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The United States Army Moves Toward Logistic Transformation

By/par

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ABSTRACT

This paper, takes a critical look at the United States (US) logistics doctrine and transformation initiatives in the past decade. It examines proposed improvements in revolutionary military logistics, focused logistics, intransit visibility initiatives, development of distribution technologies, and command and control that will facilitate Joint Vision 2020. Further, this paper argues that the leadership has to enforce the logistic transformation initiatives mentioned above if the US is to be successful in the next campaign, or mission. This paper did not address all the new technological efforts during the past decade. However, some improvements were addressed as examples of current initiatives.

The author concludes that logistic transformational is occurring, but is not organized at any one level. Therefore, the potential for individual units to go out and purchase equipment and technology will result in the lack of transformation for the entire force. For example, units that were in Iraq who were given off-the-shelf nice-to-have interim fixes, that helped them to operate internally, will definitely be pursuing similar items when they return to the United States (US) in anticipation of future rotations. This sounds good, but it still does not help them interface with the entire force and coalition partners. Practices like this would put the Army in the same situation experienced in Desert Storm, Iraq and Afghanistan, that is, lack of visibility, interface, and interoperability. Lastly, there was no evidence to show any funds being budgeted for future logistic transformation efforts. The United States Army (USA) will have to expeditiously transform its sustainment concepts, doctrine and systems, solicit the support of the leadership, while incorporating best business practices, when necessary.

Introduction

Today's leadership is moving to improve the synergy between logistics and operations, and the reliance on redundancy in resources mass. The army must reconfigure logistics by leveraging information and communication technologies to meet this goal. ¹ Transformation refers to fundamental change in the way an organization achieves its purpose. It means changing the way we work, interact, participate, and even think about how we get things done. It means bringing new methods and technology to bear, as well as changing our processes. ²

Transformation challenges the US Army to look at sustaining and enhancing the capabilities of the current force while developing capabilities to support the future force. This new change requires concept development, experimentation, accelerated fielding of proven technology, identifying changes to organizational structures, and integrating joint forces. Transforming the Army capabilities while at war requires a careful balance between sustaining and enhancing the capabilities of the current force and investing in the capabilities of the future force. A good description of the Army Transformation process is articulated by the 2003 Army Transformation Roadmap:

The Army frames its transformation through the interaction of constantly evolving capabilities between Current to Future Forces. The Current Force is the operational Army of today, trained and equipped to conduct operations as part of today's Joint Force. The future force is the operational force the Army continuously seeks to become. . . The Army is pursuing a range of actions to enhance Current Force capabilities while developing the Future Force. Modular, capabilities-based unit designs; the Force Stabilization and Unit Manning System; and networked battle command capabilities are three examples of ongoing Army efforts to create smaller, faster, lighter, and more lethal Army force for interdependent joint operations ...³

The Army agency within the Department of Defense (DoD) defines transformation as: " A process by which the military achieves and maintains advantage through changes in operational concepts,

¹ United States. Office of the Deputy Chief of Staff for Logistic. *Army Strategic Logistics Plan*. (Washington: US Government Printing Office, 2002): 4.

² Robert E. Mansfield. "Spares Campaign," *Air Force Journal of Logistics* Vol 26, no. 3 (Fall 2002): 1

³ United States Department of the Army. *United States Army Transformation Roadway 2003* (Washington: US Government Printing Office, 2003): x and xi

organizational structure, and/ or technologies that significantly improve its warfighting capabilities or ability to meet the demands of a changing security environment.” The Army Strategic Logistic Plan (ASLP) defines transformation as:

a marked change in the nature and form of the structure and processes that equip, deploy, and sustain military operations. This process of transformation encompasses specific programs in information systems, distribution platforms, organizational redesign, new distribution concepts, business process changes, and technology insertion, which affect how Army Logistics will change between now and the future.⁴

It is important to define several other terms for clarity, because they will be used extensively throughout this essay. Admittedly, throughout the services and in the joint community there are some inconsistencies in the use of these terms. For the purpose of clarity and understanding in this essay, the definition of logistics according to Joint Pub 4-0, 1999 version is:

The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations, which deal with: a. Design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of material. b. Movement, evacuation and hospitalization of personnel. c. Acquisition or construction, maintenance, operation, and disposition of facilities; and d. Acquisition or furnishing of services.⁵

The aim of this paper is to assess the logistics initiatives planned by the USA and provide an assessment of their ability to support Joint Vision 2020 and the Army’s logistic transformation efforts. Further, this paper argues that the leadership has to enforce logistic transformation initiatives, such as: revolutionary military logistics, focused logistics, intransit visibility initiatives, theater distribution management, and command and control, if the US is to be successful in the next campaign, or mission. The challenge of logistic transformation is to provide maximum support to the commander, while improving and looking for innovative ways to transform the logistics infrastructure into the most efficient system possible. In looking at military logistics transformation, there are several key areas that are important to pursue; each

⁴ United States. Office of the Deputy Chief of Staff for Logistic. *Army Strategic Logistics Plan*. (Washington: US Government Printing Office, 2002): 6. Hereafter ASLP.

