



# The United States Army Functional Concept for Sustainment

2016-2028

13 October 2010



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## Foreword

### *From the Director U.S. Army Capabilities Integration Center*

The U.S. Army continues to answer the Nation's call, as it has since its inception over 235 years ago. As we look to the future, our Army faces a complex and uncertain operational environment that will challenge our Soldiers, leaders, and organizations in many ways. Future enemies are likely to emulate the adaptations of recent opponents while taking advantage of emerging technologies and growing instability to pursue their objectives and avoid what they perceive as U.S. military strengths. The challenges of future armed conflict make it an imperative for our Army to produce leaders and forces that exhibit a high degree of operational adaptability.


TRADOC Pam 525-4-1, *The United States Army Functional Concept for Sustainment 2016-2028*, expands on the ideas presented in TRADOC Pam 525-3-0, the ACC, and TRADOC Pam 525-3-1, the AOC, and describes the functional capabilities required to sustain the future force while conducting full-spectrum operations. Sustaining future Army forces in austere environments, often at the ends of extended lines of communications, requires a logistics network capable of projecting and providing the support and services necessary to ensure freedom of action, extend operational reach, and prolong endurance. At the same time, future Army forces benefit from decreased demand signals that reduce the strain on the forces which sustain them. In support of this approach, TRADOC Pam 525-4-1 serves as a foundation for future force development pertaining to sustainment and the sustainment warfighting function.

In addition to the warfighting challenges of the future, the Army also faces a number of institutional challenges. The rapid pace of technological change, prolonged acquisition timelines, and growing resource constraints make it necessary for the Army to adopt a more responsive approach to capabilities development. Accordingly, TRADOC is shifting from a 5-year to a 2-year cycle for concept development and revision. As a result, the Army Capabilities Integration Center will update and revise the entire Army Concept Framework every 2 years. This significant change will enable more effective input into the major budget and programming decisions across our Army.

Concepts lead change for the Army and drive the development and integration of future capabilities. They provide a framework for analysis, readiness assessments, prioritization, and feedback. In addition, they serve as a foundation to help the Army maximize effectiveness and minimize risk through both materiel and nonmateriel capability trades. Thus, they enable the Army to identify redundancies and determine which capabilities to pursue, both within and across its warfighting functions, with a better understanding of how such decisions will impact the overall combat effectiveness of the future force.

TRADOC Pam 525-4-1 makes an important contribution to realizing the broad vision outlined in both the ACC and AOC. Future Army sustainment capabilities must be fully integrated with the joint force and must be able to leverage the capabilities of allied, partner, and host nation forces to ensure successful and sustained operations. This concept outlines the key capabilities

such an effort will require. It also serves as a point of departure for wide-ranging discussions, wargames, and experimentation. It represents a significant step forward in an ongoing campaign of learning and directly contributes toward achieving greater institutional adaptation across our Army.

  
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Military Operations

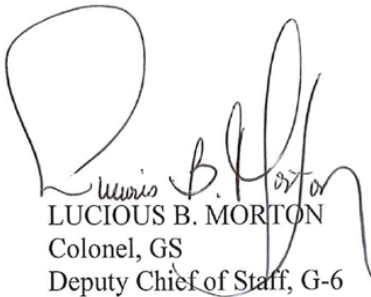
THE U.S. ARMY FUNCTIONAL CONCEPT FOR SUSTAINMENT 2016-2028

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**History.** This pamphlet (Pam) is a revision of TRADOC Pam 525-4-1, the *U.S. Army Functional Concept for Sustain 2015-2024*. The portions affected by this revision are listed in the summary of change. This revision changes the conceptual focus of the Army from major combat operations to that of operational adaptability employing full-spectrum operations in uncertainty and complexity.

**Summary.** TRADOC Pam 525-4-1 is the Army's overarching visualization of how the Army will sustain future Army forces during the 2016-2028 timeframe across full-spectrum operations in complex terrain during periods of uncertainty and persistent conflict. The ideas presented here are fully integrated within the evolving context of the estimates of the operational environment, joint and Army strategic guidance, and the joint framework. This pamphlet describes broad capabilities the Army will require to apply finite resources to overcome a combination of threats and adaptive adversaries in complex operational environments. These factors will challenge future Army forces' ability to set conditions that achieve or facilitate the achievement of national objectives. This functional concept will lead force development and employment efforts by establishing a common framework to guide developments for sustaining future Army operations.

