

Where Do We Go From Here? Past, Present and Future Logistics of the British Army

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Introduction

The threat that was presented to Western Europe by the Soviet Union and Warsaw Pact during the Cold War forced NATO countries to concentrate scarce resources on providing combat systems that provided the maximum deterrent value. This unfortunately, was at the expense of combat service support (CSS), forcing the British Army to rely on the secure lines of communication through allied countries and prepositioning of stocks both forward and in the rear areas.

The collapse of the Warsaw Pact and Soviet Union has caused Western armed forces to focus on force projection, expeditionary operations and manoeuvre warfare, given that there is no longer a direct threat to Western Europe. This necessitates a move from a Just-in-Case (JIC) approach, with large-scale stockpiling at all levels of the logistic chain, to one that is nearer a Just-in-Time (JIT) approach. This will mean a greater emphasis on the ability of commanders to more accurately predict their requirements will be dependent on total asset visibility and guaranteed lines of communication. In working to reduce the risks still inherent in trying to provide such operational logistic support, the military should remain aware of the potential contribution that commercial organisations can provide. In the past, the military have traditionally had a less than enthusiastic attitude about the potential benefits to be gained from industry. Contracts were often characterised by a confrontational attitude but are now moving to a far more positive stance and a co-operative relationship where both risks and benefits can be shared.

The Labour Government's Strategic Defence Review (SDR), published in July 1998, aimed to "remodel Britain's defence policy and Armed Forces to meet the challenges of the next century. The government's aim is strong, modern and cost-effective defence, now and for the longer term".¹ It is very likely that there will be a continuing, if not increased contribution to international peacekeeping and humanitarian intervention operations, some of which may be of considerable duration and logistically very challenging. The size and scope may also vary, although the review outlined the requirement that the Armed Forces should be able to carry out two medium-sized contingency operations at the same time. It also highlighted that the Armed Forces will need to go to the operation rather than have the operation come to them. The areas that they may have to deploy to are unlikely to have the same levels of infrastructure as those of Western Europe and that forces may "have to sustain non-warfighting operations for indefinite periods whilst retaining the ability to respond to other contingencies. This calls for rather different force projection capabilities than we have needed in the past."² Sustainability, which can be defined as "the ability of a force to maintain the necessary level of combat power for the duration required to achieve its objectives"³, has grown in importance and necessity now that the Cold War is over. The difficulties involved in achieving the right level of sustainability should not be

¹ *The Strategic Defence Review*, The Stationary Office, London, July 1998, p. 53.

² *Op Cit. The Strategic Defence Review*, Supporting Essay 6, p. 4.

³ White, M S. "How Can We Meet the Logistic Requirements of Forces Deployed at Some Distance from the UK?", *RUSI Journal*, October 1996, p. 32.

underestimated as “setting appropriate levels of logistic sustainability is a difficult task in an environment where there is no apparent adversary, and where the new risks are less clearly defined than before”.⁴

With the ‘peace dividend’ bringing a reduction of the defence budget by some 23% in real terms and the British Armed Forces being cut back by a third, new operational imperatives have placed increasing strain on the Armed Forces, particularly in their ability to sustain overseas operations.⁵ This paper will focus on the logistics approach as used by the British Armed Forces during the Cold War, what it is today and what future operations may involve. It will also look at certain aspects of commercial logistics practice and see what could be applied to the British Armed Forces.

Current British Army Logistics and The Legacy of the Cold War

Throughout history, logistics has had an important influence on the conduct of military operations. Indeed, many an operation has owed its success or failure to the logistics preparation or lack of it. “Throughout the struggle, it was in his logistic inability to maintain his armies in the field that the enemy’s fatal weakness lay. Courage his forces had in full measure, but courage was not enough.”⁶ It must be remembered that it is not merely the amassing of men and materiel that counts, but also the balanced and timely application of those resources at hand that is as important. If applied correctly, such logistics support can have a force multiplier effect. Logistics are required to sustain operations and provide a link to those forces on active duty from the strategic resources held in the UK. It is “the process whereby organisation, management and direction transforms human and materiel inputs to confer sustainability, is a continuum – an uninterrupted and ordered flow”.⁷ Logistics has also been described as “the bridge connecting a nation’s economy to its warfighting forces”.⁸