⁵ United States Department of Defense, *Joint Publication 4-0, Doctrine for Logistic Support of Joint Operations* (Washington: US Government Printing Office, 1999): GL-10

will be elaborated on in subsequent paragraphs (Note these areas are not all inclusive; rather they were selected to keep within the confines of this paper). The selected areas for examination are:

- Joint and Expeditionary Logistics in a Campaign
- Revolutionary Military Logistics
- Focused Logistics
- Total Asset Visibility
- Priority of Support
- Theater Distribution Process
- Command and Control
- Current Transformation Initiatives

Joint and Expeditionary Logistics

The Army must provide regional combatant commanders with a campaign-quality force that has joint and expeditionary capabilities. Such a force requires interdependent, joint logistics capabilities that support the full range of military operations at all levels (strategic, operational, and tactical) consistent with the Joint Operational Concepts.⁶

This joint logistics system must be capable of deploying, employing and sustaining capabilities in a single integrated distribution system. The US military must also have a logistic structure that is capable of integrating interagency and multinational units and organizations in support of operations other than war.

There are many who argue the US logistics structure and concept of support are still based upon Cold War concepts. During that era, the US had the luxury of long logistics tails.... (large and cumbersome, which in many cases, caused a delay in the forces ability to transition quickly from deployment to employment). The US also had a large support structure available to rely on, and had predictive models to develop sustainment requirements that were considered

⁶ Major General Terry E. Juskowiak and Colonel John F. Wharton, "Joint and Expeditionary Logistics for a Campaign-Quality Army," *Army Logistician* Vol. 36, Iss. 5 (September-October 2004): 2.

very accurate for many years. They developed campaign plans that relied on having a large number of unopposed, unrestricted airfields and seaports at their disposal during entry operations. However, current operations and future strategic realities emphasize the importance of changing this mind set by planning for sustainment transformation in all services. Future commanders must all have the capabilities to conduct operations in hostile, or uncertain environments, or an area of operation other than war. Demands today for the US forces that are now operating in over 120 countries, require a great deal of flexibility, and have significant impacts on support concepts, which again reinforces the importance of changing its sustainment strategy with the goal of providing the best support to the commander (s).

In an Army Logisticians article, Major General Terry E. Juskowiak outlines the reason for logistic change.

Current joint doctrine views deployment, employment, and sustainment as separate functions rather than as a continuous, simultaneous joint operating concept. The result is seams between planning and execution systems and challenges in bridging the gap between strategic and theater movement and sustainment operations. These seams and gaps become even more apparent when the support requirements of interagency and multinational partners are considered.⁷

The logistics transformation strategy of each service must delineate the same path to a joint logistics system. It must be joint and seamless, and it has to be robust to support any size force on the ground. This will require a cultural change in the US Forces who have, for many years, operated independently. Logistics organizations that can be tailored and scaled and that can sustain simultaneous deployment, employment, and sustainment operations, are needed to support the joint force commander. The result will be a logistic force that furnishes the joint force commander with assured, end-to-end distribution and a single joint logistic command and control capability that leverages joint interdependencies.⁸ Logistics sustainment in Operation

⁷ Ibid. 2.

⁸ Ibid. 8

Iraq Freedom (OIF) tested the Army's capability and resolve to sustain its forces in the future and highlighted the requirement to transform some of its logistics practices. The pure size of theater, the magnitude of the operations, the complexity of the campaign plan, the vast array of forces all over the battlefield, the lack of pre-positioned logistic structures, and the requirement to support all services in many supply disciplines, not to mention the operation tempo (OPTEMPO), only increased the burden on the logistic system in the Gulf. The Center for Army Lessons Learned who is documenting the logistics challenges in the USA in its 2004 OIF report stated, that whole brigades moving more than 100 kilometers in a single day increased the demand for spare parts and supplies. The actual customers competing for all of the sustainment assets included the Army, Joint forces, Special operations and Coalition units, all located across a vast theater of operation. ⁹

Despite a decade of trying to transition from the Cold War defensive mentality, the present Army's strategy is still looking at how to transform itself to improve its capabilities in the next century. The new operational mandate is looking at the application of strategic responsiveness across the full spectrum of conflict, even under highly unfavorable conditions. In particular, the Army's vision of putting combat forces anywhere in the world in 96 hours after liftoff--in brigade combat teams (BCTs), and building on that vision with the goal to build a war fighting Division within 120 hours and five divisions within 30 days, will only be achievable with some significant changes. ¹⁰ For this to occur, the Army must continue to synchronize all components of the logistic community into one network of shared situational awareness and unified actions that will change the way the forces are sustained. One way to effect this synchronization is through distribution-based logistics.

