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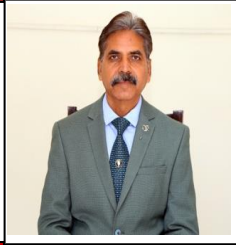

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"It is not the new tank that wins the battle, but the one that has been repaired and sent back three times."

General Matthew Ridgway (U.S. Army, Korean War)

Introduction

The declaration of 2025 as the *Year of Reforms for the Armed Forces* [1] by the Raksha Mantri is a significant and long-overdue initiative. It underscores the recognition that existing systems and processes may not be fully equipped to meet evolving strategic and operational goals, making comprehensive reforms imperative. A few key functional areas where urgent reforms are essential towards sustainment of existing military assets and their upgrades will be highlighted in this article.

Defence preparedness encompasses a broad spectrum of measures, strategies, and resources aimed at ensuring the nation can effectively respond to security challenges, whether external or internal. Maintaining the battle worthiness of existing military assets and their timely upgrades form a crucial part of this strategy.

As stated by the COAS in January 2023[2], the Army's inventory consists of approximately 45% vintage, 41% current, and 12-15% state-of-the-art weapon systems and equipment. While there is a strong aspiration to significantly reduce the vintage profile, achieving this goal remains a formidable challenge.

Ukraine-Russia conflict has brought out some lessons for us as well, such as the vulnerability of Russian T-72 tanks, which have suffered significant losses[3] despite their upgraded variants featuring superior armour protection, mobility, fire control systems, and communication networks—all of which surpass the capabilities of our own tank T-72s. Suffice to say that even with the best of upgrades, some weapon system will still fall short in performance during wars. Therefore, it is imperative not only to keep existing weapon systems and equipment in full operational readiness but also to upgrade them to the optimum level, to ensure their continued relevance and effectiveness.

To maintain existing assets in full battle worthiness, the Army requires a dynamic and agile engineering support system, backed by a responsive spares supply chain and a robust ecosystem comprising OEMs, maintainers, and users working together on upgrades and obsolescence management. The current system has resulted in a significant backlog of warlike equipment awaiting base overhaul as repeatedly highlighted in various CAG reports,[4] citing shortages of spares and lack of modernisation as areas of primary concern.

The Ukraine-Russia war further reinforced the necessity of ABWs, compelling Russia to create two new Base Workshops[5] for rapid repair and redeployment of tanks and other major equipment. Similarly, it was the Army's integral resources that proved decisive in sustaining operational capability during COVID-19 and Operation Snow Leopard.

Thus to maintain Army's vast inventory of vintage and current equipment**,** ABWs, the key pillars of sustainment must be modernised,[6] and made more effective**.** Some of the key reforms required to achieve the same are discussed below.

Supply Chain of Spares for Overhaul

Ensuring timely availability of spare parts is crucial for maintaining optimum performance at ABWs. Major dependency for spares still remain on erstwhile Ordnance Factories and DPSUs. Unfortunately, the pace of indigenisation of spares[7] has been slow over past few decades. BEML was to indigenise 86 % of TATRA spares within 5 years of the ToT but could achieve only 29 % by then[8] and 62.5 % by 26 years. Similarly, critical gaps still exist for Tanks[9] and BMP II[10], amongst others.

Corporatisation of Ordnance Factories has introduced another layer of complexity. Operating as cost-accounting units, now they must factor in overheads and legacy costs, leading to rise in prices.[11,12] This in turn, has resulted in increased scrutiny and hesitation in approvals[13], further slowing down the procurement process —at least in the short term.

Adding to the complexity is the legacy inventory management and procurement system of the Army. CAG reported substantial delays in the Army Ordnance Corps' procurement cycle, with some orders delayed by up to 301 weeks.[14] Between 2014-15 and 2018-19, the inability to supply requested stores ranged from 48.80% to 77.05%[15]. Either indents or supply orders are delayed, or when placed on time, deliveries from DPSUs/OEMs fail to meet timelines**.** Resultantly, prolonged disruptions in overhaul lines has been a regular occurrence even for key platforms,[16] even where the sources exist. In an era where AI and ERP solutions offer seamless inventory and supply chain management, such delays appear increasingly anachronistic.

