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Strategy to provide Minimum Essential Force (MEF) in facing the current challenges of the global economy

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ABSTRACT

Indonesia's archipelagic geography and exposure to Indo-Pacific tensions continue to underscore the need for credible defense capabilities. The Minimum Essential Force (MEF) program (2010–2024) concluded with realization of only approximately 65–70% overall (service-specific: Air Force ~51%, Army ~60%, Navy ~76% by 2023–2024 estimates), constrained by low defense spending (consistently 0.7–0.8% of GDP) and global economic pressures including supply-chain disruptions from U.S.–China competition. This qualitative policy analysis examines MEF optimization strategies—budget efficiency, technological modernization, domestic industry development, and international cooperation—while identifying persistent barriers. It addresses the post-2024 transition to Optimum Essential Force (OEF) under the Prabowo administration, filling contextual gaps by integrating recent fiscal trends (2025–2026 budgets) and policy shifts. Key contributions include updated evidence-based recommendations for resource optimization, reduced import dependency, and accelerated self-reliance, with implications for sovereignty, regional stability, and sustainable defense-industrial growth in archipelagic middle-income states.

Keywords: defense budget; defense industry independence; global economic challenges; minimum essential force; optimum essential force

1. INTRODUCTION

Indonesia faces persistent multifaceted threats, including maritime incursions in the Natuna Sea, hybrid threats (cyberattacks, disinformation), non-traditional risks (climate-induced disasters, illegal fishing), and great-power dynamics in the Indo-Pacific. These pressures have intensified amid ongoing U.S.–China strategic rivalry, technology export controls, and supply-chain realignments affecting critical defense components (rare earths, semiconductors). Despite nominal budget increases, Indonesia's defense spending remains low at 0.7–0.8% of GDP—one of the lowest rates in Southeast Asia and among G20 nations—with personnel costs consistently absorbing more than 50% of the allocation, severely limiting modernization and procurement (Matthews, 2025). The Minimum Essential Force (MEF) framework, introduced in 2010 as a threat- and capability-based approach to achieve credible minimum deterrence within fiscal constraints, was structured in three phases. Phase I (2010–2014) focused on procuring basic equipment and improving interoperability. Phase II (2015–2019) shifted toward modernization and strengthening the capacity to respond to hybrid threats. Phase III (2020–2024) emphasized quality enhancement, the strengthening of the domestic defense industry, and broader national resilience.

Official and independent assessments indicate that overall realization has reached only ~65–70% by the end of 2024, with significant service-specific shortfalls (e.g., Air Force ~51%, Army ~60%, Navy ~76%, as reported in 2023–2024 data), attributable to post-COVID budget reallocations, rupiah volatility, global supply disruptions, and competing national priorities (Matthews, 2025). Following the conclusion of MEF Phase III, the Prabowo administration has initiated the transition to the Optimum Essential Force (OEF), embedded in the Archipelagic Trident Shield (Perisai Trisula Nusantara) master plan, targeting more ambitious modernization by 2029. Recent budget trends reflect this intent: 2025 defense allocation ≈ Rp165–166 trillion (0.77–0.8% GDP), 2026 allocation Rp187.1 trillion (0.8% GDP), with long-term aspirations to reach 1.5% of GDP. Prior literature has examined MEF policy implementation (Afrihan et al., 2024), defense-industry independence (Adestria et al., 2024), and naval development (Collin, 2015). However, important gaps remain. First, there is a contextual gap, as existing studies rarely integrate post-2024 OEF transition dynamics with ongoing global economic volatility. Second, there is a theoretical gap, reflected in the under-exploration of mechanisms connecting budget optimization to strategic autonomy through the lenses of resource-dependence and securitization theories. Third, there is a practical gap, as few studies offer concrete, implementable strategies grounded in empirical evidence from 2025–2026.

Indonesia's defense planning is shaped not only by threat perceptions but also by the state budgeting and development-planning architecture that governs what capabilities can be realistically fielded. Documentary evidence on Indonesia's defense budgeting shows that MEF implementation has been mediated by annual APBN negotiations, indicative ceilings, and inter-agency coordination between the Ministry of Defense, the Ministry of Finance, Bappenas, and the DPR, which together determine the feasible pace of modernization and procurement. This planning "pipeline" is consequential because delays and ceiling reductions can systematically defer high-technology acquisitions and create capability gaps that accumulate across MEF phases (Yaffid et al., 2026).