⁹ Center for Army Lessons Learned. "On Point," The United States Army in Operation Iraqi Freedom. On Point (2004): 17. Hereafter "On Point"

¹⁰ ASLP. 4.

Revolution In Military Logistics

Revolution of Military Logistics (RML) represents a transformation to the concept of distribution-based logistics. This dynamic approach to logistics will be managed through an evolving seamless logistic system—communications connectivity linking organizations and processes.¹¹ Since the Army returned from Desert Shield/Storm in the early 1990s, it has been looking at restructuring logistics to support power projection with smaller forces, while looking at ways to sustain the force with a small logistic tail. The Army’s goal is be able to create organizations tailored to managing distribution-based logistic. To paraphrase Mr. David Payne, a principal research analyst with the Logistic Future Research Group, distribution-based logistics goes well beyond velocity management and a “transportation based” approach to supplying forces in the field. . .this concept requires the logistician managers to re-look the entire sustainment process. . .to enhance responsiveness of support.¹¹ Distribution-based logistic requires a seamless logistics system for managing logistic operations. The key to full adoption of distribution-based logistic concept is to stop looking at managing static stockpiles to focus on managing dynamic materiel flows. Additionally, to make this work, distribution-based logistics should not only be tracking, expediting, and redistributing the components of thousands of different logistics systems, but also coordinating a vast intermodal distribution network. All this with a view to ensuring a constant and seamless link between the commercial and military distribution systems.¹²

For example, The Defense Logistics Agency (DLA) has an ongoing transformation effort of developing new business practices to support the warfighter. They are using emerging technology and getting away from the large stock piling of equipment and supplies (known as the supply-based system) and using direct vendor deliveries to customers from commercial distribution systems, on-demand through electronic commerce. This reengineering effort

¹¹ David Payne, “Distribution-Based Logistics,” *Army Logistician*. (January/February 1999): 1.

¹² Ibid. 2.

focuses on getting supplies to customers within 24 to 48 hours. It is a great concept, that appears to have worked for the past four or five years in garrison environments, but which has posed a new challenge in sustainment operations in Afghanistan, Iraq, and other regions in which the US forces are involved. Case in point: During the early stages of OIF, there were few vendors manufacturing Army rations such as Meals Ready-to-Eat (MRE). Even though the Army knew the amount of MREs it would need based on the planned force structure, it still could not engage the industry base to produce the anticipated requirements. In actuality, the industry base was cold and not able to ramp up, to support the mission. To compensate for this shortfall, and in their effort to be quick and responsive, industry started packaging rations containers to be sent directly to the theater, bypassing the normal supply channels. A great initiative; however, it created a significant problem that the combatant commander had to deal with in theater. The containers were sent without any regard to meal plans. In other words, a container was sent with all breakfast meals, or all lunch meals, or all dinner meals and, in most cases, did not arrive at the same time. The end result forward was that units received rations with only one commodity resulting in soldiers having to consume the breakfast or the noon or evening meal three times a day for many days. The OPTEMPO was such that units also had to eat MREs for in excess of 21 days, which goes against the Surgeon General recommendation for proper nutrition.¹³ As part of RML, the Army has to look at and use the technological aspects of logistics to get critical parts and supplies to the warfighter faster and ready to use or expend immediately upon arrival in the theater. One way to accomplish this is through Focused Logistics.

Focused Logistics

Joint Vision 2020 describes Focused Logistics as the “imperative of technological advantage; the need for faster, more reliable and integrated logistic systems; and instilling

¹³ Thomas J. Edwards, Deputy Commander United States Army Combined Arms Support Command and Fort Lee. “Operation Iraqi Freedom Distribution Rock Drill After Action Review,” (Spring 2004): 8

confidence in the warfighter that critical supplies will be in the right place, at the right time, and in the right quantity”.¹⁴ Additionally, The Focused Logistic Campaign Plan states that the operators and logisticians are partnered in a relationship in which both parties benefit from focused logistics. This plan, describes how the process will benefit both operators and logisticians.

Operators will experience---

- Faster deployments of mission-ready forces and their essential support to destinations specified by supported joint force commanders
- A small, properly sized combat support and combat service support footprint in the combat zone.
- Reduced logistic costs, which will be realized without jeopardizing warfighting capabilities or readiness.

