Bridging Bureaucracy and Battlefield: A Public Administration Perspective on Reforming India's Defence Procurement and Logistics Ecosystem

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Abstract—India's ability to respond to evolving national security threats hinges on the efficiency and agility of its defence procurement and logistics ecosystem. Despite significant policy innovations such as the Defence Acquisition Procedure (DAP 2020), Make-II, and the iDEX framework, India's acquisition system remains hindered by procedural bottlenecks, fragmented civilmilitary coordination, and an overdependence on the lowest financial bid (L1) model. This article examines these systemic constraints not merely as policy challenges, but as manifestations deeper of administrative dysfunction.

Positioned within a public administration framework, the study employs theories of New Public Management, Institutional Isomorphism, and Collaborative Governance to analyse the cultural and structural impediments that affect India's defence readiness. Through case analysis, audit reviews, and comparative insights from the U.S., Israel, and France, it reveals how outdated bureaucratic norms and rigid procurement hierarchies erode operational flexibility and strategic alignment.

The paper argues for a paradigmatic shift, from reactive procurement to anticipatory, performance-driven acquisition. Key recommendations include the formation of a specialised Defence Procurement Cadre, adoption of lifecycle-based costing and performance-based logistics models, and institutional integration via a National Military Logistics and Procurement Command. Digital platforms infused with AI and blockchain technologies are also proposed to enhance transparency and speed.

This research contends that reforming defence procurement is not only an economic or strategic imperative but an administrative necessity. Without reengineering governance structures and accountability systems, India risks undermining its own defence modernisation and indigenisation goals. Bridging the divide between bureaucracy and battlefield, this article offers a governance-centric blueprint for achieving Atmanirbharta, not merely in manufacturing, but in decision-making, execution, and defence preparedness.

I. INTRODUCTION

The strategic landscape of the 21st century demands that a nation's military capability be measured not just in terms of manpower or weaponry, but by the institutional speed and administrative sophistication with which it can equip, sustain, and deploy its armed forces. For India, a country with a formidable armed force and complex geopolitical environment, defence preparedness is not merely a function of capital allocations or arms imports; it is deeply intertwined with the effectiveness of its procurement and logistics governance. With neighbours like China and Pakistan posing simultaneous threats across varied terrains and domains, from high-altitude borders to cyber frontiers, the imperative for institutional agility has never been greater.

In this context, the Indian defence procurement and logistics ecosystem presents a paradox. On one hand, there exists a commendable strategic vision, articulated through policies like the Defence Acquisition Procedure [1], Make-II framework, and the Innovations for Defence Excellence (IDEX, 2023) On the other hand, operational delays, bureaucratic complexity, and institutional inertia frequently hinder the actual realisation of these ambitions. Multiple reports by the Comptroller and Auditor General [2] and Parliamentary Standing Committees have repeatedly flagged issues such as procurement backlogs, under-utilisation of allocated budgets, prolonged acquisition cycles, and lack of synergy among the tri-services and the Ministry of Defence (MoD). These challenges are not solely technical or procedural; they are fundamentally administrative.

Public administration as a discipline offers a robust lens through which to diagnose and resolve these systemic inefficiencies. While most existing literature on defence reforms tends to focus on strategic doctrine, force structure, or indigenous capability development, the administrative machinery underpinning procurement decisions remains relatively underexplored. Concepts such as institutional capacity, decision accountability, decentralisation, bureaucratic incentives, and interagency coordination, core themes of public administration, hold the key to unlocking a more agile and responsive procurement ecosystem.

Globally, leading defence forces have reoriented their procurement systems around agility, innovation, and lifecycle value rather than just initial costs. The U.S. Department of Defense leverages the Defense Acquisition Workforce Improvement Act [4] to create a professional acquisition cadre; Israel embeds procurement officers within its R&D and operational arms to ensure contextual relevance and rapid feedback loops; and France's Direction Générale de l'Armement (DGA) integrates technical and administrative expertise to synchronise design and acquisition. India, despite its growing defenceindustrial ecosystem and a substantial procurement budget, INR 1.72 lakh crore allocated for capital outlay in 2023-24, is yet to institutionalise such models of collaborative, responsive governance.