During the Cold War, the UK and NATO countered the perceived threat from the Soviet Union and Warsaw Pact by adopting a positional defence strategy in Central Europe. A significant proportion of NATO’s combat forces was positioned forward in West Germany (although not necessarily in their wartime deployment areas). Reinforcement plans existed however, to deploy the remainder there as quickly as possible should an emergency arise and were practised from time to time (for example the REFORGER exercises practised by the United States, and Exercise LIONHEART by the UK). The force was configured at a variety of readiness standards (to indicate the amount of time needed to prepare for combat) in order to fight (it assumed) a short, high intensity conventional war.⁹ The defensive posture was based upon the ‘layer cake’ principle¹⁰ with a designated Alliance member being responsible for a section of the line.¹¹

⁴ Saunders, D J. “UK Logistics Planning – The Way Ahead”, *RUSI Journal*, December 1992, p. 24.

⁵ *Op Cit. The Strategic Defence Review*, p. 6.

⁶ General Eisenhower, quoted in Army Doctrine Publication, Volume 3, *Logistics*. DGD&D/18/34/63, Army Code No. 71566, June 1996, p. 1-2.

⁷ *Ibid.* p. 1-2.

⁸ *Op Cit.* “How Can We Meet the Logistic Requirements of Forces Deployed at Some Distance from the UK?”, p. 31.

⁹ *Op Cit.* “UK Logistics Planning – The Way Ahead”, p. 22.

¹⁰ Evans, M. “NATO’s Evolving Concept for Armoured Warfare on the Central Front: Implications for the British Army”, *British Army Review*, Number 98, August 1991, p. 23.

¹¹ *Ibid.* p. 23.

As a result, British logistic philosophy since 1945 has been to concentrate on linear lines of supply to sustain defensive operations in Central Europe. To counter the perceived threat from those Warsaw Pact forces stationed in East Germany, the British Army of the Rhine (BAOR) was stationed around the North German Plain close to its predetermined deployment positions. On mobilisation BAOR would become the 1st British (BR) Corps and its defensive plan had been rehearsed and developed over a number of years to counter the known Warsaw Pact threat. The defensive plan called for NATO forces to attempt to inflict maximum casualties on the numerically superior Warsaw Pact while trying to preserve themselves. In delaying the Warsaw Pact, forward NATO forces would hope to buy time for reinforcements to be flown in from the UK and USA.¹²

To sustain this sort of deployment, the scale of logistics support was massive and the accepted NATO stock level was for thirty days worth of supplies. 1st (BR) Corps stocks were held at successive levels, from the first line in unit stores, through forward storage sites, corps ordnance and ammunition depots and finally in rear combat zone depots such as Bracht and Antwerp. The main problem was in the out-loading of stocks as much of the third line transport was to be provided by the Territorial Army (TA), and there would be a question as to how quickly the TA could be mobilised in the event of an emergency. After battle was joined, NATO would fall back upon its Lines of Communications (LofC) with the logistic burden gradually reducing. What was not fully appreciated was the vast quantities of ammunition that would be required on a day-to-day basis to supply mobile artillery batteries (up to 450 rounds per day per gun)¹³ and that logistic units would probably suffer high casualties in that “there will be logistic losses caused by attrition of the logistic chain with some losses perhaps as high as 50 per cent”.¹⁴

The logistic structure of 1st (BR) Corps was based around both functional and hierarchical divisions of responsibility. As a result, there was little integration of resources or joint planning, and so supplies had to pass through a series of functional ‘stove pipes’.¹⁵ Information flows were thus fragmented and so the tracking of items whilst in transit was virtually impossible as was the gathering of real-time information regarding theatre stock levels. As a counter, a just-in-case logistics system was operated with safety and buffer stocks operated throughout the supply chain.

The Cold War ultimately created a stable situation in Europe and finally a stalemate. The British Army had a thorough understanding of the doctrine and tactics of the potential adversary, a good idea of which direction the main attacks would come from and a detailed plan of how to fight the defensive battle. The Cold War legacy has thus had a major impact on the current size and shape of the logistic organisations within the British Army. The main defensive battle would be fought with predetermined levels and methods of resupply and so little time and effort was spent on developing logistic methods that would help in force projection operations (asset tracking, modular transportation, strategic lift, inventory management etc.). Thus, many of the underlying processes, concepts and philosophies have remained unaltered. As such, the system of resupply is a multi-layered one of stock holding with inventory management at each level, and stock provisioning one level back. Essentially, materiel is pushed forward to replenish the next level of stockholding to a predetermined

¹² Thompson, J. *The Lifeblood of War – Logistics in Armed Conflict*, Brassey’s (UK) Ltd, London, 1991, p. 293.