Logisticians, in turn, will gain--

- A more responsive, agile, logistics support structure that can be supported from distant bases.
- More accurate and timelier logistics information.
- More reliable systems that is easier to support.¹⁵

Accomplishment of this goal will continue to be the expectation and requirement of the war fighter. For example, during Operation Enduring Freedom (OEF), the fourth unit rotation . . . while transferring from an expeditionary operation to a steady-state operation from late 2003 until mid 2004, the 10th Forward Support Battalion (FSB) of the 10th Mountain Division experienced logistic transformation first hand when it received a new mission in Afghanistan. A light Infantry FSB normally consisting of 145 personnel provides quartermaster, ordnance,

¹⁴ Barbara M. Pepper, MAJ, “Measuring Joint Theater Distribution,” *Army Logistician* (November/December 1998): 3.

¹⁵ Robert Paulus, “A Full Partner—Logistics and the Joint Force,” *Army Logistician* (July/August 2003): 3.

and medical support to a light infantry brigade. In Afghanistan it was tasked to support a population of 5000 soldiers, airmen, civilians, and contractors, when normally they support approximately 3000 personnel from one service. It did not take long for the unit to realize that, with the number of missions required to sustain this population, they needed additional forces. The Division attached personnel from the Division Materiel Management Center (DMMC) to the FSB to provide class I (food and subsistence), Class III (fuel), and Class V (ammo) commodity oversight, automation repair, and parts requisition assistance. This capability enabled the FSB to have enough personnel to support 24-hour a day operations for 7 days a week.¹⁶ If the key to success in the future is a seamless logistic system, providing a synergistic whole, then units must be able to transform in the middle of a campaign to meet the need of the mission. Clearly, the 10th Mountain Division is a success story that may require an increase in the future Army sustainment force structure.

As the Army transforms to a capabilities-based force to meet a variety of potential threats, combat service support must ensure logistics transformation is synchronized with the needs of the force and is consistent with the Army's goals . . . the need of the forces on the ground.¹⁷ These changes would require a real-time, web-based information system providing total asset visibility as part of a common relevant operational picture.

Total Asset Visibility

Combat developers spent a dozen years after Desert Storm attempting to establish digital and automated logistics processes to improve logistics by establishing management practices, installing in-transit visibility and upgrading automated information systems. Among other things, the intent was to reduce the infamous "iron mountains" of supplies that were pre-positioned in Saudi Arabia before Desert Storm by shipping supplies straight from the United States and Germany when required during the campaign. For the most part, these initiatives did not work in this complex and high-tempo campaign.¹⁸

¹⁶ Major James J. McDonnell, and Major J. Ronald Novack, "Logistics Challenges in Support of Operation Enduring Freedom", *Army Logistician*. (September/October 2004): 12.

¹⁷ United States Department of the Army. *Army Modernization Plan 2002* (Washington D. C.: US Government Printing Office, 2003): A-55.

¹⁸ *On Point* (2004): 17

There is no doubt that the physics of the battle space or the long distance of operations complicated the logistics operations in the Gulf; and there was an extreme challenge in getting the requisitions for supplies through the system. As such, support commanders coming out of OIF, very much similar to those coming out of Desert Storm have indicated that insufficient communications between the unit and the supplier caused commanders to lose their faith in the supply system. Because of these credibility problems, many commanders requested the same supplies multiple times. This happened quite frequently until the commanders developed some confidence in the supply process; however, these duplicative requisitions flooded the supply system. This activity caused a delay in delivery, because it was impossible to distinguish between what was the real priority . . . everything thus became the priority. In the best-case scenarios during the initial stage of OIF, critical supplies and equipment moved by air into Kuwait Theater Distribution Center (TDC). The strategy was to move the parts or equipment forward on a truck to the units, within hours of receipt; however, supplies often did not make it to the requesting unit because, the unit was on the move and no process was in place to re-direct the materiel.

According to the Department of the Army G4, there are several systems under development to give the commander in-transit visibility of cargo coming into the theater of operation. One particular system used in OIF was the Automatic Information Technology (AIT) system. This system uses a Required Frequency (RF) tag, which contains information on an item that is attached to it. For example, if a container arrived in theater with multiple items, the RF tag when translated by a hand held device would provide you with a list of items in that container and tell you what unit was suppose to receive those items. This system also uses interrogators which are located at various logistic nodes, again to read and transmit the encoded information to a database where units can view from what is know as a Standard Army Retail Supply System (SARSS) box. One of these systems is located down to the individual unit level. From the tactical level up to the strategic level, units had some visibility of the contents in

containers and pallets arriving in the theater, if a RF tag was affixed. However, many containers and pallets of cargo entering the theater did not have RF tags, therefore those loads had to be opened, sorted by unit, and re-packed to move forward. This meant additional manpower for the re-packaging to support individual customers, which became very time consuming and labor intensive. This same problem existed when vendors and private commercial companies sent cargo and supplies directly into the theater without going through one of the military supply distribution centers in the US, who packaged cargo for the theater in unit sets. Additionally, many combat service support units arriving from the Continental United States (CONUS) who were responsible for tracking equipment and supplies entering the theater, had no exposure to the RF tag technology.¹⁹ To complicate the problem, RF tags and interrogators were not used during entry operations to establish total asset visibility from the beginning of operations. These afore mentioned problems may have been prevented if the Army had ensured all supplies and equipment coming into the theater had a RF tag and interrogators were emplaced at the appropriate locations to provide this visibility.