The bureaucratic rigidity that characterises India's defence procurement is not incidental. It is a legacy of colonial administrative practices, an overly compliance-driven audit system, a fragmented civilian-military interface, and a lack of specialised procurement cadres. Procurement officers, often military or generalist civil servants, are not adequately trained in commercial negotiations, lifecycle costing, or contract law. Decision-making is highly centralised and risk-averse, with an overarching fear of post-facto scrutiny from oversight agencies such as the CVC and CAG. While these institutions play a vital role in ensuring accountability, their influence often promotes procedural orthodoxy over strategic innovation.

Moreover, the reliance on L1 (lowest cost) decisionmaking, while rooted in principles of financial prudence, often compromises operational effectiveness and technological edge. This doctrine, suited for commodities, is increasingly misaligned with the complex, high-tech, and rapidly evolving requirements of modern defence systems. The result is a procurement process that is neither agile nor adaptive, a liability in a theatre of war where timelines and quality are paramount. This article, therefore, seeks to bridge the gap between battlefield requirements and bureaucratic practice. Positioned within the disciplinary boundaries of public administration, it examines the governance deficits in India's defence procurement and logistics system and proposes a set of policy, structural, and procedural reforms. It argues that India's procurement inefficiencies are not simply due to budgetary constraints or external threats but stem from deeprooted administrative bottlenecks that can be systematically addressed.

II. INSTITUTIONAL LANDSCAPE OF DEFENCE PROCUREMENT IN INDIA

The architecture of defence procurement in India is a vast and intricate web of overlapping jurisdictions, segmented responsibilities, and siloed decisionmaking processes. Unlike conventional procurement ecosystems governed by a single nodal agency, India's defence acquisition process is orchestrated across a range of institutions, including the Ministry of Defence (MoD), the Defence Research and Development Organisation (DRDO), the Services Headquarters (Army, Navy, Air Force), the Directorate General of Quality Assurance (DGOA), and financial advisors under the Ministry of Finance. While this dispersion is intended to enhance checks and balances, it often leads to procedural delays, redundancy, and strategic misalignment.



Figure 1: Comparative Defence Procurement Cycle – India vs USA and Israel (Compiled from RAND Corporation, MoD India, DAU, and public domain procurement timelines)

At the helm of policy formulation is the Acquisition Wing of the MoD, supported by the Defence Acquisition Council (DAC) and the Defence Procurement Board (DPB). These bodies are responsible for laying down procurement guidelines, vetting projects, and granting the all-important Acceptance of Necessity (AoN), a critical precursor to any acquisition. However, the AoN process itself is riddled with multiple layers of clearance, including inputs from the Services, DRDO, MoD (Finance), and the Integrated Defence Staff (IDS), often resulting in elongated time cycles.

The introduction of the Defence Acquisition Procedure [1] was a policy step in the right direction, with provisions such as the Strategic Partnership Model, Indigenous Design and Development categories, and prioritisation of Buy (Indian-IDDM). DAP 2020 also envisaged promoting startups and MSMEs through simplified processes under Make-I, Make-II, and iDEX schemes. However, despite these reforms, execution gaps persist. The lack of a centralised digital system to track the lifecycle of proposals, absence of real-time performance dashboards, and underutilisation of offset obligations limit the impact of these reforms.

The Make-II procedure, designed to empower private Indian industry to develop and manufacture defence equipment without direct government funding, is yet to realise its full potential. Procedural opacity, lack of handholding for SMEs, and delays in prototype evaluations have deterred several promising ventures. Similarly, the iDEX platform, aimed at harnessing the power of innovation from start-ups and academia, suffers from insufficient scalability, absence of domain-specific procurement teams, and disconnect with frontline users.

Adding another layer of complexity is the L1 procurement doctrine, which mandates awarding contracts to the lowest financial bidder, often at the cost of technological quality, serviceability, or lifecycle performance. This principle, while intended to ensure financial discipline, has proven counterproductive in a high-tech defence environment where lowest price does not necessarily equate to best value.