Import Dependency and Procurement Process

The reliance on imported spares remains another major challenge for ABWs, as supply chains remain highly unpredictable. The lack of a bulk procurement policy, combined with a continued dependence on annual consumption and wastage-based estimations, further exacerbates these uncertainties. Given the inherent inconsistencies in supply chain management, deriving accurate statistical data for effective provisioning becomes impractical.

Automation in Inventory Management: Is it Really Helping?

Computerised Inventory Control Project (CICP), aimed at automating ordnance inventory management, is being implemented gradually in the Army. While it has undoubtedly enhanced inventory visibility for ordnance functionaries, its tangible benefits for end users remain questionable.

Has it streamlined the provisioning cycle? Has it expedited the process from RFP to Supply Order? Has it prioritised the procurement of critical spares required for overhaul or addressed the uncertainty of ex import spares? Unfortunately, the impact in these areas seem negligible. On the contrary, the new system has slowed the issue cycle and placed additional burden of accounting for even unserviceable items on ABWs, leading to unnecessary engagement of highly skilled technical manpower in non-productive administrative tasks, diverting resources from core operations.

Productionisation of In house Innovations through ABWs/BRDs/Naval Dockyards

A significant step forward in recent years was the recognition of ABWs, Base Repair Depots (BRDs), and Naval Dockyards as production agencies, enabling them to manufacture and scale innovations developed through in-house R&D. However, a critical gap remains—absence of or inadequate financial powers for Commandants under the revenue head.[17,18] On the capital side, financial approval authority is only at the VCOAS level, making it impractical for efficient execution. As a result, despite the policy's intent, very few innovations or new solutions have been successfully productionised till date.

Empowerment of ABW Commandants

ABW Commandants lack adequate financial authority, dedicated resources, and operational flexibility to function effectively. Currently, they are dependent on multiple agencies for resources and approvals, leaving them with little direct control over critical assets for their own operations. Additionally, though they have significant strength of technical workforce, they lack dedicated powers or resources to upgrade their skills, seek specialised assistance from the private sector, or collaborate seamlessly with academia and R&D institutions. Lack of Modernisation is another area of key concern.

Challenges with the GeM Procurement Model

The introduction of the Government e-Marketplace (GeM) has undoubtedly streamlined procurement processes within the Armed Forces, particularly for routine office and administrative supplies. However, making GeM a mandatory procurement platform for all needs —including highly specialised and peculiar equipment, vehicle spares, and critical defence components—has introduced significant operational challenges.

The customised bidding process, often required for unique or military-grade items, presents several issues:

- **Limited pool of genuine bidders/OEMs** who understand the technical specifications, leading to delays, substandard products[19], and potential litigation.

- **DPSUs and Ordnance Factories**—despite being OEMs for key platforms they have to be actively persuaded to participate in GeM tenders[20].

Resultantly, with limited response, the procurement cycle moves on to open bidding but with great time penalty. Additionally, the financial powers granted to CFAs for local purchases—especially for operationally critical spares—are grossly insufficient to meet the urgent requirements of overhaul lines.

Optimising Human Resource Management in Army Base Workshops

Though, it's an era of super specialisation but for a service officer, it remains a challenge to remain fully connected with their areas of expertise in the initial few years of service, owing to organisational needs and career progression. The answer lies in leveraging Non Empanelled officers to be the Subject Matter Experts in various key disciplines and use this talented pool for ABWs and others technical tasks.

Few recommendations to bring in reform in the existing system are as under:

- **OEM Accountability for Spares Supply and Obsolescence Management:** At the contract stage itself, OEMs must be made fully accountable for the spares support and obsolescence management of equipment throughout its expected

service life. A standing committee should be constituted to monitor and oversee this process on a periodic basis, at least on six monthly basis. This committee should include representatives from the User Directorate, EME, Ordnance, DGQA, and CD Directorate.

- **Timely Upgrades to Weapon Systems:** The User Directorate, in collaboration with MO Directorate and OL Directorate, should proactively drive timely and regular upgrades to existing weapon systems to ensure operational relevance. A dedicated committee—including representatives from the OEM, CD Directorate, EME, Ordnance, ADB, and DGQA—should be established to review capabilities at least once a year, starting a few years post induction.