¹³ *Ibid.* p. 310.

¹⁴ *Ibid.*

¹⁵ Gattorna, J L & Walters, D W. *Managing the Supply Chain. A Strategic Perspective*. Macmillan Press, Basingstoke, 1996, p. 12.

level. Of course, major costs are incurred by the amount of stock needed to fill the storage points, the time taken for stock to move forward and the general inefficiencies endemic in a 'back-to-front' supply system.¹⁶

The logistic system today is still based upon the traditional linear or echelon system, which is made up of lines of support. The First Line is the combat service support (CSS) integral to the combat unit (usually battalion). The Second Line is the CSS organic to the brigade or division. The Third Line is the CSS that is provided behind the divisional rear area, but forward of the Point of Entry (POE) and finally the Fourth Line / Base is the CSS provided from the base organisation. CSS at first, second and third line is provided by deployable forces, either organic to the combat units or those units that have been attached. Fourth line, in some instances, a Logistic Support Base Area, but in most, the Home Base, will include non-deployable storage locations, agencies (such as the Defence Procurement Agency (DPA) and Defence Logistics Organisation (DLO)) and support from the industrial base.¹⁷ Although the logistics structure has been rationalised with initiatives such as 'Front Line First' and the Logistic Support Review, the current structure still has its origins firmly rooted in the Cold War. In many ways, continued reliance on a system developed for use if the Cold War turned hot in Central Europe is short sighted. The move towards expeditionary warfare should entail the "adoption of more flexible processes as envisaged for Lean Logistics and enabled by JIT."¹⁸

Modern Commercial Practice

Quality is synonymous with efficient, low-cost production and, in parallel with the quality productivity practices learnt from Deming, Toyota were developing an approach to productivity under the direction of Taiichi Ohno, a production engineer worker for the company. Recognising that low levels of inventory could improve quality control, Toyota removed assembly line buffer stocks completely. For manufacturing operations that were not linked by a physical assembly line, Ohno developed a system known as Kanban (an inventory management system). In conjunction with the Kanban technique, Ohno developed other operating practices aimed at the elimination of wasteful practices. These techniques are now commonly grouped together and called Just In Time. This was underpinned by the concept of Kaizen, which can be interpreted as 'continuous improvement', that is, the continual examination of the product and processes to improve quality and performance. JIT is thus a 'pull' system, where the demand at the end of the logistics pipeline pulls in the direction of the market. The flow of components at each stage is thus governed by the same demand. "Thus no products should be made, no components ordered, until there is a downstream requirement".¹⁹

Between 1970 and 1974, the pricing policy of OPEC caused the price of crude oil to increase five fold. As a result, by 1974, Japan's economy had collapsed to a state of zero growth. Nevertheless, the Toyota Motor Company sustained greater earnings in 1975, 1976 and 1977 than any other company. Of course, this invoked a great deal of interest from other Japanese

¹⁶ Headquarters Quartermaster General (QMG). *Materiel Support Strategy (MSS) Paper*. D/DMSD/(A)97/101 MSD 1a, dated 24 June 1994, p. 3.

¹⁷ *Op Cit.* Army Doctrine Publication, Volume 3, *Logistics*. p. 5-3.

¹⁸ Le Seur, M R. "We Need Just-in-Time Supply. The Case for Lean Logistics", *Royal Logistic Corps Review*, 1998, p. 41.

¹⁹ Christopher, M. *Logistics and Supply Chain Management. Strategies for Reducing Cost and Improving Service*. 2nd Edition, Financial Times / Pitman Publishing, London, 1998, p. 179.

companies as to how Toyota had achieved this level of sustained earnings. The answer was simple: Ohno at Toyota had developed the system of JIT production. Ohno was also in a position of responsibility within the company to be able to implement JIT production methods. In 1977, Kawasaki, aware of the JIT systems being developed by Toyota, seconded five of its engineers to Toyota for three months to study the manufacturing aspects of JIT. The migration of the JIT philosophy to production systems was soon to explode throughout the whole of Japan. Indeed, Japan's economic success is a measure of the extensive use of JIT by Japanese business. "There is no waste in business more terrible than over production. Industrial society must develop the courage, or rather common sense, to produce only what is needed when it is needed and in the amount needed".²⁰

This view of production has been refined further and identified clearly as a means to "...banish waste and create wealth..."²¹ In turn, this has led to examination of business processes resulting in mapping the supply chain in order to gain competitive advantage.²² Further development of this 'lean' approach is undertaken through the consideration of 'agility' which when coupled with the benefits of being 'lean' can deliver greater 'customer' satisfaction.