A key constraint is Indonesia's structural "military burden" ceiling, implied by its fiscal priorities and baseline macroeconomic conditions. Cross-national data sources that compile SIPRI figures indicate that Indonesia's military expenditure remains below 1% of GDP, placing it on the lower end of regional comparators and far below the global average military burden. In practice, this means the defense sector must pursue credible deterrence through trade-offs—prioritization, sequencing, and selective modernization—rather than comprehensive force transformation financed by sustained high spending (SIPRI, 2025; World Bank, 2026).

The global economic environment further amplifies these constraints through technology and supply-chain politics. Since 2022, U.S. export controls targeting advanced computing and semiconductor manufacturing items, implemented via the U.S. export-control regime, have contributed to tighter access to certain high-end components and production tools, while cascading

restrictions have increased uncertainty for defense-related technology acquisition and maintenance pathways. For middle-income states that still import critical subsystems, these constraints can translate into longer timelines, fewer supplier options, and higher transaction costs, particularly for sensor-heavy and network-centric capabilities (Bureau of Industry and Security, 2022; Reuters, 2024).

These conditions make the paper's theoretical framing more than a "literature add-on." From a resource-dependence perspective, strategic autonomy is strengthened when a state reduces dependency on externally controlled inputs (e.g., high-tech components, foreign financing, and single-supplier pipelines) and builds buffering capacity through domestic industries and diversified partnerships. From a securitization perspective, shifting threat narratives (e.g., Indo-Pacific tensions, cyber threats, and gray-zone competition) can justify reallocations and exceptional measures, but only if they remain credible under fiscal scrutiny and institutional oversight. Together, these lenses clarify why budget optimization and industrial strengthening must be evaluated as political–institutional mechanisms, not only as technical procurement choices (Buzan et al., 1998; Hillman et al., 2009).

This study addresses these gaps through a qualitative policy analysis of MEF optimization strategies in the current global economic context, contributing new boundary conditions for archipelagic middle-income states facing dual development-security trade-offs and actionable mechanisms for accelerating domestic production and diversified international partnerships.

2. METHOD

This study uses a qualitative descriptive–analytical design focused on policy analysis and a systematic documentary review. Indonesia's national defense policy and the state-level implementation of MEF/OEF from 2010 to 2026 are the units of analysis. The study is situated in the Indonesian defense sector and interpreted within the broader Indo-Pacific strategic environment.

Data sources were purposively selected for their relevance and recency. The dataset includes official documents, such as Ministry of Defense reports, RPJMN 2025–2045, state budget laws, and statements from coordinating ministries. It also draws on more than 30 peer-reviewed journal articles and book chapters published between 2015 and 2026, retrieved from Google Scholar, Scopus, and institutional databases using keywords such as "Minimum Essential Force Indonesia," "Optimum Essential Force," "Indonesian defense budget 2025 2026," and "defense industry independence Indonesia." Additionally, high-quality policy analyses from think tanks and defense journals were reviewed to complement academic and governmental sources.

The inclusion criteria covered English and Indonesian scholarly or official sources from 2010 onwards that directly addressed MEF phases, the OEF transition, budget allocation, or linkages with global economic conditions. The exclusion criteria removed publications from before 2010, non-empirical blog content, and sources lacking a clear methodology. Data collection and manual thematic coding were conducted between late 2025 and early 2026, covering publications available up to February 2026. Potential bias was reduced through triangulation across official, academic, and independent analyses, alongside explicit reconciliation of discrepant budget realization figures.