A significant institutional limitation lies in the civilmilitary divide in procurement decision-making. Civilian bureaucrats, often lacking operational financial experience, dominate and military administrative approvals. On the other hand, uniformed personnel, while aware of tactical needs, are not always trained in procurement economics or long-term capability planning. This dichotomy leads to a systemic misalignment between what is required and what is approved. Furthermore, a shortage of trained personnel in defence finance, contract law, and market analysis within both civil and military sides adds to this institutional fragility.

Another critical actor in the procurement ecosystem is the Defence Research and Development Organisation (DRDO). While DRDO has delivered some notable successes like the Light Combat Aircraft (Tejas) and Pinaka MBRL, it has also faced criticism for time overruns, cost escalations, and limited user feedback mechanisms. The lack of integration between DRDO and the Services, particularly during project conceptualisation and prototype feedback stages, often leads to redundant or misaligned outcomes.

Quality assurance and testing, essential components of the procurement cycle, fall under the ambit of the Directorate General of Quality Assurance (DGQA). However, the long gestation times for testing, the rigid interpretation of quality norms, and occasional overlaps with the Services' internal testing units contribute to further delays. The emphasis tends to remain on procedural compliance rather than mission effectiveness. Lastly, the financial oversight provided by the Integrated Financial Advisors (IFAs) and the auditing functions led by CAG and CVC are structured to prevent financial impropriety. Yet, they often exert a chilling effect on innovative procurement or deviation from norms, as officers prefer safer, low-risk decisions to avoid post-retirement scrutiny.

According to the Standing Committee on Defence (2023), nearly 24% of the capital acquisition budget remained unutilised in FY 2022-23, reflecting procedural bottlenecks rather than fund scarcity. Additionally, a CAG report (2020) noted that the average acquisition cycle for major platforms exceeds 5-7 years, severely compromising strategic responsiveness.

III. ADMINISTRATIVE BOTTLENECKS IN PROCUREMENT AND LOGISTICS GOVERNANCE

Despite the institutional frameworks and procedural clarity outlined in various defence acquisition policies, India's procurement ecosystem remains beset by persistent administrative bottlenecks. These issues, while structural in appearance, are fundamentally rooted in bureaucratic behaviour, institutional culture, and systemic risk aversion. This section delineates the core administrative hurdles under thematic subheadings, drawing attention to the public administration challenges that hinder agile and responsive defence logistics.

Procedural Delays and Bureaucratic Redundancies One of the most cited criticisms of India's defence procurement apparatus is the prolonged acquisition cycle. From the stage of Acceptance of Necessity (AoN) to Request for Proposal (RFP), Technical Evaluation, Contract Negotiation, and finally to procurement, the process can stretch anywhere from five to ten years for major systems. Each stage involves multiple stakeholders, with files moving sequentially through the Services Headquarters, MoD (Acquisition), MoD (Finance), Defence Finance, and external audit bodies. This 'sequentialism', where one layer waits for clearance from another rather than operating in parallel, creates bottlenecks that are deeply ingrained in administrative culture.

Further, there is a tendency within ministries and directorates to avoid responsibility or delay decisions under the guise of exhaustive "due diligence." This is compounded by the absence of fixed timelines and a lack of project-based accountability. The result is what many in the defence community term the "tyranny of procedure", a scenario where rule adherence overshadows outcome orientation.

Risk Aversion and the Culture of Fear

Administrative behaviour in defence procurement is significantly shaped by the fear of post-facto audit and vigilance action. The oversight roles of the Comptroller and Auditor General [2], Central Vigilance Commission (CVC), and internal MoD auditors, while critical for ensuring probity, often foster a culture of procedural defensiveness. Officers, both civilian and uniformed, frequently opt for the least controversial path, even when sub-optimal for the end user. For instance, when confronted with two vendors, one of whom offers higher quality but at a slightly higher price, procurement officers often fall back on the L1 (lowest bidder) criterion to avoid questions later. This behaviour, known as defensive administration, prioritises audit-proof decisions over mission-readiness.

In interviews conducted by defence think tanks like CLAWS and IDSA, retired acquisition officers often cite "fear of vigilance traps" as the single biggest deterrent to proactive, innovative decision-making. The threat of reputational damage or post-retirement inquiries creates what public administration literature calls an "accountability paradox", where excessive controls designed to ensure accountability end up discouraging responsibility.

