Defence Production in India and the Role of State Governments

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Abstract: Defence manufacturing connects national security with the everyday capabilities of industrial regions. India's ability to equip its armed forces depends on national procurement decisions, but also on factories, skilled workers, reliable utilities and suppliers located within states. This article examines the evolution of Indian defence production and argues that state governments are essential partners in building a technologically capable and commercially sustainable industrial base. Using documentary analysis of constitutional provisions, government policies and selected international strategies, it distinguishes the Union's strategic and regulatory responsibilities from the developmental functions performed by states. Particular attention is given to the defence industrial corridors in Uttar Pradesh and Tamil Nadu, alongside opportunities for wider regional participation. The discussion identifies procurement uncertainty, limited access to testing, technological dependence and uneven institutional capacity as persistent constraints. It recommends stronger intergovernmental coordination, supplier development, transparent incentives and investment in research and technical education. Sustainable self-reliance requires the capacity to design, manufacture, maintain and improve defence systems, supported by accountable institutions and meaningful opportunities for local enterprises.
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INTRODUCTION

A defence factory is more than a production facility. Its performance depends on the precision of a small component supplier, the availability of trained technicians, dependable electricity and the speed with which administrative problems are resolved. These conditions explain why state governments matter in a sector usually discussed through the Union government and armed forces. National security objectives acquire practical meaning through industrial activity rooted in particular places.

Official figures place India's defence production at ₹1.78 lakh crore in financial year 2025–26, compared with approximately ₹1.54 lakh crore in 2024–25. Public sector undertakings

accounted for approximately 76% of production and private industry for 24%; defence exports reached ₹38,424 crore (Ministry of Defence, 2025). These figures demonstrate expansion, although production value alone cannot establish technological independence or domestic value addition.

This article asks how state governments can translate national ambitions into durable manufacturing capabilities. It adopts a qualitative, documentary approach, drawing on constitutional provisions, policy documents and international comparisons. Its central argument is that states should be assessed through the quality of the industrial environment they create, rather than through investment announcements alone. The analysis also distinguishes proposals from implemented measures, including the draft acquisition reforms announced in February 2025 (Ministry of Defence, 2025a).

HISTORICAL BACKGROUND

India's defence manufacturing developed from an inherited ordnance system into a broader network of public enterprises, research institutions and private suppliers. Colonial factories primarily served imperial military requirements, leaving independent India with production facilities but limited authority over advanced technologies. Independence therefore raised a difficult question: how could a country with competing development needs establish the industrial foundations of military autonomy? The answer initially emphasized public investment and nationally directed production. This approach reflected the strategic sensitivity of armaments, scarce private capital and the need to create capabilities that commercial markets alone were unlikely to finance within an acceptable period.

The constitutional framework reinforced national leadership. Defence, the armed forces, arms and ammunition, and industries declared necessary for defence fall within Union legislative competence under the Seventh Schedule. However, national control did not remove the importance of state administration. Industrial establishments still required land, transport connections, water, electricity and functioning settlements around them. This division created an enduring relationship between central strategic authority and regional economic administration. States did not determine military doctrine or procurement priorities, yet their decisions could make production locations more attractive or more difficult to operate (Government of India, 1950).

During the early decades, public enterprises and ordnance factories formed the principal manufacturing structure. Production under foreign licenses helped establish industrial routines and train engineers, but access to manufacturing drawings did not necessarily include independent design authority. India's challenge was therefore both quantitative and technological. Producing equipment domestically reduced some external dependence while leaving other dependencies embedded in components, materials and intellectual property. The Defence Research and Development Organization, formed in 1958, added an institutional basis for indigenous research. Its establishment recognized that sustained military capability required scientific development alongside factory capacity (Defence Research and Development Organization [DRDO], n.d.).

Over subsequent decades, public manufacturing and research generated technical communities around major establishments. The regional significance extended beyond direct employment. Skilled workers trained apprentices, suppliers learned demanding production processes and educational institutions gained opportunities to interact with industry. However, the benefits were geographically uneven because sophisticated manufacturing concentrated where suitable institutions and infrastructure already existed. This history helps explain why creating new clusters requires more than allocating industrial plots. The accumulated knowledge of workers, supervisors and suppliers cannot be reproduced immediately through financial incentives, particularly where specialized engineering education and reliable industrial services remain limited.