The analytical technique was thematic analysis organized around four core constructs: budget optimization, technological modernization, international cooperation, and domestic industry strengthening. These constructs were selected because they directly align with the central research question on adaptive MEF/OEF strategies under resource constraints. The approach combines inductive coding with a deductive application of resource-dependence theory, which is appropriate for exploratory, policy-oriented research.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. MEF Realization and Transition to Optimum Essential Force

MEF Phase III emphasized domestic production, cyber resilience, and broader national resilience; however, the overall realization reportedly remained at approximately 65%–70% by the end of 2024, with persistent shortfalls in high-technology platforms, such as submarines, fighter jets, and advanced radar/AI systems. In recent years, Indonesia's defense budget has been estimated at approximately Rp165–166 trillion in 2025 (approximately 0.77%–0.8% of GDP) and Rp187.1 trillion in 2026 (approximately 0.8% of GDP).

Despite these allocations, procurement and R&D have consistently accounted for less than 40% of total spending after personnel and operational expenditures. Global economic pressures, including ongoing U.S.–China technology restrictions, rare-earth export controls, and commodity price volatility, have continued to raise import costs by an estimated 10%–15%, indirectly constraining fiscal space through reduced state revenues (see Table 1).

Table 1. MEF Planning vs. Realization (Synthesized Evidence from 2023–2025 Sources)

Phase	Primary Target	Realization (%)	Approximate Budget Context (IDR Trillion)	Key Notes
Phase I (2010–2014)	Basic systems & interoperability	~85	~50	Strong foundational achievement
Phase II (2015–2019)	Modernization & hybrid threats	~70	~75	Impacted by early trade tensions & COVID
Phase III (2020–2024)	Domestic production, cyber, resilience	~65–70	~100–165 (cumulative recent years)	High-tech delays; import dependency reduced but persistent

Sources: Matthews (2025) and Ahdiat (2025)

The transition to Optimum Essential Force (OEF) post-2024 aims for accelerated modernization (targeting near-full capability by 2029), supported by nominal budget growth but still challenged by a low GDP share and structural personnel-cost dominance.

3.1.2. Optimization Strategies

Across the reviewed sources, four interconnected strategies emerge as the most consistently recommended pathway for improving MEF/OEF performance under fiscal and technological constraints. These strategies are mutually reinforcing and are best understood as an integrated package rather than standalone interventions. First, budget efficiency is emphasized through operational reforms that reduce recurring costs while preserving readiness. Key measures include the wider adoption of simulation-based training and threat-prioritized procurement, for example, directing investment toward naval capabilities to strengthen the protection of strategic areas, such as the Natuna Sea. Several sources suggest that these efficiency steps could lower operational expenditures by approximately 15–20%. Second, sources highlight the urgency of strengthening R&D and technological modernization. This involves increasing R&D allocation from the current estimated range of around 1–5% to 10–15% of the defense budget, ideally through ring-fenced funding mechanisms that protect innovation spending from routine budget pressures. This shift is framed as essential to build capabilities in AI, cyber defense, and autonomous systems.

Third, import-source diversification is repeatedly recommended to reduce dependency risks and improve bargaining power, while simultaneously leveraging Technology Transfer (ToT) to accelerate learning. The proposed approach includes expanding procurement partners beyond traditional suppliers to countries such as India, Turkey, Japan, and South Korea and embedding enforceable ToT clauses in major contracts to ensure capability absorption rather than mere equipment acquisition. Fourth, strengthening the domestic defense industry is presented as a long-term anchor of strategic autonomy. Recommended actions include tighter coordination through the KKIP, stricter and more measurable local-content requirements—often framed as targeting at least 50% local content by 2030—and broader private-sector participation to expand investment, competition, and innovation capacity within Indonesia's defense industrial base. These strategies align with resource-dependence theory: reducing external vulnerabilities through internal capability development enhances strategic autonomy (Kennedy, 2023).

3.1.3. Interpretation through Theory and Comparison with Prior Research

Findings align with Afrihan et al. (2024) on globalization's dual pressures (threats vs. economic integration), but diverge from more optimistic earlier assessments (e.g., Phase I/II successes) by highlighting Phase III's greater exposure to post-pandemic and geopolitical shocks. Boundary conditions include Indonesia's middle-income status and archipelagic logistics, which amplify supply-chain risks compared with continental peers. Plausible alternatives, such as institutional fragmentation or corruption in procurement (Matthews, 2025), are acknowledged but secondary to fiscal constraints in recent data.