While there were some investments made in logistics transformation after Desert Storm, some of them did not pay off in OIF. There were still problems at the TDC in viewing supplies in the automated management system in exclusion of the RF tag technology. The logistic community is, presently reviewing the problem. The initial thoughts were the problem, was caused by having to give deploying units a Unit Identification Code (UIC) after they arrived in theater, a UIC that was different from what the unit used back at home station. This code is required for a unit to order parts and materiel through the supply system.

To compound problems in OIF, there were not enough truck assets to move the cargo from the stationing bases in Kuwait to the units forward in Iraq. The USA Center for Lessons Learned initially concluded that: perhaps the most important issue contributing to the myriad

¹⁹ Thomas J. Edwards, Deputy Commander United States Army Combined Arms Support Command and Fort Lee. "Operation Iraqi Freedom Distribution Rock Drill After Action Review," (Spring 2004): 17. Hereafter Rock Drill.

problems that confronted delivering parts and supplies, from paper clips to tank engines, stemmed from the lack of a means to assign clear distribution management responsibility to a particular unit or agency or command.²⁰ There are others such as David Schrady who support this theory and believe that logistics is a command function and there should be a joint single command authority responsible for logistics in the entire theater of operations. Schrady supports his position based on events occurred during Desert Storm when each service component was responsible for sustaining its own forces. He concludes because of this process there was no comprehensive logistics sustainment picture for the joint force commander.²¹ His rationale for this theory will be discussed in the Command and Control section later in this essay.

The center for Army lessons learned noted that from a logistic perspective, it is not surprising that OIF tested the Army logistic sustainment capabilities once again. Why? The tempo of operations, complexity, distribution of forces, nature of the threat, terrain, strategic constraints, paucity of logistics forces, and requirements to support other services was extremely challenging. Despite these difficulties, there were many cases of combat service support troops who developed ingenious work around and provided “just enough” to sustain the fight.²² While there have been many lessons learned documented and studied from the Gulf War in the 1990s and similar studies are underway for OIF, it will be many years before we reach a conclusion on what is needed to change doctrine, to improve the support to the Joint and Coalition forces and the combatant commander and to determine who gets the priority of support.

²⁰ On Point. 18

²¹ David Schrady, “Combatant Logistics Command and Control for the Joint Force Commander,” *Naval War College Review* Vol 52, No 3 (Summer 1999): 49-75.

²² On Point. 17

Priority of Support

In a further discussion of the first Gulf War, the largest movement of US manpower and materiel since World War II, many believe there were no tools or procedures to make this mission efficient. According to the former Director of Logistics of the US Transportation Command (USTRANSCOM), General Walter Kross (Retired), during the Gulf War the US moved people and materiel in a manner he calls “brute force” logistics. In his article ref OIF, General Kross states:

During the Gulf War, we simply did not have good information on almost anything. We did not have good tracking; we had no real asset visibility. Materiel would enter the logistics pipeline based on murky requirements, and then it could not really be tracked . . . when it got to the other end we had to deal with the consequences. . . we lacked the necessary priority flows to understand where and when things were moving.²³

As far as determining the priority of support, not much changed between the Gulf War and OIF. For example, early in OIF several Class II (clothing and supplies) items, which are central issue equipment, specifically camouflage uniforms and batteries, were only two of many priorities of support problems. There were insufficient stocks of camouflage uniforms at home station in the US Central Issue Facilities (CIF) to issue each soldier the pre-deployment allotment of four uniforms. As a result, many soldiers deployed with only two sets of uniforms, and there were no facilities on the battlefield to replenish damaged or destroyed uniforms. This proved to be a problem with all services, not just the Army because the industrial base to supply these uniforms was shared by all of the services. There were no mechanisms in place to establish who would get the priority of support. A second Class II problem existed with a shortage of batteries for both the Army and Marines. It was identified early in the operations that stateside manufacturers did not have the ability to rapidly meet OIF demands for specific type batteries. Battery resupplies were isolated hit or miss responses, which barely sustained units through the

²³ General Walter Kross (Retired), “Iraqi Freedom: Triumph of precision-guided logistics.” *Army Logistician* Vol. 35, Iss. 5 (September/October 2003): 23.

transition from major combat operations to sustainment and support operations. For example, the 1st Marine Division Dragon Eye system (a small hand held unmanned aerial vehicle) used company-specific batteries that were critically short and could not be purchased on the local economy. The first reorder in the theater created a 30 day backlog on batteries needed to support the various electronic items, such as Night Vision Goggles and the precision light weight Global Positioning System receivers for the Army and Marines. ²⁴

In order to move supplies in a timely manner in the theater the services have to know what is coming into the theater and who has the priority for those limited supplies. There also must be a system in place to track and control personnel, equipment, and supplies throughout the distribution process to allow the right supplies in the right place at the right time to support the operation.