Absence of a Professional Defence Procurement Cadre India's defence procurement ecosystem currently lacks a dedicated, professionalised procurement cadre, a deficiency that severely undermines its institutional capacity. In contrast to countries like the United States, which have institutionalised professional tracks under the Defense Acquisition Workforce Improvement Act [4] or France's DGA system where procurement officers are trained engineers and logisticians, India relies on generalist bureaucrats and rotationally posted military officers to handle multi-billion-dollar acquisition deals.

These officers, while highly competent in their respective domains, are rarely trained in the nuances of international defence contracting, lifecycle cost analysis, offset management, or dispute resolution. As a result, critical knowledge is lost with every personnel rotation, and decisions often lack continuity. Further, there is no structured mechanism for mid-career training in public procurement law, commercial negotiations, or digital contracting tools. The Defence Institute of Advanced Technology (DIAT) and Army War College do offer orientation courses, but these remain peripheral and voluntary.

A study by the Institute for Defence Studies and Analyses (2022) found that over 70% of defence procurement officers had no formal training in contract management or defence economics, a glaring capacity deficit for a country with one of the world's largest defence acquisition budgets.

Overreliance on L1 and Undervaluation of Lifecycle Costs

The legacy of financial conservatism in public procurement has institutionalised the L1 selection criterion, wherein the contract is awarded to the vendor quoting the lowest initial cost. While this norm may be justifiable for routine commodities, it is ill-suited for technologically intensive, high-maintenance military platforms.

In recent years, several acquisitions, ranging from helicopters to bulletproof jackets, have run into operational issues due to poor after-sales support, maintenance failures, or obsolescence, all consequences of ignoring Total Cost of Ownership (TCO). Lifecycle costing, which accounts for acquisition, operational, maintenance, and disposal costs, is widely accepted in global procurement models but remains underutilised in Indian defence deals.

For example, the procurement of snow scooters for high-altitude operations in Ladakh was delayed due to insistence on the L1 model, leading to the selection of technically inferior equipment with higher maintenance downtime. Such outcomes have direct implications for operational readiness. Further, the reluctance to move towards Best Value (BV) models, where quality and performance metrics are weighted alongside cost, reflects the administrative challenge of integrating performance management into procurement governance.



Figure 2: Lifecycle Costing vs L1 Procurement – A Comparative Breakdown (Compiled from RAND Corporation, IDSA Policy Briefs, and global best practices in defence contracting)

Case Examples of Delayed or Failed Procurements Several high-profile defence procurements in India serve as cautionary tales of bureaucratic inertia: -

- Infantry Carbines: The Indian Army has faced repeated delays in procuring close-quarter battle carbines since 2005. Despite multiple tenders and trials, procedural objections and insistence on cost conformity have stalled decision-making, leaving frontline units under-equipped.
- Tactical UAVs: While drones have become integral to modern warfare, India's procurement of tactical UAVs has lagged behind due to evaluation delays, restrictive qualification criteria, and unresolved technical evaluation issues. This has impacted real-time surveillance capabilities along hostile borders.
- Mountain Logistics Infrastructure: Projects for logistics hubs and habitat upgrades in Eastern Ladakh, approved post-Galwan standoff, faced delays owing to slow fund approvals, land acquisition hurdles, and overlapping responsibilities between MoD and Ministry of Road Transport and Highways.

Each of these cases reveals how administrative sluggishness, rather than technological inadequacy or budget scarcity, impedes procurement effectiveness.

IV. COMPARATIVE STUDY: GLOBAL DEFENCE PROCUREMENT GOVERNANCE

Reforming India's defence procurement system demands not only introspection but also an understanding of how other nations have addressed similar challenges. Globally, successful military procurement systems demonstrate common characteristics: decentralised authority, professionally trained acquisition cadres, embedded feedback loops with end-users, and an overarching culture of performance accountability. This section draws comparative insights from three key defence procurement models, those of Israel, the United States, and France, to identify best practices that can inform India's reform path.

