Comprehensive Logistics Management in Defence

*AK Nagalia**

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Introduction

The primary objective of the armed forces is to fight and win a war whenever called upon to do so. To achieve this, they need to acquire various capabilities, taking into account the threat and operating environment. However, acquisition of a capability involves much more than just the hardware. Besides the weapon system, it also requires associated maintenance infrastructure, together with an assured supply chain and complete infrastructure for training. These are required for sustaining the weapon system at the desired performance level for the entire life cycle and for continuously manning it by fully proficient crews, i.e. whole life management approach. Such an approach at the inception stage itself is what can be termed "Comprehensive Logistics Management".

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Historical Perspective

At the time of independence, the Indian Armed Forces inherited from British an infrastructure which had been created by the Allied Forces during the Second World War. The Army inherited an array of workshops from field level to base/depot level. The Air Force and Navy inherited Base Repair Depots (BRDs) and dock yards respectively. For logistic management,

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there were various echelons of ordnance depots (ODs) for the Army, equipment depots (EDs) for the Air Force and stores for the Navy. After independence, defence public sector undertakings (DPSUs) and ordnance factories (OFs) were established for manufacturing defence equipment under license. They also undertook depot level repair and maintenance of the equipment manufactured by them. However, public sector work culture ensured that there were always time over runs and capacity constraints and the services had to set up elaborate infrastructure for maintenance up to depot level repair and overhaul (ROH) for not only the imported equipment but also for some of the equipment license manufactured at these DPSUs and OFs. Consumables and break down spares also had to be procured by the services themselves, running into hundreds of thousands of lines. Thus huge support cadres had to be created in each service, adversely affecting 'teeth to tail ratio'.

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Up to 1980s this model suited us because of low industrial base in the country as well as bulk of defence equipment being of the Soviet origin. Only annual indents with a single agency were adequate for complete zip sets to arrive in bulk at the nominated OD/ED from where they could be distributed to forward echelons. However, its folly was discovered soon after the break up of the Soviet Union. Moscow had little control over the newly independent states of USSR where a large number of breakdown spares were produced or repair plants were located. Even when orders were placed on the Russian Agencies for complete zip sets, they were received deficient of a number of breakdown spares. Also, the newly independent states reneged on the contracts already concluded with Soviet Union or arbitrarily hiked the contracted prices. Highly centralized Indian bureaucratic set up (civil as well as military) was just not able to cope with it. Despite sending a number of empowered logistic delegations for each service every year, the serviceability of Soviet origin operational systems plummeted to an all time low. Nothing much has changed since then, the model has largely remained the same and the services continue to suffer low serviceability levels.

Global Practices and Imperatives for Change

Last two decades have witnessed industry all over the world employing innovative methods for cost cutting and increasing efficiencies. One such measure has been to concentrate only on their core activities and to outsource non core activities. Their Armed forces too are not far behind. They too have aggressively outsourced

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various non core activities. To give you an example, UK MOD has outsourced flying training of the RAF. The US DOD has outsourced the bulk of supply chain management. In the US Navy, contractor's personnel are based on the aircraft carriers for maintenance/ repair of aircraft and other systems. The contracts for these services follow the norms of performance based logistics. These measures have resulted in major savings and efficiencies for them. However, in India we have only paid lip service to outsourcing, only very few minor activities like conservancy, civil hired transport (CHT), low technical level repairs, etc have been outsourced.

It is universally recognized that a uniformed technician is far more expensive than a civilian. Requirement of rotation or short tenures has often resulted in him being posted out just as he was becoming proficient in his job. However, inefficiencies attached with the Government employees nullify any advantage of civilian work force in departmentally run workshops or factories. So, what is the solution? Well, thanks to the large scale economic reforms in the last two decades, India's industrial base has gone up significantly. Today, India's IT and automotive component sectors are world beaters. Communication, general engineering, metallurgy, space, pharmaceutical, etc. are not far behind. Indian Armed Forces need to take advantage of this and start outsourcing much larger number of non core activities to the private sector and bring in significant economies and efficiencies. In fact this has become an imperative in the light of the Government having accepted the recommendations of the Thirteenth Finance Commission for progressively reducing budgetary allocations to defence to 1.76% of GDP by 2014-15 from 2.3% in 2009-10.

Logistic Management and Outsourcing

It is well recognised that Indian Armed Forces operate in some of the most adverse environmental conditions in the world. Thus they cannot follow the Western model in its entirety and have to maintain their equipment in these areas. However, there is no excuse for them to run huge base workshops and repair depots and dockyards in metros and big industrial townships. These workshops undertake third and fourth line repair and overhaul (ROH),

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which are essentially industrial activities. Often excuse is made that costly infrastructure has already been created and there are problems associated with retrenchment of manpower employed in these places. Well the infrastructure can be leased to the industry and arrangements worked out with them to employ the existing manpower, after all they will also need technical manpower experienced on the systems under ROH. Quality assurance and acceptance functions could still be retained by Services.

The existing multi echelon stocking system based on manual store keeping needs to be urgently modernised. I have heard that for every spark plug actually required, the Army buys 16 which are stocked at various echelons. It may well be an exaggeration, but it is indicative of the fact that there is excessive provisioning and that the armed forces are incurring huge costs for idling inventory. It often happens that by the time a spare part or sub-assembly is actually used, its warranty period is long over and no claim can be raised for any defect or premature failure. Therefore, state of the art supply chain management tools need to be employed to minimise idling inventory to a bare minimum, perhaps to the level of strategic reserves. Also, Long overdue digitisation and net working of the logistic elements of the three services need to be undertaken on war footing. Every item needs to be given a unique identification code common to the three services, employing techniques like radio frequency identification (RFID) or magnetic tagging or at least bar coding. Thus it should be possible to identify the location and to track the movement of every store and expeditiously supply it to the needy user.