Theater Distribution Process

DoD's concept of joint theater logistics management will provide joint force commanders with visualization and decision-support tools so they can manage logistics effectively throughout the full spectrum of operations. According to the campaign plan, the joint commander must have the ability to synchronize, prioritize, direct, integrate, and coordinate common-user and cross-service logistics functions. DoD's goal is to link logisticians and operators in combatant commands and joint task force (JTF's) with their counterparts in the services and with partners in other agencies and multinational coalitions. ²⁵

According to the May 2004 edition of the *National Defense Magazine*, a team of 100 logistics experts were dispatched to Iraq this year to pinpoint serious problems discovered in the distribution of military supplies into Iraq. It was a group assembled at the request of top Pentagon officials to ensure critical supplies were moving into the seaports and airfields and reaching our Army and Marine forces in Iraq. ²⁶ These groups of logistic "magicians" were

²⁴ Rock Drill. 10.

²⁵ Robert D. Paulus, "Logistics, Information Management". *Army Logistician*, Vol. 35, Iss 6 (November/December 2003): 2

²⁶ Sandra I. Erwin, "Commanders Ponder How Best to Mend Battlefield Logistics", *National Defense* (May 2004): 1.

called the deployment and distribution operations center (DDOC). The main thrust of this organization consisted of the United States Transportation Command (USTRANSCOM), the Defense Logistic Agency (DLA), and representatives from the military services and Joint Forces Command. The team concluded that the logistics system worked well at the strategic level, but collapsed once supplies and cargo reached the theater. The charter of the logistics experts was to look at new and innovative ways to ensure supplies received at the Strategic level made it down to the tactical level as required. According to Marine Lieutenant General Gary H. Hughey, deputy Chief of USTRANSCOM some improvements have been made in the DDOC organization and they have, in fact, identified a large amount of cargo that was shipped to the theater for units who have redeployed and that equipment was redirected to a unit needing the same supplies coming into the theater thus reducing the cost of shipping the equipment back to the CONUS.²⁷ Because of some innovative techniques used to make things work there are many who want to stamp success on OIF distribution management problems, however there are others who contend that there is still more work to be done to make the theater distribution process more successful in future operations. Colonel Robert F. Carpenter, United States Army Reserve (USAR) in a recent Commentary on Deployment Distribution said:

Operation OIF once again proved that our current doctrine and automated systems for planning and executing the deployment and sustainment of forces are inadequate to the needs of the Army and the combatant commanders. Our systems continue to be stove piped, service centric, and guarded like individual rice bowls. . . .”²⁸

If comparing successes and failures, it is clear that in a military campaign it is critical, to have a theater distribution strategy, and also it is important to think about success being predicated on an effective an efficient support command and control structure to ensure a joint unity of effort.

²⁷ Ibid. 2

²⁸ Colonel Robert F. Carpenter, USAR “Toward a Union of Deployment and Distribution,” *Army Logistician* (September/October 2004): 22.

Command and Control

There is a lot of discussion and interest in the logistic community, to determine if there is a need for a Logistic Command and Control structure that will operate at the strategic level to guide the receipt of forces into the theater and at the tactical level sustain supplies and materials for all forces in the theater. Current doctrine does not provide for one manager/commander or organizational structure to manage critical items of supply, or manage limited transportation assets, and medical facilities in the theater. Under current doctrine, there are multiple logistics commands, controlled by no one single command to ensure an economy-of-force operation that will manage scarce resources. The Army Transformation Roadmap describes command and control as follows:

Command and Control is the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and Control functions are arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.²⁹

One could argue that this definition should apply to all services and would effectively achieve unity of effort. The goal is to avoid stovepipe operations and duplication of effort, while giving maximum support to the commander. As an example, during Desert Storm, each of the service combat commanders procured enough antitank ammunition or bombs to destroy the entire Iraqi tank force. From each service perspective that was good planning. However, realistic assessments have concluded there was entirely too much ammunition delivered to the theater.³⁰ Lieutenant Colonel Engle, a strategic analyst, believes the US forces must develop a single, theater level, operational logistics command and control organization that is both joint and