**Applicability.** This concept is the foundation for future force development and the basis for subsequent developments of supporting concepts, concept capability plans, products within the

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\*This publication supersedes TRADOC Pamphlet 525-4-1, dated 30 April 2007.



Joint Capabilities Integration and Development System capabilities-based assessment process. It supports experimentation described in the Army Capabilities Integration Center (ARCIC) Campaign Plan and functions as the conceptual basis for developing solutions related to future Army forces within the doctrine, organizations, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) domains. This concept applies to all TRADOC, Department of Army (DA) and Army Reserve component activities that develop DOTMLPF requirements.

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**Suggested improvements.** Users are invited to submit comments and suggested improvements via The Army Suggestion Program online at <https://armysuggestions.army.mil> (Army Knowledge Online account required) or via DA form 2028 (Recommended Changes to Publications and Blank Forms) to Director, TRADOC ARCIC (ATFC-ED), 33 Ingalls Road, Fort Monroe, VA 23651-1061. Suggested improvements may also be submitted using DA Form 1045 (Army Ideas for Excellence Program Proposal).

**Distribution.** This publication is available on the TRADOC homepage at <http://www.tradoc.army.mil/tpubs/regndx.htm>.

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## Summary of Change

TRADOC Pam 525-4-1

The Army Functional Concept for Sustainment, 2016-2028

This revision, dated 13 October 2010-

- o Changes functional title from *Sustain* to *Sustainment* and the applicable date to 2016-2028.
- o Supports the ideas and actions of TRADOC Pam 525-3-0 and TRADOC Pam 525-3-1.
- o Addresses uncertainty and complexity as the new themes of the document.
- o Addresses full-spectrum operations.
- o Places greater emphasis on fighting for information vice assuming information superiority.
- o Places greater emphasis on the whole of government approach.
- o Places greater emphasis on stability, sustainability, homeland defense, and civil support.

- o Updates assumptions, implications, and required capabilities.
  - o Creates appendices to provide more comprehensive information.
  - o Adopts mission command as a warfighting function.
  - o Adopts TRADOC Pam 525-3-1 central ideas of combined arms maneuver, co-creation of context, and wide area security.
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## **Chapter 1 Introduction**

### **1-1. Purpose**

a. Sustainment is defined as the provision of logistics, personnel services, and health service support to maintain operations until mission accomplishment. Sustainment operations are complemented by strategic movement and the deployment of forces—topics which are addressed in TRADOC Pam 525-3-6, *U.S. Army Functional Concept for Movement and Maneuver 2016-2028*. The provision of sustainment is an integrated process, involving people, systems, materiel, health services, and other support, which is inextricably linked to operations. From a strategic perspective, sustainment operations build Army combat readiness, deliver a combat ready Army to the combatant commander as part of the joint force, and maintain combat power and endurance across the depth of the operational area.<sup>1</sup> These factors are supported by Army Generating Forces whose unbreakable link enhances future force reach. Future sustainment operations are joint interdependent, relying on and providing to other services with capabilities to support the combatant commander's goals. At the operational and tactical levels, sustainment is provided by highly-trained sustainment forces, integrated, and synchronized with the operational plan. Sustainment activities are supported by automated systems that precisely track requirements which give commanders the time and information to make informed support decisions and support commanders' needs to provide committed forces with flexible operational support.

b. TRADOC Pam 525-4-1 characterizes the sustainment warfighting function as it is associated with TRADOC Pam 525-3-0 (the ACC) and TRADOC Pam 525-3-1 (the AOC). It focuses on how the Army will sustain the future force in 2016-2028. The pamphlet discusses the capabilities necessary to support future Army forces conducting full-spectrum operations in diverse locations, and over extended distances in an operating environment characterized by uncertainty and complexity throughout an era of persistent conflict.

c. This pamphlet describes how the sustainment warfighting function supports the core operational actions from the ACC, to include how sustainment operations are conducted in full cooperation and operational integration with joint, interagency, intergovernmental, and multinational partners. It also addresses sustainment's part in wide area security, combined arms maneuver, and co-creation of context as they apply to operations discussed in the AOC.

### **1-2. Background**

The operational environment of 2010 looks far different from what planners envisioned at the start of this century. Protracted conflicts in both Afghanistan and Iraq proved the fallacy of concepts based on near-perfect intelligence, assured networks and lines of communication (LOCs), and overzealous estimates of the efficiency of information collection and management, mission command systems, and sustainment capabilities.<sup>2</sup> Recent and ongoing conflicts highlight the limitations associated with lift, communications, and asset visibility technology. The sustainment community must reassess practices derived from earlier assumptions of assured communications and timeliness of resupply.