- **Strengthening DPSU R&D and Indigenisation:** DPSUs and erstwhile Ordnance Factories must allocate greater resources to research and development (R&D) and indigenisation to develop new solutions and reduce dependency on foreign OEMs. They should also focus on modernisation, process optimisation, and cost-effectiveness to compete effectively with the private sector. Increasing procurement through open competition will drive them to adapt to the evolving industry landscape and enhance their efficiency.

- **Cost Rationalisation Post-Corporatisation:** A dedicated committee should be formed to assess and rationalise the cost of major components and assemblies that have seen a steep increase with Corporatisation. This one-time exercise would help smoothen the transition.

- **Spares Assurance for Existing Equipment:** For in-service equipment where spares availability has been inconsistent, a structured procurement strategy should be adopted. Contracts should be finalised to ensure a minimum of 10 years' assured spares supply, with provisions for extension based on the equipment's service life and the supplier's performance. To facilitate this, OEMs must provide all necessary Transfer of Technology (ToT) documents, technical drawings, and manufacturing samples to the supplier. For legacy systems, a *lifetime buy* approach should be adopted to ensure uninterrupted availability of essential spares.

- **Self-Certification and Lifetime Buy for Legacy Equipment:** To streamline the process further, except for critical components, bulk procurement should follow a self-certification model by the supplier, with appropriate checks and balances for input materials and manufacturing processes.

- **Revamping the Provisioning and Procurement System:** The provisioning and procurement of spares require a comprehensive *De Novo* review. Further, MGS Branch should restrict themselves to policy-making, monitoring, and facilitation, while the procurement should be handled by Ordnance and EME at appropriate level.

- **User-Centric Improvements in CICP:** The *CICP* should be re-evaluated from end user perspective. Beyond accounting for spares, the system should be optimised to improve efficiency and ensure seamless supply chain management.

- **Dedicated ABW Model for Spares Management:** Following the Indian Air Force model—where a single Base Repair Depot (BRD) manages spares for a specific aircraft type—a similar approach can be tried for one ABW. This ABW should be made responsible for sourcing spares exclusively for its own overhaul and base repair requirements, while ordnance depots continue handling field sustainment and share their sources. ABWs should take responsibility for quality checks of spares, with DGQA providing assistance as required. All drawings held with the *Authority Holding Sealed Particulars (AHSP)* for relevant equipment should be made available to the concerned ABWs.

- **Special Financial Powers for ABWs/BRDs/Naval Dockyards:** The heads of ABWs, BRDs, and Naval Dockyards should be granted distinct financial powers under a separate DFPDS para for procurement of raw materials, while booking of funds can be done under fund head received from the user**.** This minor structural reform would significantly reduce bottlenecks in the productionisation of innovations and system upgrades.

- **Enhanced Financial Powers for ABW Commandants:** Commandants of Army Base Workshops (ABWs) should be granted significantly enhanced financial

powers to modernise their establishments and procure spares from any source, without restrictions such as GeM. Further, all supporting agencies should be made stakeholders in the performance of the ABWs and held accountable.

- **GeM Utilisation in Defence Procurement:** GeM platform should be leveraged where it enhances efficiency even in the case of complex and defence-specific items. Additionally, DPSUs and erstwhile Ordnance Factories that have been granted OEM status must prioritise listing their products on GeM. Failure to do so within a reasonable timeframe should lead to a revocation of their OEM status to ensure a fair and competitive procurement environment.

- Officers with professional expertise should be leveraged to develop expertise in relevant fields. These officers can be employed in ABWs and various other technical establishments. They should act as the technical think tank for the Armed Forces. Furthermore, these Subject Matter Experts (SMEs) should be gainfully employed post-superannuation, following a model similar to that of DRDO and DPSUs, ensuring continuity of expertise and institutional knowledge within the defence ecosystem.

Conclusion

A comprehensive reform strategy is essential for enhancing the operational readiness of the Indian Army. By modernising ABWs, streamlining procurement processes and empowering financial decision-makers, the Army can eliminate existing inefficiencies and improve overall combat effectiveness. The implementation of these reforms will transform ABWs on the lines of modern industrial houses, emerging as key assets to ensure combat readiness of IA equipment, at all times. They will prove to be real force multipliers by recycling combat equipment in the battlefield, multiple times, in the quickest time period.

DISCLAIMER

that the facts and figures quoted are duly referenced, as needed and are believed to be correct.

Endnotes

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