Israel: Embedded Innovation and Proximity to Battlefield Needs

Israel's procurement philosophy is rooted in its security context, a small nation surrounded by multiple

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threats, requiring real-time responsiveness and battlefield agility. The Israeli Ministry of Defence operates in close coordination with the Directorate of Defence Research and Development (DDR&D), the Israeli Defence Forces (IDF), and domestic industries, creating a tightly integrated innovation-procurement ecosystem.

One of the key features of Israel's system is the colocation of procurement officers with operational units and R&D hubs. This enables rapid prototyping, testing, and iteration of technologies based on actual field conditions. For instance, the development of the Iron Dome [5] missile defence system was fast-tracked through iterative collaboration between the IDF, Rafael Advanced Defense Systems, and DDR&D. Officers from the end-user units were embedded in the development loop, ensuring constant feedback and minimising the 'capability gap' between procurement and deployment.

Further, Israel maintains a strong network of small and medium-sized defence innovators, supported by government seed funding and rapid induction pathways. There is no rigid adherence to L1-type doctrines; rather, procurement decisions emphasise operational relevance, technological superiority, and time-to-field.

India can draw several lessons from Israel: the importance of user-driven innovation, a shortened decision loop, and the strategic empowerment of small tech firms. Additionally, Israel's embedded feedback culture between users and developers could greatly enhance the effectiveness of India's iDEX and Make-II platforms.

United States: Professional Acquisition Cadre and Milestone-Based Procurement

The United States operates the most complex and expansive defence procurement system globally, overseen by the Department of Defence (DoD) through structures like the Defence Acquisition System and Defence Contract Management Agency (DCMA). Despite its scale, the U.S. model is anchored in well-defined processes, professionalised human capital, and data-driven oversight.

The cornerstone of this system is the Defense Acquisition Workforce Improvement Act [4] (DAWIA), which mandates structured education, certification, and career progression for acquisition professionals. Procurement personnel undergo rigorous training in contract law, cost estimation, systems engineering, program management, and commercial negotiations. This professionalisation ensures a deep and consistent talent pool that is accountable for major projects over multi-year timelines.

Procurements follow a milestone-based lifecycle, where each phase-from concept approval to development, testing, and production, is accompanied by performance benchmarks and risk reviews. Programs such as the F-35 Joint Strike Fighter and Virginia-class submarines are managed by integrated project teams that bring together technologists, logisticians, auditors, and end-users. Digital integration is another hallmark of the U.S. system. Platforms like DPAS (Defence Priorities and Allocations System) allow transparent contracting, vendor monitoring, and lifecycle tracking. Additionally, the U.S uses performance-based logistics (PBL) models, where suppliers are incentivised based on uptime, availability, and sustainment metrics, rather than just delivery.

For India, the U.S. model underscores the need for a dedicated defence procurement cadre, lifecycle-based contracting, and digitised program oversight. These elements can significantly reduce India's reliance on rotational staff and improve accountability in long-gestation projects.

France: Technocratic Synergy through DGA

France offers a compelling model of technocratic procurement governance through its Direction générale de l'armement (*French Ministry of Armed Forces, 2021*) (DGA). The DGA operates as a specialised agency under the Ministry for the Armed Forces and is responsible for coordinating defence R&D, testing, and acquisitions.

The strength of the French system lies in the fusion of technical, administrative, and operational expertise. DGA personnel are drawn from elite engineering institutions (like École Polytechnique) and trained in both scientific and bureaucratic domains. These officers are tasked with managing end-to-end

acquisition lifecycles, from requirement formulation to vendor evaluation and integration.

One of the unique features of the DGA is its ability to act as a "prime integrator", not just an evaluator. It works collaboratively with private defence firms such as Dassault and Thales, and ensures that end-user needs are reflected in technical specifications from the outset. The DGA also manages extensive simulation and testing facilities, reducing the dependency on postdeployment troubleshooting.

The French model offers valuable insights for India on how to blend domain knowledge with administrative authority. Creating similar techno-administrative career tracks within the MoD or DRDO could bridge the chronic disjuncture between Services, R&D bodies, and procurement wings.