The term logistics came into general use in the US Army during the Second World War. It is a new term for a very old practice, and indeed logistics is still defined by some as the "movement, storage and supply of troops and equipment"²³ and hence a mainly military endeavour. However, the commercial sector started to copy many of the logistic techniques that had been used by the military and adopted a functional approach to supply chain management. This however led to the sub-optimisation of the supply chain and the degrading of the logistics system. To overcome this, companies began to integrate some of the logistic functions, beginning with materials management and physical distribution but soon extending to marketing and manufacturing. The 1980s saw 'channel integration' which is defined as "co-ordinating the management of materials and finished goods, from the sourcing of raw materials through to the point of final consumption of finished products".²⁴ A major benefit of this was that it supplemented the internal integrations that were occurring outside the boundaries of the individual corporation. It hence includes all those suppliers and processes that are involved in providing a final product to the customer. It has subsequently become known as the logistics supply chain.

It has been increasingly apparent to commercial organisations that suppliers can make a significant contribution to the effectiveness of the supply chain. Developing closer links, that is, 'partnership sourcing', can help companies achieve savings and improvements in performance. Partnership sourcing has been defined as a situation "where customer and supplier develop such a close and long-term relationship that the two work together as partners. It isn't philanthropy: the aim is to secure the best commercial advantage. The principle is that teamwork is better than combat Partnership sourcing works because

²⁰ *Op Cit. Toyota Production System*. pp. 14 – 15.

²¹ Womack, J P & Jones, D T. *Lean Thinking*. Simon & Schuster, London, 1996, p. 26

²² Hines, P and Taylor, D. *Going Lean: A Guide to Implementation*. Lean Enterprise Research Centre, Cardiff Business School, April 2000.

²³ Unattributed. *Concise Oxford Dictionary*. Oxford University Press, 1979 in Sharman, A T M. *Can Commercial Logistic Specialists Assist in Providing Support to Forces Deployed on Operations*, Dissertation, No. 1 MSc Defence Logistics Management Course, July 1999, p.2-3.

²⁴ Cooper, J. O'Laughlin, K. & Kresge, J. (ed) *Strategy Planning in Logistics and Transportation*, Kogan Page Ltd, London, 1993, p. 40.

both parties have an interest in each other's success".²⁵ The leaders in this field have again been the Japanese with companies such as Toyota and Honda involving their suppliers at every stage of the production process. Along with such supply chain integration many companies have rationalised their supplier base in order to continue the search for quality improvement and to more effectively manage customer-supplier relationships. There has also been a move towards 'transparency'²⁶ which means that all parties in the supply chain have access to as much of the information as possible.

While the term's 'partnership' and 'alliance' have often been used interchangeably, they do refer to different things. It could be said that partnerships refer to vertical relationships such as those between the customer and the supplier, whereas alliance refers to a horizontal relationship, such as that between two suppliers. Strategic alliances are still favoured today with organisations owning complementary skills trying to take advantage of synergies between them to reduce costs and gain competitive advantage. "In a global economy, a well-developed ability to create and sustain fruitful collaborations gives companies a significant competitive leg-up."²⁷ A key feature of these sort of arrangements is the move away from the more adversarial stance as companies try and seek greater asset utilisation and faster responsiveness through such logistics collaboration.

In recent years, Western companies have increasingly used outsourcing to gain competitive advantage. This is "the process of transferring an existing business activity, including the relevant assets, to a third party"²⁸ or even as "a contractual relationship between an external vendor and an enterprise in which the vendor assumes the responsibility for one or more business functions of the enterprise".²⁹ This has even extended to some of the activities and processes that have been traditionally carried out in-house. This is due to a re-evaluation of vertical integration, which many firms find is too costly, and many firms are increasingly concentrating on what they consider their core competencies. These are defined as "the basis upon which an organisation achieves strategic advantage in terms of activities, skills or know-how, which distinguish it from competitors and provide value to customers or clients".³⁰