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In the last two decades, distribution networks of Indian OEMs have significantly improved, especially of the common user items. Services need to take advantage of it. Bulk of our common user requirements need to be covered under centralised 'rate contracting' and actual purchase at the point of consumption, which could be specified for each area/formation. Even for technical stores of Indian origin, the same model should be insisted upon. If required, additional premium could be provided for in the contract, for express delivery of urgently required items and also for supplying in remote or backward regions. This will be far cheaper than the costs associated with idling inventory. Once successfully implemented, stocking norms can be reviewed and inventory carrying cost can be reduced significantly.

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Training is another area where in an attempt to do it yourself, wasteful expenditure is being incurred by using operational systems. Even where some simulators have been imported they lie unserviceable due various reasons. It is suboptimal not only due to high peace time attrition of these precious assets but also the trainees are not fully prepared for coping with emergency situations. Rapid advances in the field of simulation have made it possible to have very realistic simulators for even the most complex systems at a very nominal cost. Indian IT industry can easily set up and run these simulators at a fractional cost. Thus by greater emphasis on simulation and outsourcing, significant economy and efficiency can be achieved in training. The actual handling of operational systems would be phased in only after the trainee has achieved high degree of proficiency in normal and emergency operations. Thus there would be significant improvement in the proficiency level of operating crews while bringing down the peace time attrition of operational systems. These examples are just indicative, there are many other areas in which outsourcing can bring in economies and efficiencies.

Defence Public Sector Undertakings (DPSUs) and Ordnance Factories (OF)

I think all of us agree in private that DPSUs and OFs have become epitomes of inefficiency, marred by time and cost overruns and poor quality control. In my opinion, MOD and SHQs are equally to blame for this state of affairs. How often have we parked funds with them to avoid surrender? Practically every year we are accepting their target production on paper before 31st March, where as the actual delivery takes place many months later. List of concessions granted to them for various types of shortfalls is endless. In my opinion, nothing will improve unless MOD and Armed Forces demand full accountability from them. I would go to the extent of saying that they should be made to compete with the private sector for winning every project, including nomination for license manufacture. They should no longer be allowed to hide their inefficiencies behind excuses like inadequate installed capacities, political/bureaucratic interference and social obligations, etc. They must also be made to recognise that MRO and logistic supply chain management in respect of equipment supplied by them are not only their responsibility but also very profitable business activities and asked to create strategic business units for these activities and run them professionally. In fact offsets can be effectively leveraged for obtaining regional or global rights for these. To bring efficiency, transparency and effective corporate governance in their functioning, the DPSUs need to be listed on the stock exchanges, by disinvesting in them. As regards the OFs, they need to be first corporatized along the lines of DPSUs and thereafter disinvested in and listed, as suggested for the DPSUs.

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As far as possible, Performance Based Logistics (PBL) should be made the norm for all future contracts, whether for procurement or maintenance/logistics with private as well as public sector entities. The usage norms (operational philosophy and readiness levels, usage rates and period for which usage is envisaged) or supply norms for logistics related contracts and the desired end state should be defined in the contract along with penalties and rewards for falling short or exceeding them. Also, long term business agreements should be concluded, which would justify large investments required by the private players venturing into defence.

Whole Life Management Approach to New Acquisitions

Progressively, the DPP has brought in a number of novel features, viz. offsets and life cycle costing (LCC) concept. The scope of defence related offsets has also been expanded to include creation of maintenance and training infrastructure or for establishing Joint Ventures (JV) for the same purpose. A judicious use of these provisions can significantly reduce the outlays required for creating training and maintenance infrastructure. The Indian partner of the JV could manage the training/maintenance/logistics activities of it and the services would pay for only the actual usage of the facility. For this to happen, the offsets will need to be directed at the RFP stage itself to create the necessary infrastructure for JV to provide the required service.

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As regards LCC, it does not appear to have been fully understood in MOD or SHQs. I would say is that whole life management approach is necessary for capability creation instead of the prevailing compartmentalized approach for capital acquisition and subsequent logistic management by two separate agencies in two different time frames, following two different procurement procedures. Advantages of such an approach are many; however, I shall reiterate just two:

Operationally speaking, future war is likely to be short, swift and fierce with little or no warning. It could very well be triggered by a major terrorist attack with cross border linkage. Such a war will have to be fought with the existing forces and obviously the outcome of it will largely depend on their prevailing level of combat readiness or combat efficiency. To fight and win in such a scenario, the armed forces need the required capability on a sustained basis at the specified level of operational efficiency or readiness from induction to phase out, which will be possible only if whole life approach is adopted.

Secondly, in financial terms also, acquisition cost is only a small fraction (20-30%) of the life time cost of a system. Therefore current practice of procurement based

only on L1 in acquisition cost is intrinsically flawed. Only when the cost of owning a capability for the defined life is compared, true difference in the costs of various options will emerge.

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Conclusion

Comprehensive logistics management begins with the request for proposal (RFP) for new acquisitions. The RFP should define the sustained capability required for a defined period of time. It should ask the vendors to give technical and commercial proposals for owning and exploiting the same as per the defined usage at a specified level of operational readiness. The provisions for defence offset should be leveraged for setting up the necessary JVs to provide life time training, maintenance and logistic support in accordance with the principles of PBL. In case any existing infrastructure could be made available to him, its details and lease arrangements should also be specified. Thus vendors would be required to provide whole life solution for the desired capability. Such an approach would facilitate true comparison of the alternative options and emergence of the most cost effective solution.

The provisions for defence offset should be leveraged for setting up the necessary JVs to provide life time training, maintenance and logistic support in accordance with the principles of PBL.