Comparative Synthesis and Implications for India

While the strategic contexts of Israel, the U.S., and France differ, their procurement systems share common traits:

- Specialised, well-trained procurement personnel with career continuity
- User-developer-administrator collaboration from concept to delivery
- Flexible contracting models (e.g., PBL, milestone-based funding, risk-sharing)
- Emphasis on value and responsiveness, not merely cost minimisation
- Digital platforms and performance dashboards for real-time oversight

In contrast, India continues to struggle with:

- Generalist officers managing high-value, complex contracts
- Rigid procedural pathways with insufficient feedback loops
- Audit-driven defensiveness over mission-driven innovation
- Lack of a dedicated procurement cadre and fragmented accountability

Adapting global best practices will require more than policy tweaks. It demands a paradigm shift in how India conceptualises public administration within the defence sector, from one of risk-averse, rule-bound file management to a performance-oriented, systemically integrated acquisition architecture.

V. THEORETICAL FRAMING FROM PUBLIC ADMINISTRATION LENS

To deepen the understanding of India's defence procurement challenges and the rationale for reform, it is essential to frame the issue within the intellectual architecture of public administration theory. This not only strengthens the academic rigor of the analysis but also helps connect institutional symptoms with conceptual roots. In this section, we examine three interrelated theoretical frameworks, New Public Management [9] (NPM), Institutional Theory [10] and Collaborative Governance [6], to interpret the deficiencies in India's defence procurement system and guide its transformation.

New Public Management: From Rule Compliance to Performance Orientation

New Public Management [9], a dominant paradigm since the late 20th century, calls for the adoption of private sector management techniques within public systems. Key tenets include performance measurement, decentralisation, client responsiveness, cost-efficiency, and managerial autonomy. When applied to the defence procurement landscape, NPM principles expose the limitations of India's traditional, bureaucratic orientation.

India's procurement framework is currently focused on procedural correctness rather than performance outcomes. The emphasis on file movement, lowestcost selection (L1), and adherence to General Financial Rules (GFRs) often overrides considerations of lifecycle value, time-to-deployment, and operational effectiveness. The absence of output metrics, such as availability rates, mean time between failures (MTBF), or user satisfaction, undermines the objective of procurement as a service enabler.

By contrast, an NPM-driven approach would advocate for:

- Lifecycle costing models in place of L1 price criteria
- Performance-based logistics (PBL) contracts, where vendors are paid for system availability
- Managerial discretion to reward innovative suppliers, not penalise procedural deviations
- Public dashboards for transparency and citizen oversight, as done in countries like the U.S. with tools like USASpending.gov

The infusion of NPM in Indian defence procurement must begin by recasting procurement officers as

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strategic managers, not mere custodians of compliance. They must be evaluated based on project success rates, cost savings over time, and readiness indicators rather than procedural adherence alone.

Institutional Theory: Explaining Inertia and Isomorphism

Institutional Theory [10], particularly the neoinstitutionalist strand, is instrumental in explaining why public organisations resist change, even when inefficiencies are evident. It argues that institutions adopt routines, myths, and symbolic structures to gain legitimacy, not necessarily to improve performance.

India's defence procurement institutions exhibit classic features of what DiMaggio and Powell described as institutional isomorphism:

- Coercive isomorphism, driven by regulatory pressures and audit controls, results in overbureaucratisation
- Mimetic isomorphism, where new policies (like DAP revisions) imitate global templates but without internal process reengineering
- Normative isomorphism, where similar training and career patterns among bureaucrats lead to risk-averse, homogeneous decision-making

The persistence of outdated procurement norms, even in the face of recurring failures and public scrutiny, can thus be understood as an outcome of institutional path-dependence. Resistance to Make-II reforms, the slow uptake of iDEX innovations, and continued adherence to L1-based selection are not merely procedural issues but deeply embedded cultural behaviours.

Institutional Theory [10] also helps explain the limited effectiveness of reforms like DAP 2020. While the policy document is comprehensive, its adoption by procurement actors remains uneven, driven more by compliance symbolism than by behavioural change. To reform procurement, India must therefore undertake institutional deconstruction: identifying entrenched behaviours, replacing them with missionaligned values, and reshaping incentive structures.

Collaborative Governance: Co-Producing Strategic Outcomes

Collaborative Governance [6] is defined by Ansell and Gash as "a governing arrangement where public agencies directly engage non-state stakeholders in a collective decision-making process." In the context of defence procurement, it implies structured cooperation among the military, civilian bureaucrats, private vendors, R&D organisations, and oversight bodies.