One of the main reasons that firms are starting to outsource is that it helps companies concentrate resources on what they consider the core elements of the business. Outsourcing can remove the burden of managing peripheral activities that have little impact on the overall effectiveness of the company, but still take a disproportionate amount of time and effort. It allows a firm to concentrate its effort on the core activities while only needing to monitor the contract results, thus focusing on "what the enterprise does best."³¹ It also helps the firm concentrate scarce resources on those activities they consider the most vital, particularly capital assets where "outsourcing to avoid investment on what are considered to be non-core activities has been a key driver behind the trend towards outsourcing IT".³² Finally, it allows

²⁵ Hornsby, D. In Macbeth, D K & Ferguson, N. *Partnership Sourcing. An Integrated Supply Chain Management Approach*. Pitman Publishing, London, 1992, p. 3.

²⁶ *Op Cit. Lean Thinking*. p. 26.

²⁷ Kanter, R M. "Collaborative advantage", *Harvard Business Review*, July – August 1994, p. 96.

²⁸ Lonsdale, C. & Cox, A. *Outsourcing: A Business Guide to Risk Management Tools and Techniques*, Earlsgate Press, 1998, p. 1.

²⁹ White, R & James, B. In Baily, P Farmer, D Jessop, D & Jones, D. *Purchasing Principles and Management*, 8th Edition, Financial Times Management, London, 1998, p. 283.

³⁰ Johnson, G & Scholes, K. *Exploring Corporate Strategy*. 4th Edition, Prentice Hall, London, 1997, p. 15.

³¹ Quinn, J B & Hilmer, F. 'Strategic Outsourcing', *Sloan Management Review*, Summer 1994, p. 44.

³² *Op Cit. Outsourcing: A Business Guide to Risk Management Tools and Techniques*. p. 11.

the firm to achieve reductions in its labour costs, where the third party contractor can achieve greater efficiency and quality.

In today's increasingly competitive environment, many companies have had to pay greater attention to supply chain issues. As customers become more demanding, companies have had to insist on an improved service from their suppliers. The concept of supply chain management (SCM) has developed partially as a result of this pressure to manage the complete logistics pipeline. It is concerned with all the linkages and processes that are involved in the supply chain, from start to finish. SCM seeks to break down the barriers between the different processes and / or organisations in the supply chain to achieve greater efficiency and cut costs. It seeks to set up a relationship between all the 'players' that gives benefits to all, by redefining organisational structures and contractual relationships. Indeed, "as we enter the 21st Century the need for a greater focus on the logistics processes that underpin supply chain effectiveness becomes ever more apparent".³³ SCM can be defined as "the management of upstream and downstream relationships with suppliers, distributors and customers in such a way that greater customer value is achieved at less total cost."³⁴ The increased trend to outsource, the need to reduce lead times and minimise inventory levels has made companies look at their supply chains very carefully.

Central to the development of these new management philosophies has been the improvement in communication of information between parts of the supply chain. This has been helped with the revolution in information technology (IT) of the last decade or so. "Information has always been central to the efficient management of logistics but now, enabled by technology, it is providing the driving force for competitive logistics strategy."³⁵ The most popular methods of improving information flows are to use bar coding and Electronic Data Interchange (EDI). In using such IT, the speed of demand from customers for product information is increasing rapidly. "By sharing information it enables supply chains to become demand chains and in so doing to deliver enhanced customer value".³⁶ Information has become the enabler to what has become known as Quick Response logistics, which is a combination of JIT and IT. The development of EDI, bar coding and Electronic Point of Sale (EPOS) has pointed the way forward, and organisations can use this information to plan production and delivery schedules.

Levels of Conflict and Future Operations

For a considerable period of time, logistics was seen purely as a support function. Increasingly however, logistics is being seen as a "key determinant in its own right, a crucial element of effective planning and an essential element of combat power".³⁷ This is reinforced by the view that "the Gulf War was kept short, sharp, and with the minimum casualties. I am in no doubt that the efficiency of the logistic back up was a major and critical factor in this achievement".³⁸ Future operations will tend to be multinational, and of course,

³³ *Op Cit. Logistics and Supply Chain Management. Strategies for Reducing Total Cost and Improving Service.* p. 33.

³⁴ Christopher, M. *Marketing Logistics.* Butterworth-Heinemann, Oxford, 1997, p. 30.

³⁵ *Op Cit. Logistics and Supply Chain Management. Strategies for Reducing Total Cost and Improving Service.* p. 199.

³⁶ *Ibid.* p. 239.