### 1-3. Assumptions

a. TRADOC Pam 525-4-1 is dependent upon several critical assumptions outlined below. These assumptions are closely related and, in some cases, identical to those assumptions contained within other joint and Army concepts.<sup>3</sup>

b. Fundamental tenets of current national strategy documents will remain applicable in 2016-2028.

c. Future operations will focus on more precise and responsive execution of logistics capabilities.

d. Seabasing will be utilized as a means of facilitating the staging and support of forces.

e. A combination of DOD and commercially owned net-centric enterprise services and the necessary communications capabilities will be available to allow forward stationed and deployed forces to fully employ advances in logistics related information technology.

f. The *move and sustain the joint force*, and *operate the joint deployment and distribution enterprise* (JDDE) capabilities described in the Joint Logistics (Distribution) Joint Integrating Concept will be available in the 2016-2028 timeframe.

g. Congress will permit more responsive and flexible authorizations to facilitate multinational and interagency logistics support partnerships.

h. Contracts and commercial infrastructure will continue to augment military support units with facilities, services, and supplies to forces. Contracts and commercial infrastructure will continue to support full-spectrum operations.

i. The U.S. industrial base may not have sufficient capacity to sustain joint forces without a global surge capacity to support persistent and simultaneous military operations as described in the Capstone Concept for Joint Operations.

j. The DOD's robust partnership with the U.S. commercial transportation industry will continue. Other commercial, interagency, and multinational logistics support partnerships will be established and agreements implemented when required.

k. The Army will continue to provide support to other services, conduct executive agent responsibilities, and support to other nations.

### 1-4. Linkage to the ACC and the AOC

a. The ACC establishes the foundation on which the AOC and TRADOC Pam 525-4-1 builds and refines sustainment capabilities required to ensure effectiveness in the ability to support operations. The ACC describes the broad capabilities the Army requires in the 2016-2028

timeframe and how the Army will apply available resources to overcome the challenges of the future operational environment.

b. The AOC provides the conceptual pillars for the development of TRADOC Pam 525-4-1. The AOC illustrates the employment of units conducting combined arms maneuver and wide area security in terms of core operational actions, breaks down the capabilities found in the ACC to identify the operational and tactical capabilities the Army requires in the 2016-2028 timeframe, and describes components of the solution required to achieve operational adaptability and prevail against threats in the 2016-2028 timeframe. TRADOC Pam 525-4-1 discusses how the AOC central idea of combined arms maneuver and wide area security in conjunction with the core operational actions addresses the military problem in chapter 2 and discusses the components of the solution for sustainment operations. Figure 1-1 illustrates the linkages and sustainment strategy between the ACC, AOC, and TRADOC Pam 525-4-1.