India's fragmented procurement landscape, characterised by siloed services, compartmentalised civilian agencies, and an adversarial public-private dynamic, stands in sharp contrast to the principles of collaborative governance. The Services often have limited input into procurement specifications; DRDO and DPSUs work in isolation from the Services; and private vendors operate in a compliance-heavy, trustdeficient environment.

Collaborative governance demands:

- Tri-service user committees to co-create technical specifications and evaluate vendors
- Vendor advisory forums, where MSMEs and start-ups can contribute to early design phases
- Co-location of procurement, R&D, and operational units to reduce development-delivery gaps

Transparent dispute resolution and feedback mechanisms

Examples from global defence ecosystems reaffirm this model: Israel's co-located R&D, France's DGA advisory structures, and the U.S. DoD's integrated project teams have demonstrated the efficacy of networked procurement. In India, successful collaborations such as the Tejas Light Combat Aircraft (*DRDO*, 2023) (jointly developed by HAL, DRDO, and the IAF) also highlight the benefits of shared ownership.

The Collaborative Governance [6] approach offers a pathway to rebuild trust, create mutual accountability, and improve system-wide responsiveness. It aligns procurement outcomes with operational objectives, moving the system beyond transaction-based engagements to strategic co-production.



Figure 4: Collaborative Defence Procurement Ecosystem (Synthesis from MoD, iDEX, CLAWS, IDSA Models

VI. STRATEGIC POLICY RECOMMENDATIONS



Figure 3: Reform Roadmap for Defence Procurement Governance

India's defence procurement ecosystem stands at a critical crossroads. The policy initiatives taken in the last decade, including DAP 2020, Make-II, and iDEX-represent commendable efforts toward modernization and indigenisation. However, without parallel administrative and governance reforms, these initiatives will continue to underperform. Drawing from the institutional diagnostics, international models, and theoretical frameworks explored in the preceding sections, this part outlines a set of strategic, and contextually actionable. feasible policy recommendations. These recommendations aim to transform India's procurement framework into a responsive, transparent, and mission-aligned system.

Establish a Dedicated Defence Procurement and Acquisition Cadre

India must create a specialised, cross-functional defence procurement cadre within the Ministry of Defence. This cadre should:

- Include officers drawn from civilian services, armed forces, finance, and legal backgrounds
- Undergo structured training in contract law, negotiation, systems engineering, lifecycle costing, and international defence trade
- Be inducted through a competitive, merit-based system with career continuity and promotional pathways

Institutions like the Defence Institute of Advanced Technology (DIAT), in collaboration with premier B-

schools and legal institutes, can develop modular certification programs for cadre training. This will build institutional memory and reduce reliance on ad hoc rotations of generalist officers.





Replace L1 Doctrine with Lifecycle-Based and Performance-Based Models

India must transition from the archaic Lowest Cost (L1) method to more nuanced Total Cost of Ownership (TCO) and Performance-Based Logistics [3] (PBL) frameworks. These models ensure that procurement decisions account for:

- Initial cost + maintenance + spare parts + upgrades + decommissioning
- Vendor responsibility for operational availability and uptime

The adoption of Weighted Scoring Models (WSMs), incorporating price, quality, support, and delivery timelines, can provide more balanced evaluations. The U.S. and France already deploy these models with measurable success. Legal amendments to General Financial Rules (GFRs) and Defence Procurement Manual (DPM) can enable this shift.



Figure 5: Performance-Based Logistics [3]

Launch a Defence Procurement Digital Platform

To enhance transparency, speed, and auditability, India should build a centralised digital procurement platform integrating:

- Proposal lifecycle tracking (from AoN to contract closure)
- Blockchain-enabled smart contracts for tamperproof audit trails
- Vendor management dashboards with performance ratings
- AI-assisted bid evaluation, cost modelling, and fraud detection

This platform should unify existing tools like SRIJAN, GEM, and MoD e-procurement portals under a single interface, improving user experience and cross-agency data sharing. Such digitisation will also reduce corruption, standardise documentation, and shorten acquisition cycles.