External dependence also revealed the limitations of equating local assembly with self-reliance. Equipment manufactured within India could still depend on imported subsystems, foreign technical assistance or overseas permissions for modifications. These arrangements sometimes enabled rapid access to established technology, but they could constrain future adaptation. The resulting policy problem was not whether international cooperation should exist. It was how cooperation could strengthen domestic learning rather than reproduce dependence. For states, the corresponding opportunity lay in developing supplier capabilities that would allow local enterprises to progress from basic fabrication towards increasingly demanding engineering work.

Economic liberalization gradually encouraged reconsideration of the production structure. A major sectoral change came in 2001, when defence manufacturing opened to Indian private

participation, with foreign direct investment initially permitted up to 26%, subject to licensing. This widened the potential manufacturing base beyond government establishments. Nevertheless, entry into defence remained difficult because firms faced specialized standards and a market heavily influenced by public procurement. As Jaitley (2017) observed, procurement policy strongly shapes the industry's development. States could attract companies and improve facilities, but they could not independently guarantee military orders or eliminate uncertainty about future demand.

The Defence Production Policy of 2011 articulated the objective of strengthening indigenous capabilities and encouraging broader industrial participation (Department of Defence Production, 2011). The policy trajectory increasingly linked production with research, private enterprise and domestic supply chains. For regional governments, this opened a wider developmental agenda. Support could extend beyond hosting major plants to helping smaller firms understand procurement requirements and improve manufacturing quality. Such assistance mattered because a technically competent enterprise might still lack the financial resources, documentation systems or market knowledge needed to become an accepted defence supplier. Industrial participation therefore required institutional preparation alongside investment promotion.

The following years brought greater attention to entrepreneurship and innovation. Innovations for Defence Excellence, launched in 2018, sought participation from start-ups, smaller enterprises, research institutions and individual innovators (Ministry of Defence, 2018). The importance of this shift was conceptual as well as administrative. Defence capability could emerge from specialised software, sensors or materials developed outside conventional manufacturing establishments. State universities and incubators consequently became potentially relevant partners. Yet innovation funding alone could not ensure adoption. A prototype still needed evaluation, production engineering and a credible route towards procurement before its developer could establish a sustainable business.

The defence industrial corridors announced in the 2018–19 Union Budget gave regional development a more explicit place in national strategy. Uttar Pradesh and Tamil Nadu were selected for corridor development, with state agencies facilitating implementation (Uttar Pradesh Expressways Industrial Development Authority [UPEIDA], n.d.). Their significance lay in connecting national demand with geographically organized industrial support. The

subsequent Tamil Nadu Aerospace and Defence Industrial Policy 2022 illustrated how state incentives could address investment, training, certification and intellectual property. Such measures suggested a broader understanding of competitiveness: manufacturers needed capable institutions and accessible services alongside physical infrastructure (Government of Tamil Nadu, 2022).

Reforms around 2020 and 2021 further reshaped the sector. The Defence Testing Infrastructure Scheme addressed shared testing needs; foreign investment rules were liberalized; and the Defence Acquisition Procedure 2020 supported domestic manufacturing through procurement arrangements. In 2021, the Ordnance Factory Board's production structure was reorganized into seven government-owned companies, distinguishing corporatization from privatization (Ministry of Defence, 2020a, 2020b, 2021; Department for Promotion of Industry and Internal Trade, 2020). Taken together, these developments moved policy towards a more diverse industrial ecosystem. Their longer-term success depends partly on whether states can connect investment promotion with technical capability, supplier development and accountable implementation. This history also shows why policy continuity matters: industrial competence grows through repeated production, patient learning and reliable relationships between public institutions, private manufacturers and the skilled workforce.

CONSTITUTIONAL RESPONSIBILITIES AND COOPERATIVE FEDERALISM

The Union's responsibilities include defence acquisition, strategic requirements and the applicable national framework for licensing and exports. States cannot substitute their industrial policies for these functions. Their contribution lies principally in enabling lawful industrial activity within their jurisdictions, subject to constitutional and statutory limits.

This relationship requires practical coordination. A state may develop a manufacturing estate, while central authorities oversee product-specific permissions or military acceptance. Neither administrative system can compensate fully for failures in the other. Cooperative federalism therefore means agreeing on responsibilities, sharing non-sensitive planning information and resolving implementation problems through designated officials.

The distinction also protects investors from misleading assurances. A state's investment agreement cannot promise a defence contract that remains subject to national procurement

procedures. Clear institutional boundaries improve credibility and reduce the risk of facilities being established around unrealistic expectations.