³⁷ United Kingdom Doctrine for Joint and Multinational Operations. Joint Warfare Publication 0-10, Interim Edition, 1998, p. 8-1.

³⁸ De la Billiere, P. In White, M S (ed). *Gulf Logistics. Blackadder's War.* Brassey's (UK) Ltd, London, 1995, p. vii.

be joint in nature. “The need is increasingly to help prevent or shape crises further away Most force projection operations of this kind are likely to be multinational”.³⁹ To achieve this, national logistic arrangements must be flexible enough to give effective support to possible joint and multinational operations wherever they may occur.

The future battlespace has been defined as “those portions of the sea, undersea, land, air and space environments and the electro-magnetic spectrum required for a particular operation”.⁴⁰ Forces will be increasingly joint, and be involved in multinational operations (rather like the Gulf War or Bosnia) rather than purely national operations (as in the Falklands War and Grenada). As such, force densities will be a lot lower, and there will be no clearly defined ‘front’ or ‘rear’. Deployment will be more complex, non-linear and less dense, and be in terrain that has little or no strategic infrastructure or in an urban environment. “The battlespace is changing as we move away from the linear battlefield of the Cold War to a non-linear, dynamic and fragmented battlespace. It is envisaged that high intensity conflict would take place in three dimensions, day and night, in all weathers and 24 hours a day. This poses tremendous challenges for the support functions as the requirement, the tempo and intensity of operations increases”.⁴¹

In the post cold War era, the replacement of the bipolar world with a multipolar one has meant that it is even more difficult to draw a line between war and peace. Conflicts that at the time seem small and far away, can still have consequences for countries not directly affected, as well as world trade and political stability. Countries not directly involved may become involved through a variety of means, whether to monitor, prevent or manage the spread of a conflict or to rescue their nationals should a conflict erupt suddenly. The spectrum of future conflict is increasingly being shown as a continuum with post and pre-conflict actions becoming just as important as warfighting. For the UK, operations within an alliance or coalition and national operations are seen as priorities, and thus the Armed Forces must be structured so that they can operate throughout the whole spectrum of conflict and in joint and multinational operations. This will have implications for interoperability, command and control and logistic support.⁴²

The Strategic Defence Review, in identifying the type of conflict in which UK Forces were likely to be involved and the scope of future operations, also recommended an increasingly commercial approach to the defence environment. Smart Procurement was intended to bring a new approach to defence procurement⁴³, seeking to overcome time delays, cost overruns and quality issues in bringing equipment into service.⁴⁴ However, in many respects it sweeps up the preceding initiatives, such as Competing for Quality and Front Line First as well as providing impetus to the Private Finance Initiative/Public Private Partnership (PFI/PPP) approaches, focused within the defence environment. In other ways it has developed beyond that which was originally envisaged at its introduction. In addition to

³⁹ *Op Cit. The Strategic Defence Review*. p. 21.

⁴⁰ Joint Warfare Publication 0-01. *British Defence Doctrine*. 1996, p. 21.

⁴¹ Lewis, J. *Support to the Future Army*. Paper given at the Supply Chain Management in Defence and Aerospace Conference, 21 April 1999.

⁴² *Ibid.*

⁴³ Ministry of Defence. *The Acquisition Handbook: A Guide to Smart Procurement*. 1st Edition, April 1999.

⁴⁴ Bellamy, Liz. ‘Old guard replaced by streamlined groups’, *Supply Management*, 15 April 1999, p. 9. See also Kinkaid, Bill. ‘Smart Procurement for Jurassic Park’, *RUSI Journal*, December 1997, pp. 14 – 17.

developing Integrated Project Teams (IPTs) in managing the whole life of equipment⁴⁵, it's ethos and commercial nature have spread to the Defence Agencies, notably the Defence Logistics Organisation (DLO) and its various support elements.⁴⁶ Within the DLO there is now a Non Project Procurement Office which co-ordinates and manages the purchase and supply of the myriad of equipment and items necessary to maintain and support the Armed Forces in achieving their aim. The Smart Procurement Initiative has brought about a change in culture; one that links the 4th line, Home Base, closely to the Front Line and in doing so brings greater commercial influence to activities.⁴⁷ Even the training and education of officers employed in logistics activities has to change to reflect the closer working together with commercial organisations. A major strategy for improving performance in the future is Contractor Logistic Support⁴⁸ and the whole issue of outsourcing⁴⁹ brings this commercialisation into sharper focus in view of the need to achieve operational effectiveness in line with the requirements of the Strategic Defence Review as well as recognising the continually reducing budget allowance.