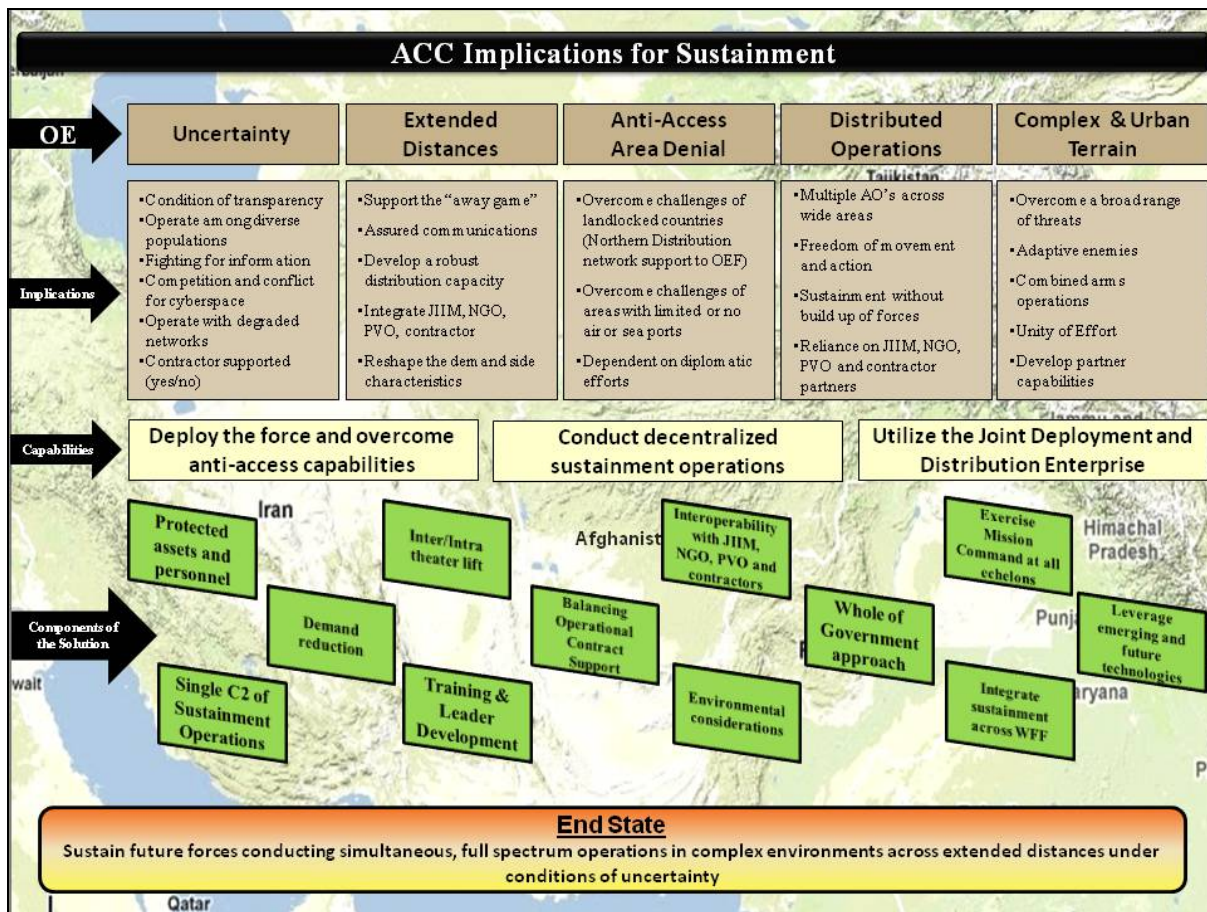


Figure 1-1. Linkages

**1-5. Linkage to the human dimension**

TRADOC Pam 525-3-7, *The U.S. Army Concept for the Human Dimension in Full-Spectrum Operations 2015-2024*, emphasizes optimization of the cognitive, physical, and social components of every Soldier with the objective to improve the acquisition and selection of

personnel; maximize leader and organizational development; establish the ability to rapidly adjust, deliver and provide accessibility of training and education ultimately balancing Soldier knowledge, skills, and abilities with full-spectrum operation mission requirements.

### **1-6. References**

Required and related publications are listed in [appendix A](#).

### **1-7. Explanation of abbreviations and terms**

Abbreviations and special terms used in this pamphlet are explained in the [glossary](#).

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## **Chapter 2**

### **Military Problem and Components of the Solution**

#### **2-1. Military problem**

How does the Army sustain future military operations and forces conducting combined arms maneuver and wide area security operations in complex environments, across extended distances with reduced demand characteristics to facilitate operational adaptability, provide distributed support at all echelons, and ensure freedom of movement and action for commanders?

#### **2-2. Solution synopsis**

a. To meet the challenges of sustaining future operations, future Army forces require an unprecedented ability for leaders to employ adaptive sustainment capabilities, which adjust to changing situations through the use of artificial learning technologies. The Army must deploy the force, overcome antiaccess and area denial challenges, conduct decentralized sustainment operations across extended distances, and utilize the JDDE. This will require integrating and networking space-based, aerial (high, medium, and low), and terrestrial communication systems to facilitate transmission of real-time logistics data. Significant gains in sustainability will be achieved by reducing the demand characteristics of the supported force.

b. Support the deployment of future Army forces and overcome antiaccess capabilities. Future Army forces require the capability to mobilize, deploy, receive, stage, move, and integrate people, supplies, equipment, and units into an area of operations using advanced technology to avoid and/or mitigate enemy employment of strategic preclusion, operational exclusion, antiaccess and area denial capabilities to ensure freedom of action. Sustainment operations require advanced strategic, operational, and tactical intertheater and intratheater movement capabilities to support deployment, conduct distribution, position, and support future Army forces. Success requires deployment and distribution systems capable of delivering and sustaining an expeditionary Army from strategic bases to points of employment within and throughout the future operational environment at the precise place and time of need. The future force requires a strategic capability to sustain power projection platforms in a joint, interagency, intergovernmental, and multinational environment. Together with the Generating Force and strategic partners, the future force will exploit all available military and commercial air and sea lift to achieve this goal.