HOW STATE GOVERNMENTS CAN STRENGTHEN DEFENCE MANUFACTURING

Infrastructure and Administrative Reliability

States can provide serviced industrial land, dependable utilities, transport access and coordinated approvals. Administrative predictability matters because specialized manufacturing equipment is expensive and production schedules are sensitive to interruptions. A functional single-window system should track unresolved applications and identify the responsible authority. It should facilitate compliance without weakening environmental protection, workplace safety or land-related safeguards.

Supplier Development and Access for MSMEs

Smaller firms often possess useful machining, electronics or materials capabilities but struggle to meet defence documentation and quality requirements. States can organize supplier assessments, certification assistance and mentoring with established manufacturers. Shared facilities can reduce the cost of entry. Support should help enterprises qualify for competitive opportunities; it should not create an expectation of orders merely because a firm receives a subsidy.

Skills and Research Partnerships

State technical universities, polytechnics and industrial training institutes can align programmes with actual production requirements. Precision machining, metrology, electronics assembly and quality assurance require practical training. Apprenticeships should involve employers in curriculum design and assessment. Research support should encourage collaboration between academic specialists and industrial users, with clear arrangements for intellectual property and commercialization. Training outcomes should be measured through employment and demonstrated competence, rather than enrolment alone.

Testing and Responsible Investment Support

Testing is particularly important where a promising component must demonstrate reliability before entering a supply chain. The Defence Testing Infrastructure Scheme provides a basis for shared facilities, including cooperation involving state institutions. The 2025 agreement for a mechanical and materials testing facility in Tiruchirappalli illustrates this collaborative approach (Ministry of Defence, 2025). States should evaluate affordability, accreditation, utilization and maintenance before financing additional facilities.

Lessons from Uttar Pradesh and Tamil Nadu

The Uttar Pradesh corridor comprises Aligarh, Agra, Jhansi, Kanpur, Chitrakoot and Lucknow. Tamil Nadu's corridor comprises Chennai, Hosur, Coimbatore, Salem and Tiruchirappalli. UPEIDA and the Tamil Nadu Industrial Development Corporation serve as the respective nodal agencies (Ministry of Defence, 2023).

The cases illustrate different development possibilities. Existing manufacturing regions can help related firms enter defence supply chains, while less industrialized locations may require more substantial investment in skills and supplier capacity. Policy should recognize these differences rather than assume that identical incentives will produce identical results.

Tamil Nadu's 2022 policy includes support relating to training, certification, patents and investment. Its broader lesson is that industrial competitiveness depends on several connected capabilities (Government of Tamil Nadu, 2022). Uttar Pradesh's corridor framework similarly highlights land preparation, testing infrastructure and institutional partnerships (UPEIDA, n.d.).

Evaluation should distinguish signed memoranda, committed investment, expenditure actually incurred and operational production. Local supplier participation and sustained employment provide stronger evidence of regional development than announcement values. Other states, including Rajasthan, can apply these lessons through realistic specialization without assuming that every region needs an identical corridor designation.

International Perspectives

The United States' 2024 National Defense Industrial Strategy identifies resilient supply chains, workforce readiness, flexible acquisition and economic deterrence as priorities (Clark, 2024).

For India, the relevant lesson is that industrial capacity must include people and reliable suppliers. State support should therefore reach essential smaller enterprises whose difficulties may disrupt much larger programmes.

Australia's Defence Industry Development Strategy identifies seven sovereign defence industrial priorities and links industrial support with capabilities required nationally (Australian Government Department of Defence, 2024). This suggests a useful approach for Indian states: select a manageable number of areas where local capabilities match national requirements. Attempting to attract every segment may disperse resources and weaken implementation.

The European Defence Industrial Strategy, presented in 2024, emphasizes industrial readiness and greater cooperation across national boundaries (European Commission, 2024). The European Union is institutionally different from India, so the comparison cannot be transferred mechanically. Nevertheless, its concern with fragmented demand offers an analytical lesson: coordination and compatible standards can improve the viability of industrial investment.

The United Kingdom's Defence Industrial Strategy 2025 connects security, innovation and economic growth, while recognizing industrial ecosystems across its four nations (UK Ministry of Defence, 2025). Indian states can draw from this territorial perspective by connecting research institutions, skills programmes and manufacturers. Across these examples, incentives work best when accompanied by demand visibility, technical competence and institutions capable of sustained coordination.