The Way Forward: Future Logistic Requirements

The current logistics system for the British Army is still based on a model developed to fight a main defensive battle in Northern Germany as part of an East – West confrontation. It is clear that with the end of the Cold War, the dissolution of the Warsaw Pact and Soviet Union and the move to a multipolar world, that structure is no longer valid. The new emphasis (espoused in SDR) on power projection operations and the changing nature of the battlespace will mean that the scale and intensity of future operations will be demanding for logistics forces. A number of factors require the need for an overhaul of the current system:

- Tempo – The success of the new manoeuvrist approach to warfare requires the achievement of a superior tempo at all levels of the operation. CSS functions will have to reduce logistic drag and still provide the greatest possible operational support.
- Footprint – There is a clear need to reduce the logistic 'footprint' in theatre by minimising stock holdings, personnel and equipment to that required to achieve the operational objectives.
- Efficiency – Over insurance from a JIC supply system and a waste of resources is one that cannot be afforded with shrinking defence budgets. Mass must be replaced with speed and precision.

⁴⁵ Varley, Peter. 'Team Building', *Supply Management*, 13 May 1999, pp. 26 – 27. See also Moore, David and Antill, Peter. 'Integrated Project Teams: The MoD's New Hot Potato?', *RUSI Journal*, February 2000, pp. 45 – 51.

⁴⁶ Varley, Peter. 'Merger Mission', *Supply Management*, 13 May 1999, pp. 28 – 30.

⁴⁷ Taylor, Prof T. 'Smart Procurement and the Partnership with Industry', *RUSI Journal*, April 1998, pp. 41 – 46 and Smith, Kevin. 'What should Smart procurement be?', *RUSI Journal*, April 1998, pp. 37 – 40. See also Kirkpatrick, Dr David. 'Partnering – Not Partnership', *RUSI Journal*, June 1999, pp. 78 – 82.

⁴⁸ Evans, Brig P A D. 'Contractors on the Battlefield', *Royal Logistic Corps Review 1999*, pp. 1 – 3. Cross, Brig Tim. 'Logistic Support for UK Expeditionary Operations', *RUSI Journal*, February 2000, pp. 71 – 75. Smart, Peter. 'Support to the Front Line', *RUSI Journal*, February 2000, pp. 67 – 70. Fortner, Joe and Jaeckle, Ron. 'Institutionalizing Contractors on the Battlefield', *ArmyLogistician*, November – December 1998, pp. 11 – 13.

⁴⁹ Moore, David and Antill, Peter. 'Outsourcing the Defence Business – Improving Performance or Reducing Ability?', *IPSERA 2000 Conference Paper*. London, Ontario, Canada, May 2000.

- Expeditionary Operations – The new emphasis on rapid deployment and sustainment of forces overseas will require a logistics infrastructure that is flexible, responsive and adaptable.
- Technology – Much of this change is dependent on the harnessing of the Information Technology revolution, and to replace inventory with information, so resources can be tracked accurately from the factory to the foxhole.

This leads to a consideration of the changes that the British Army has to make and what aspects of commercial logistics, allied with the cultural ethos and system changes implemented with Smart Procurement can be used in view of the possible scenarios for future operations.

- Asset Visibility – In view of the reductions in the defence budget, total asset visibility is needed if those scarce resources are to be managed effectively. This will hopefully allow improved control over the flow of resources from the home base to the theatre of operations, and enable scarce and vulnerable logistic assets to be directed to where they are needed most. A major problem at the moment that needs to be rectified is the ability to monitor and predict battlefield requirements and demand throughout the supply chain as a whole. This requires better diagnostic and prognostic tools and a better awareness of the logistic support system and supply chain on a holistic basis. Better use of information technology, integrated with inventory management systems will be crucial in seeing those resources directed more efficiently.⁵⁰
- Modularity – the proposed new Army structure will include a number of ground formations that will be organised for specific operations with a range of capabilities.⁵¹ In the future, such forces may be required to operate in environments that have little or no logistic infrastructure, and differ widely in terrain, weather and intensity. As such, a modular structure is required⁵² and which is defined as “a mechanism for optimising the flexibility of the standing force structure for the purpose of assembling coherent and timely force packages for operations. A premium is placed on the availability of interchangeable force elements which can be readily be regrouped, while minimising disruption to formation and unit integrity at the point of deploying on operations.”⁵³
- Logistic Drag – The success of future operations will largely depend on reducing the logistic drag to a minimum in order to enhance the tempo of operations. Such a reduction can only come about with the use of information technology to reduce inventory stock holding, increasing agility and reducing the number of logistics personnel deployed.
- Directed Logistics – To combat the uncertainty created by the probable peaks and troughs of demand during an operation, a proactive directed logistics system, replacing inventory with information will need to be created. Directed logistics is defined as the “ability to direct logistic effort efficiently and effectively where and when it is needed using information technology and guaranteed communications to improve prediction, flexibility