Create a Policy Sandbox for Innovation Procurement A major reason for underutilisation of iDEX and Make-II schemes is the rigidity of existing procurement procedures. To overcome this, India must launch a Defence Innovation Policy Sandbox, governed by a relaxed regulatory environment, where:

- Start-ups and MSMEs can participate in prototype development and trial projects
- Contracts can be issued on limited-tender basis without fear of audit scrutiny
- Fast-tracking mechanisms allow award of pilot orders up to a certain monetary threshold

This sandbox could be anchored within the Defence Innovation Organisation (DIO), in coordination with tri-service technology units, providing a safe space for experimentation without compromising accountability.

Empower Tri-Service User Groups and Field Formations

Procurement decisions must be decentralised to empower the actual end-users: the services. This can be achieved by institutionalising:

- Tri-service Technical User Groups (TUGs) to frame qualitative requirements (QRs), conduct user trials, and feed into vendor evaluations
- Greater delegation of procurement powers to corps-level logistics and operational commands, especially for region-specific needs (e.g., high-altitude clothing, drone surveillance systems)

• Feedback loops between deployed formations and acquisition planners to recalibrate procurement priorities

This shift from 'headquarters-led' procurement to 'user-informed' procurement will ensure that systems acquired are not only technologically advanced but also contextually relevant.

Reform Oversight Mechanisms Toward Outcome-Based Accountability

Oversight and audit agencies such as CAG, CVC, and Defence Finance must reorient from purely procedural scrutiny to outcome-oriented performance audits. This can include:

- Defining Key Performance Indicators (KPIs) for procurement projects (e.g., induction timelines, system availability rates, user satisfaction scores)
- Encouraging independent third-party reviews of major defence projects for better risk assessment
- Recognising procurement officers for successful, timely, and mission-effective acquisitions instead of penalising all deviations from procedure

By doing so, the audit system will shift from a punitive watchdog to an enabler of strategic agility.

Enhance Public-Private-Academic Collaboration

A resilient procurement ecosystem must be embedded within a broader defence innovation and production network. India must promote:

- Joint Centres of Excellence (CoEs) between DRDO, academic institutions, and private industry
- Open innovation platforms where defence challenges are published, and solutions are crowdsourced from start-ups and researchers
- Incentivising Tier-2 and Tier-3 suppliers with fiscal incentives and credit support

Programs like iDEX, SRIJAN, and SPARK can be expanded with mentorship support, milestone-linked funding, and streamlined acquisition pathways for successful innovations.

Create a National Military Logistics and Procurement Command (NMLPC)

As a long-term reform, the Government should consider establishing a unified National Military Logistics and Procurement Command (NMLPC) under the Chief of Defence Staff (CDS), integrating:

• Procurement operations of Army, Navy, Air Force, and Integrated Defence Staff (IDS)

- Logistics planning, forecasting, and inventory management
- Digital war-room for procurement-readiness tracking

Such integration would eliminate duplication, improve economies of scale, and foster jointness in defence capability planning.

VII. CONCLUSION

India's defence preparedness must evolve beyond doctrines and weaponry to embrace the institutional agility and administrative reform necessary for 21stcentury warfare. This study has shown that despite functional advances, the current procurement system remains paralyzed by structural fragmentation, procedural overreach, and a lack of professionalised capacity. These issues stem not from policy gaps alone, but from entrenched governance deficiencies.

Drawing upon global best practices and public administration theories, New Public Management, Institutional Theory, and Collaborative Governance, the article advocates for a shift from compliance to performance, from red tape to results. Key reforms proposed include a dedicated procurement cadre, lifecycle-based contracting, digitised transparency, and the creation of a National Military Logistics and Procurement Command.

With growing security threats, escalating capital budgets, and time-critical procurement cycles, India can no longer afford bureaucratic inertia. Procurement delays are not mere inefficiencies; they are strategic liabilities. Achieving true Atmanirbharta in defence requires bridging the divide between administrative structures and operational needs. This transformation does not begin with another circular, but with bold governance reimagination, where procurement becomes a strategic function rooted in trust, accountability, and collaboration across military, civil, industrial, and academic domains.

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