3.1.4. Broader Social Issue Linkages

MEF shortfalls affect national sovereignty and public trust in state protection, with downstream impacts on regional stability (ASEAN balance amid Indo-Pacific tensions) and economic sustainability (defense industry jobs, technology spillovers to civilian sectors). Positive direction: successful optimization could enhance labor welfare in high-tech manufacturing, reduce gender/digital divides through inclusive R&D training, and bolster governance quality via transparent budgeting. Policymakers, the TNI, KKIP, and local governments stand to benefit through informed actions that link security to inclusive growth.

3.2. Discussion

Reported MEF realization figures should be treated as indicative ranges rather than definitive" statistics. Public reporting has cited achievement levels around the mid-60% range, approaching 2024, while other sources frame realization as roughly 65–70%, depending on whether calculations prioritize platform counts, readiness indicators, or inclusion of enabling systems (logistics, ISR, and C4ISR). This measurement variation matters because it can either understate or overstate the operational significance of gaps, especially in high-end platforms, where shortfalls carry outsized deterrence implications (Ahdiat, 2025).

Budget analysis suggests that the modernization bottleneck is not only the level of spending but also the composition and planning dynamics of defense allocations. A recent documentary analysis of Indonesia's defense budgeting (2020–2025) reports relatively stable personnel expenditures and a gradual rise in capital expenditure share, while also noting that from 2025 onward, the budgeting structure increasingly separates allocations across the Ministry of Defense and the service branches. Such institutional budgeting realities can complicate coordination, slow procurement cycles, and create misalignment between strategic priorities and executable annual programs, particularly when procurement requires multi-year commitments (Yaffid et al., 2026).

The 2025 proposed defense budget details illustrate why innovation capacity remains thin. Janes' reporting on the 2025 proposal indicates sizable "management support" and a major procurement line, but relatively small funding for defense research, development, and industry. In that breakdown, R&D-related spending is reported as a small fraction of the overall envelope, which helps

explain why domestic capability development struggles to keep pace with platform modernization and why reliance on external technology persists (Janes, 2024).

Fiscal space constraints are not abstract. Indonesia's legally enforced deficit discipline and sensitivity to commodity and oil-price shocks can create pressure for expenditure restraint, including in areas that are politically costly to expand over multiple years. Recent reporting underscores policy commitment to keeping the deficit below the legal cap, even amid volatility, which implies that defense modernization must compete with large social and development commitments under tight fiscal governance. This reinforces the logic of ring-fenced, performance-linked mechanisms if policymakers expect continuity through global volatility (Reuters, 2026).

On Technology Transfer (ToT) and industrial strengthening, Indonesia's regulatory framework is more developed than is often acknowledged. Current rules governing countertrade, local content, and offset obligations in foreign procurement formalize a high minimum obligation threshold, with additional provisions that local-content/offset components must meet baseline percentages and increase over time. Crucially, the rules also prohibit substituting offset with cash payments and structure offset arrangements as contractually enforceable mechanisms, at least on paper (Menteri Pertahanan Republik Indonesia, 2024).

However, implementation remains a persistent bottleneck. A national legal evaluation report notes that, despite the high obligations, implementation can be "gamed," and the state has lacked systematic effectiveness reviews regarding whether offset mechanisms deliver real technological absorption and capability outcomes. The same evaluation highlights how low the historical defense R&D share has been and argues that without credible monitoring and evaluation, offset rules risk becoming compliance narratives rather than capability-building instruments. This finding directly supports the need for a centralized tracking unit and transparent performance metrics tied to local-content milestones (Badan Pembinaan Hukum Nasional, 2024).

The post-2024 transition dynamics create both opportunity and risk. Official policy communication increasingly frames Perisai Trisula Nusantara as an interoperability- and modernization-oriented strategy, paired with a push to develop domestic industries through technology transfer and production programs. At the same time, policy discourse on OEF has been linked to an ambitious target horizon (often framed as full achievement by 2029), which raises feasibility concerns unless industrial, fiscal, and governance constraints are explicitly addressed rather than treated as secondary issues (Kementerian Pertahanan Republik Indonesia, 2025; Kementerian Koordinator Bidang Politik dan Keamanan Republik Indonesia, 2025; Populi Center, 2025).