c. Conduct decentralized sustainment operations. Future sustainment forces require the capability to sustain, provide logistics, personnel services, and health services support to decentralized joint, intergovernmental, interagency and multinational elements (military, civilian, contractors, indigenous, host nation, or third country nationals), that enable decisive action by leaders at lower echelons and provide commanders with operational adaptability. The challenges of operating over extended distances, in multiple areas of operation are complicated by the potential reduction in availability of critical natural resources.

d. Utilize the JDDE. The future force requires a planning, execution, and control capability that delivers, governs, and tracks the location, movement, configuration, and condition of people, supplies, equipment, and unit information to sustain unified action.

### **2-3. Components of the solution**

a. To meet the challenges of supporting our Army, as well as joint and multinational forces, in an era of persistent conflict, over extended distances, in an increasingly lethal environment, future Army forces must be more survivable, maintainable, and reliable. These forces must be supported by personnel, who are joint-knowledgeable; by financial managers who understand the implication of money as an economic weapon system; by sustainment capabilities that are adaptive and versatile; by a responsive health system; and by possessing the support and services necessary to ensure freedom of action, extend operational reach, and prolong endurance. The following discussions are key implementations that enable the Army's ability to achieve future desired affects. Each of the below topics require that sustainment operations are integrated across all of the warfighting functions and are dependent on the ability to embrace emerging and new technologies for future success.

b. Reduce the demand characteristics of the force.

(1) The predominant way to make significant gains in sustainability is to reduce the demand characteristics of the supported force. Demand characteristics include the number of supported personnel; the type, production, and distribution of food, water, fuel, ammunition, and other supplies; the reliability, availability, and maintainability of vehicles and equipment; energy; personnel service requirements; medical service requirements; and financial support requirements. Future operations require forces that are able to accomplish more, while utilizing fewer resources. The mission, operating concepts, size of the operating force, and equipment requirements determine the size and capability of the supporting force. Efforts to improve significantly the way the Army fights by changing the performance characteristics of the equipment it uses will reduce the demands placed on the support system.

(2) In today's conflicts, fuel consumption is 22 gallons used per Soldier, per day. Fuel transported in Afghanistan (figure 2-1) and Iraq in 2007 exceeded 589,841,670 gallons, equivalent to over 6,030 convoys per year which is an average 22 percent of the theater convoy flow. At a reported rate of 1 casualty for every 2,327,051 gallons, that equates to an average of 253 military and contractor casualties per year in fuel distribution.<sup>4</sup> Reduced fuel consumption has long been a national, political, economic, military, and environmental aim, yet demand continues to grow while global natural resources are dwindling.<sup>5</sup>



(3) Likewise, the world's water supply is expected to decrease creating global unrest and operational challenges. The future force requires water to survive but distributing it becomes a major consumer of vital and often limited transportation resources.<sup>6</sup> To save lives, free up distribution assets and streamline production of water, new technologies must be researched and developed to maximize the production as close to the point of use as possible. By reducing the demand for fuel and water, researching new energy and water technologies, increasing the energy efficiency of vehicles and equipment while simultaneously improving the protection abilities, and improving the reliability, availability, and maintainability of vehicles and equipment, the Army can save lives and lessen the Nation's dependence on foreign sources of fossil fuels.<sup>7</sup>



**Figure 2-1. Fuel convoy in Afghanistan**

c. Conduct sustainment operations in concert with diplomatic, informational, and economic efforts as part of a whole of government approach.

(1) The comprehensive or whole of government approach encapsulates how we conduct operations in concert with diplomatic, informational, and economic efforts. The future operational environment will be extremely fluid, with continually changing coalitions, alliances, partnerships, and actors. Sustainment operations play a vital role in diplomatic efforts designed to employ peaceful means to advancing national interests. Training and equipping other nations' security forces during security force assistance operations, foreign military sales, providing medical support and contracting all influence the way U.S. political leadership shape strategic plans.