²⁹ United States, Department of Defense, *Joint Vision 2020*. (Washington D. C.: US Government Printing Office, June 2000), 31. Hereafter *Joint Vision 2020*

³⁰ Lieutenant Colonel Gary R. Engel, USA, "Joint and Combined Theater Logistic—The Future Reality," *Army Logistician* (May/June 1999): 4.

combined. This joint theater support command would be responsible and accountable for all required logistics support provided by US forces in the theater. It would be modular in design and would permit operations at any level of conflict through centralized planning and decentralized execution. Modularity would enable split-based operations, and be able to integrate the reserves and follow-on forces.³¹

Looking at a recent campaign to determine the relevance of this theory, Major General William N. Farmen, USA (Ret) served as a NATO logistics commander in Bosnia. He stated in a Joint Force Quarterly article that, during Operation Joint Endeavor, he had to quickly establish a logistic system to procure supplies from paper and pencils, to automation, to fleet of vehicles to support the operation, and many other commodities in support of the mission. This required the immediate stand up of an organization to provide property accountability, initiate inventory control of the equipment being purchased, and establish customer accounts to allow the local purchase of items needed to sustain the force. He warned that operations conceived and planned with little attention to functional logistics place extraordinary demands on the headquarters created for that purpose.³² Establishing “Ad Hoc” Logistics support and standing up a headquarters with no history, no doctrine, no laws, no standard operating procedures, no customer credibility, no track record, and no one in charge proved to be very difficult to command and control. Major General Farmen goes on to say:

In Joint Endeavor it was critical that the “ad hoc” headquarters responsible for NATO theater logistics be responsible solely to the theater commander in chief. Theater logistics responsibilities, without full authority in theater, results in decision layering, dysfunctional prioritization, untimely deconfliction of logistic mission issues, and obfuscation of logistic responsibilities.³³

³¹ Ibid. 4

³² Major General William N. Farmen, USA (Ret), “Ad Hoc Logistics in Bosnia,” *Joint Force Quarterly* (Autumn 1999-2000): 36.

³³ Ibid. 37

At the conclusion of his duties in Bosnia, Farmen recommended that NATO establish an organization that will command and control logistic and not rely on “ad hoc” methods to accomplish a role that is so important in accomplishing the overall mission. Someone once said (author unknown) that good logistics alone cannot win a war but bad logistics can lose one.

There are others who have studied the command and control aspects of logistics in a theater of operation. As mentioned earlier, David Schrady who espouses that logistics is a command function and again there should be a joint single command authority responsible to provide a common logistics picture to the joint force commander.³⁴ Since the Gulf War, he points out that each service is moving forward with their ideals of how to better support the joint force commander through logistics initiatives. For example, the Air Force pursuit of what they call lean logistics. This is moving from supply-based logistics systems to a transportation-based logistics systems to get the parts there faster and avoid the large stockpiles of high demand items. The Army movement toward Velocity Management (which in today terms is Focused logistics and RML), is concentrating on moving supplies faster and also avoiding stockpiling; and the Navy development of sea-based logistics with the same goal to reduce their footprint on shore and create a more responsible capability at sea that can enter into a theater of operation faster and provide a rapid response to the combatant commander.³⁵ All of these efforts appear to be headed in the same direction, which is even more of a reason to have some form of joint command and control over logistics to allow an integration and a combined effort in support of all the forces in a theater of operation. If this becomes a reality, it could be much easier to combine efforts with coalition forces in joint operations of the future, and avoid some of these circumstances experienced in Desert Storm, Operation Joint Endeavor, and OIF.

³⁴ David Schrady, “Combatant Logistics Command and Control for the Joint Force Commander,” *Naval War College Review* Vol 52, No 3 (Summer 1999): 49-75

³⁵ Ibid. 18,19,20.

Current Transformation Initiatives

Lieutenant General John M. Duffie, former Director of Logistic, J4, on the Joint Staff, in an Army Logistician July/August 2001 article said:

Logistic Transformation requires a network-centric logistics information system (in essence, a logistic command and control); integrated, real-time situational awareness; leveraging of technology; strategic mobility; enroute infrastructure to support force projection; and integration of deployment and distribution to create one system that deploys and sustains troops.³⁶

Based on the security environment changes in the world in 1999, the USA started an aggressive campaign toward transforming its force. Under the leadership of the former Army Chief of Staff, General Eric Shinseki, the future force requirement team launched a sweeping organizational and equipment development effort in the Army. To increase the speed at which the Army could project the combat power of brigades and divisions to any point around the globe, the concept of a light force easily deployable with tactical mobility and substantial lethality was born. The system introduced to the Army to meet this requirement was the Stryker Brigade Combat Team (SBCT). The SBCT fights differently from a heavy force. It generally bypasses large engagements and operates in extended, noncontiguous battlespace (50 kilometers by 50 kilometers, expandable to 100 kilometers X 100 kilometers).

