of professional trust that could be leveraged to support more constructive collaboration, even amid persistent political sensitivities surrounding sovereignty and security.

The analysis of institutional design and interagency coordination demonstrates that Indonesia's airspace governance architecture has been marked by overlapping mandates between Kementerian Perhubungan, Kementerian Pertahanan and the Air Force Command, Kementerian Luar Negeri, AirNav Indonesia, and subnational actors in Kepulauan Riau–Natuna, without sufficiently robust mechanisms for integrated decisionmaking. The renegotiation process leading to the 2022 FIR realignment acted as a catalyst for strengthening crossministerial task forces, clarifying role distributions, and gradually shifting coordination from ad hoc, issuedriven meetings toward more structured platforms capable of aligning sectoral priorities. Nonetheless, the findings indicate that policy coherence remains vulnerable to bureaucratic turnover, shifting political agendas, and the pressures of public and parliamentary discourse, which can narrow the perceived space for compromise and encourage symbolic rather than substantive sovereignty postures.

At the crossborder level, the study finds that the 2022 FIR realignment emerged from a negotiation process that gradually evolved from positional bargaining to more problemsolvingoriented engagement, anchored in ICAO safety norms and supported by dense professional networks among technical experts. The resulting agreement reflects an incremental, hybrid solution that expands Indonesia's FIR responsibilities while preserving operational continuity, embedding provisions for capacitybuilding, joint monitoring, and phased implementation. From a collaborative governance perspective, this outcome underscores the importance of designing institutional arrangements that bridge domestic and international arenas, connect civil and military logics, and link airspace sovereignty with safety oversight and regional diplomacy.

The article therefore concludes that Indonesia's strategic interests in Kepulauan Riau–Natuna are most likely to be secured not through unilateral gestures or zerosum framings, but through a rulebased, inclusive, and transparently coordinated governance regime that institutionalises interagency collaboration at home and cooperative engagement with Singapore, Malaysia, and relevant international bodies abroad. Future research could deepen this analysis by comparing the Indonesia–Singapore FIR experience with other sovereignty-sensitive functional spaces in the maritime and cyber domains, thereby refining the tools available for understanding and designing collaborative governance under conditions of asymmetry and strategic uncertainty.

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