⁵⁰ *Ibid.*

⁵¹ Executive Committee of the Army Board. *British Army 2000 – The Future Army*. ECAB(I)/P(97)1, dated 18 August 1997, p. 19.

⁵² Army Doctrine Committee. *CSS to the Future Army*. ADC/P(98)12 dated 18 January 1999, p. 4.

⁵³ *Ibid.*

and speed of response”.⁵⁴ This will depend on effective battlefield information and inventory management systems. It should allow the reduction of vulnerable ground-dumped stockpiles, a greater dispersion of materiel and an ability to quickly switch priorities.⁵⁵

- Contractor Logistic Support – Where major capability gaps exist in the logistics area, SDR highlighted the possibility of some of those gaps being filled through partnerships with industry. The use of contractors to support operations overseas is a logical extension of the current use of them here in the UK (a form of outsourcing). The aim of this use of contractors should be to release military personnel from mundane tasks and so reduce the overstretch felt by many logistic units. It is sensible to suggest that contractors be used from the earliest stages as this would have the benefit of helping to prevent the capping levels to be exceeded.⁵⁶ “Contractor logistic support can help to reduce the constraints imposed by overstretch, a finite manpower resource and an ever present political imperative to rate cap military numbers deployed on operations.”⁵⁷ Contractor logistic support has in fact been documented as far back as the 16th Century⁵⁸, and in the Gulf War, contributions from BAE Systems, Vickers and GKN had a major impact on the servicing and availability of equipment.⁵⁹ The US Army has had a long history in using contractors in many of its operations. Their importance has increased in the last few years due to the cut in the defence budget, the reductions in the size of the regular forces and the transfer of many of the CSS functions to the reserves. While this has been mainly concentrated in peacetime locations, it has been recently expanded into the concept of ‘Prime Vendor’.⁶⁰ The Army believes that contractors can provide it with additional flexibility in responding to contingencies, and can augment current military capabilities in providing support requirements. However, they believe that contractors should not replace military assets within the overall force structure.⁶¹

Conclusion

Effective logistics support can provide a competitive advantage for organisations in the commercial world. This could be emulated to a greater or lesser degree in the logistics systems and approaches of the British Army. The changing operational deployments present significant challenges that differ from the old logistics approach which was geared to support and maintain a positional defensive battle to one that must be flexible, agile and responsive yet be lean and focused. The need now is for logistic systems to support a range of diverse operational roles. This can only be achieved by adopting and adapting many of the best practices used in industry. There is a need for closer working relationships with defence service and manufacturing organisations; yet always there must be the realisation that commercial logistics and military logistics are different. Technological advancement will enable many of the commercial approaches to be utilised, yet the balance between, and the understanding of, commercial practices and military requirements must be a key element of

⁵⁴ *Ibid.* p. 8.

⁵⁵ *Ibid.*

⁵⁶ Capability Development Working Group. *Scoping the Potential Employment of Contractors in Support of Deployed Operations*. Fourth Draft, 1999, p. 1.

⁵⁷ Cross, T. *Contractor Logistic Support*. HQ NSE 4/LOG SP/10/10/03 dated 15 March 1999, p. 1.

⁵⁸ Van Creveld, M. *Supplying War*. Cambridge University Press, 1977.

⁵⁹ *Op Cit.* Army Doctrine Publication, Volume 3, *Logistics*. pp. 1-3.

⁶⁰ Unattributed. “Prime Vendor: Velocity Management at DLA”, *Army Logician*, January/February 1998, pp. 4 – 6.

⁶¹ United States Department of Defense. *Contractors on the Battlefield*. White Paper, 19 February 1998, p. 1.

the future of logistics. Logisticians must never forget the past, always understanding the present and operate with a clear vision for the future.