Organizationally, the SBCT is primarily a mounted infantry force. It comprises three combined arms infantry battalions and a reconnaissance, surveillance, and target acquisition (RSTA) squadron that is supported by anti-armor, artillery, engineer, military intelligence, and signal elements. Its brigade headquarters company provides command and control, and its brigade support battalion (BSB) provides all maneuver sustainment.³⁷ The SBCT fulfills the Army's requirements for a medium-weight combined arms force. It provides the near-term, land-power solution that bridges the gap between strategic responsiveness and tactical capability. However, the Brigade support battalion is austere and lacks sufficient organic capability, both in personnel and systems, to provide adequate combat service support (CSS) to the SBCT in all but the most limited operations.³⁸

³⁶ Robert D. Paulus, "Industry and Logistics Transformation," *Army Logistician* (July/August 2001), Vol. 33, Iss. 4: 39.

³⁷ Lieutenant Colonel Rick W. Taylor, "Logistics Risk in the Stryker Brigade Combat Team", *Army Logistician* (January/February 2004): 7

³⁸ *Ibid.* 8

While the Army is transforming its combat power, it also has to address the requirement to transform the logistic to support its new design of forces. The ultimate goal is to optimize the success of the SBCT by ensuring the concept of support is provided to meet the tactical requirement. The present structure of the BSB may require some transforming according to Lieutenant Colonel Rick Taylor, who said BSB

Emirates, and Kuwait.⁴⁰ They have eliminated a tremendous cost to the USA by repairing aircraft in the theater and by not having to absorb the transportation cost of bringing these aircraft back to CONUS depots for repair. Additionally, having a large supply of parts in theater decreases the turn around time in aircraft repair. . . keeping more aircraft on the front lines.

Along with many on-going prototype efforts, the DoD office of Force Transformation, in partnership with a Washington-based company, is testing a prototype resupply system that may help solve the type resupply problems experienced in the early days of OIF. The prototype uses a software system called Sense-and-Respond Logistics (SARL) to identify how best to fill a supply request. For example, when someone requests more ammunition, the logistics network will query all nearby combat and support units to see where the ammunition might be located. Units will respond and the system will decide which unit can best fill the order based on distance, time required and mission priority.⁴¹ These are but a few examples of the importance of logistic transformation.

Conclusion

This essay has described the need for logistics transformation tenets such as, revolutionary military and, focused logistics, intransit visibility initiatives, development of distribution technologies, and command and control that will facilitate Joint Vision 2020. This paper argues that the leadership has to enforce the logistic transformation initiatives if the US is to be successful in the next campaign, or mission. As part of the transformation reform there are many critical areas that require change. The direction of change should focus on giving the Combatant Command or Joint Task Force Commander the ability to control and predict the assets coming into the theater, and more importantly be able to redirect, if necessary, the supplies to the unit that need it the most. As part of the US Transformation

⁴⁰ Joseph L. Homza, "Development and Execution of the TAMP," *Army Logistician* (September-October 2004): 38.

⁴¹ Army Logistic News, "Sense-Respond Prototype Could Transform Resupply," *Army Logistic* (September-October): 50.

Program, there are many critical areas that require change. To paraphrase a former Army Deputy Chief of Staff for Logistics, the Army and services must get rid of the outdated models of reacting to demands for logistics services and pushing huge quantities of supplies forward and start anticipating logistics. . . a process of prediction. It is important to use current technology and real time information to develop future system that will be responsive and provide situation awareness. There is great work being done in the combat transformation such as modularity of units, changing command and control structures to keep up with changing doctrine, ensuring US forces have capability based force while integrating all services to fight as a joint team. The same level of effort must be put forth in adapting logistics forces and systems to integrate support across services and coalition partnership while giving the commander a common operating picture.

It can't be over stated that logistics transformation has to be looked at as a mechanism to achieve ultimate support on the battlefield to the Combatant Commander forces. The Army logistics transformation strategy must also define a clear path to a joint logistics system if we intend to conduct future campaigns in a joint and combined operations. During a conflict, the lack of logistic raises everyone's awareness, but it usually recedes quickly once hostilities end. While the Army must be careful not to change its' doctrine in a precipitate manner after every major conflict, it is clearly important to look at the lessons learned from Bosnia, Afghanistan and OIF, and to determine what doctrinal changes are needed for effective and efficient logistic sustainment in future campaigns or operations other than war.

Lastly, Army logistics transformation is occurring in a number of ways, there are even some prototypes under development; however there appears to be no central organization or plan that identifies who has the over-sight in all these efforts. Furthermore, to ensure logistics transformation in the future, the Army should look at how to incorporate new initiatives into future budgets.

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