Emerging Technologies and Regional Opportunities

Defence production increasingly involves software, autonomous platforms, secure communications and advanced materials. These fields create opportunities for states whose strengths lie outside heavy engineering. A university laboratory working on machine vision or a small firm producing specialised sensors may contribute to defence capability without manufacturing a complete weapon system. State policy should identify these capabilities through credible technical assessment and connect researchers with potential users.

At the same time, enthusiasm for emerging technology should be accompanied by realistic development plans. Grants should support validation, production readiness and secure handling of sensitive information. Enterprises need access to mentors who understand military

requirements and manufacturing constraints. The October 2025 official call for greater private participation, research expenditure and production capacity underlines the continuing importance of these issues (Ministry of Defence, 2025c). States can respond by supporting durable engineering capacity and avoiding schemes that reward publicity more readily than useful technological progress.

CONTEMPORARY CHALLENGES

The first difficulty is uncertainty between development and procurement. Firms may complete prototypes without knowing when orders will follow. State subsidies can reduce initial expenditure, but cannot replace credible demand. This is especially difficult for a small business whose engineers and machinery must be paid for while trials continue. Better communication about evaluation stages, realistic timelines and commercial risks would help enterprises make informed decisions. States can assist with preparation and coordination while making clear that procurement decisions remain with the competent buyer. The draft DAP 2025 proposed measures concerning acquisition timelines and emerging technologies; its February announcement should be read as a proposal, rather than evidence that every provision had entered operation (Ministry of Defence, 2025a).

A second challenge concerns the depth of domestic capability. Rising production value may coexist with dependence on imported components or restricted technologies. States should therefore assess supplier learning and engineering competence alongside investment. Third, overlapping incentives can encourage competition for projects without sufficient attention to public cost. Transparent eligibility, proportionate support and evaluation are essential. Finally, local communities must share developmental benefits through fair land processes, safe employment and accessible training.

RECOMMENDATIONS FOR AN EFFECTIVE STATE PARTNERSHIP

Each participating state should establish a specialized coordination unit with technical expertise and clearly defined responsibilities. Its function should be to resolve industrial problems and connect firms with relevant institutions. Regular discussions with national agencies should address infrastructure and supplier needs without compromising sensitive information or procurement independence.

Public support should prioritize shared capabilities: accredited testing, technical training, research collaboration and supplier qualification. Assistance to individual firms should have published eligibility conditions, measurable milestones and recovery provisions were justified. Small enterprises also need guidance on quality systems, contractual obligations and timely payment mechanisms.

States should publish annual implementation reviews distinguishing commitments from realized outcomes. Useful indicators include operational facilities, supplier approvals, sustained jobs and the use of common infrastructure. Inter-state cooperation can connect complementary capabilities rather than duplicate expensive assets. For example, one region may offer materials expertise while another has specialized electronics suppliers. Facilitating connections between them can be more productive than requiring each cluster to reproduce the entire supply chain. Such cooperation should include accessible information about non-sensitive facilities and transparent conditions for their use by enterprises from other states. The objective should be a nationally connected manufacturing base in which regional development supports military effectiveness and responsible public expenditure.

CONCLUSION

India's defence production ambitions depend on the interaction between national authority and regional capability. The Union establishes strategic direction and procurement requirements, while states shape many conditions under which firms invest, workers develop skills and suppliers improve. Their contribution becomes meaningful when industrial promotion produces functioning facilities and dependable technical competence.

The strongest state policies will therefore connect infrastructure with institutions, incentives with performance, and major investments with opportunities for smaller enterprises. Self-reliance should be understood as the capacity to sustain and improve defence capability over time. Cooperative federalism offers a practical means of pursuing that objective while distributing industrial opportunities more widely.

FUTURE SCOPE

Future research should compare state programmes using realized investment, supplier qualification and long-term employment data. Interviews with manufacturers, workers and administrators could reveal obstacles absent from policy documents. Further studies should

examine how states can support artificial intelligence, autonomous systems, advanced materials and dual-use technologies while maintaining cybersecurity, public accountability and appropriate national oversight. Comparative evaluation should also consider whether public support benefits smaller firms and underrepresented groups. Tracking these outcomes over several years would provide a stronger basis for policy than short assessments centered mainly on expenditure or investment announcements alone.

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