Budget efficiency measures can be strengthened with more concrete operational levers, particularly during training. Evidence from defense training analysis suggests that simulation and live–virtual–constructive approaches can reduce cost pressures and equipment wear while maintaining or improving training frequency and learning transfer, especially where live training is fuel- and maintenance-intensive. This supports the paper's recommendation to treat simulation-based training not as a "nice-to-have" but as a readiness-preserving reallocation tool that can free resources for modernization when the fiscal space is tight (Tadjdeh, 2015; Straus et al., 2019).

4. CONCLUSION

4.1. Conclusion

Despite global economic headwinds, Indonesia has made measurable progress in reducing import dependency and advancing domestic capabilities under the MEF framework. The transition to post-MEF policies offers a strategic window to embed optimization mechanisms for long-term self-reliance. Overall, the evidence implies that Indonesia's MEF-to-OEF transition will succeed or fail depending on whether the state can align fiscal governance, industrial policy, and procurement regulation into a single capability-delivery system. The strategic lesson is that higher budgets alone are insufficient if R&D remains marginal, offset obligations are weakly audited, and technology restrictions continue to tighten global supplier ecosystems. Therefore, a credible pathway requires (a) protected

innovation funding, (b) enforceable and measurable ToT/offset delivery, and (c) operational efficiency reforms that reduce routine cost burdens without degrading readiness—an integrated approach consistent with resource-dependence logic and increasingly necessary under export-control politics and fiscal discipline (Badan Pembinaan Hukum Nasional, 2024; Bureau of Industry and Security, 2022; Hillman et al., 2009).

4.2. Recommendations

At the national level, the Ministry of Defense and the Ministry of Finance should take immediate action in 2026–2027 by amending budget regulations to ring-fence 15–20% of the defense budget specifically for R&D and domestic procurement. This allocation should be monitored through a public dashboard and subjected to an annual parliamentary review to strengthen transparency and accountability. The mechanism should be performance-linked, with disbursements tied to measurable local-content milestones to ensure that funding translates into capability development rather than routine spending.

At the operational level, TNI Headquarters and KKIP should implement reforms during 2026–2028 by mandating Technology Transfer (ToT) clauses in all new defense contracts exceeding IDR 500 billion. The focus should be on joint ventures with partners that offer high local-content potential, such as Turkey for drone systems and India for missile development, to accelerate procurement, domestic learning, and production capacity. To ensure compliance and real outcomes, a centralized tracking unit should be established to monitor ToT commitments, milestones, and deliverables across contracts.

At the diplomatic level, the Ministry of Foreign Affairs should negotiate at least three new bilateral defense-cooperation agreements aimed at diversified sourcing and co-production within the next 18 months. Priority partners should include India and Japan, with negotiations positioned to leverage the existing ASEAN+ frameworks to reduce friction and improve feasibility. These agreements must remain realistic by aligning with Indonesia's fiscal constraints and non-alignment principles, and avoiding commitments that create long-term dependency or unsustainable cost burdens.

At the industry level, defense SOEs, such as PT PAL and Pindad, should pursue ongoing capacity upgrades by investing state equity participation (PMN) funds into targeted production and technology capabilities. The objective should be clear: achieve at least 50% local content in major platforms by 2030, supported by measurable roadmaps and project-level benchmarks. This effort should be complemented by incentives that expand private-sector participation, as deeper supplier networks and competition are necessary to scale innovation and reduce unit costs over time. These steps are sequenced from fiscal enablers to operational execution and are feasible within Indonesia's current 2.5–3% fiscal-deficit ceiling.

4.3. Limitations and Future Research Directions

Limitations include reliance on secondary sources (potential official optimism bias), snapshot coverage up to late 2025 (limited causality inference), and Indonesia-specific context (reduced generalizability). The measurement of "realization %" varies across reports. Future research should employ longitudinal mixed-methods designs tracking post-MEF Optimum Essential Force outcomes, incorporate elite interviews for primary insights, and conduct comparative case studies with Vietnam or the Philippines to test boundary conditions. Experimental or quasi-experimental evaluations of specific ToT policies would strengthen causal claims.

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