(2) By building infrastructure, or assisting nations to build their own infrastructure, and contracting for host nation resources as a means for supplementing operational shortfalls, sustainment operations may influence the economic status of a nation. These operations also serve as strategic engagement operations that influence the perceptions and attitudes of local populations which may lead to changes in behavior. Success in future military operations under

the whole of government approach requires that we build partnerships with host nations to enhance economic development and with joint and multinational partners to leverage resources to achieve unity of effort in support of strategic goals.

d. Exploit joint and multinational interdependencies and interoperability.

(1) Title 10 specifies that individual services retain responsibility for sustainment, but the purposeful combination of complimentary service capabilities to create joint interdependent forces is often the most effective and efficient means by which to sustain a joint force. Successful sustainment operations are dependent upon cooperation and integration of capabilities with joint, interagency, intergovernmental, multinational, host nation, NGO, private volunteer organizations (PVO), and contractor partners. These interdependencies are paramount to overcoming the challenges associated with the conduct of distributed operations over extended distances. This approach embodies centralized planning and decentralized execution, that is required to mitigate the complexities and uncertainties of working simultaneously while conducting operations in concert with partners.

(2) Future operations, in a joint interagency, intergovernmental, and multinational environment, require that joint and coalition logisticians operate across the joint logistics enterprise. The joint logistics enterprise is a means to optimizing current capabilities and is a multitiered matrix of key global logistic providers and their aggregate capabilities.<sup>8</sup> The joint logistics enterprise is also a framework of logistic processes that must be optimized to support the joint force commander (JFC) and reduce global risk by allocating logistic resources and capabilities according to national security needs. Leveraging the interdependencies of Army partners is synonymous with the ability to be operationally adaptable to change and effectively interoperate within the future operational environment.

(3) Future Army forces must leverage interdependencies of joint, interagency, intergovernmental, and multinational partners, focusing on efforts to improve operational efficiency by using common supplies, standards, and procedures. This includes leveraging common capabilities such as lift (heavy lift vertical takeoff and landing), operational contract support, and the provision of common user logistics.

(4) Future operations must employ common processes across the services and multinational partners. Business practices and systems, supported by common rules, tools, and procedures, must be connected in the net-centric, near real-time information environment. Joint logistics capabilities require interoperability across programs, systems, and forces, providing: known and shared knowledge concerning force readiness; decreased operational footprint in theater; increased force agility and survivability; decreased logistics demand; decreased cost of employing the force; improved data management and data integrity; increased asset visibility and property accountability; improved logistics pipeline management; increased force projection and sustainment; and increased speed and effectiveness of theater opening tasks.<sup>91011</sup>

e. Consider environmental impacts.

(1) In addition to demand reduction, military activities place a number of stresses on the physical environment. Military activities affect the physical environment in the following direct ways: pollution of the air, land, and water; the immediate and long-term effects of armed conflict; nuclear weapons development and production; and land use. All of these have an effect on the way the military conducts future operations and the systems and materials used. The Army must continue to build partnerships with key leaders in academia, industry, and research organizations to provide the force with the best advice and analysis.

(2) Future initiatives in developing sustainment processes and systems must account for environmental considerations by being informed, proactively, by national policies and strategies to address emerging environmental issues that may have significant future impact on sustainment of Army operations. Reducing the amount of fossil fuels to operate platforms and create energy, developing equipment using biodegradable materials to prevent contamination and producing water as close to the point of need as possible thereby eliminating the use of water bottles, are examples of addressing environmental issues. The establishment and management of energy-independent base camps will present their own levels of environmental challenges in 2016-2028.

f. Balance operational contract support.

(1) As an important part of the sustainment warfighting function, operational contract support significantly assists in overcoming shortfalls in capacities, technical skills, and commodities that support ongoing operations. With a high operating tempo, manning reductions, and rapid fielding of highly technical equipment, contract support has provided the deployed force with significant technical and surge capabilities that either do not exist or exceed existing capabilities of the uniformed or Department of the Army civilian force structure. Accordingly, the supported geographic combatant commander, Army service component commanders and their staffs, must determine if contracted support is the most viable means of support based on mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC).

(2) When contracted support is chosen, commanders and staffs must be familiar with how to plan for and integrate a balanced level of contracted support to operations. Tactical units must be trained and equipped to integrate operational contract support into tactical level plans and operations to include ability to develop acquisition ready requirement packets and provide appropriate contract oversight assistance. The requirement for contract utilization should focus on balancing future force design, training, manning, and equipping the operational needs of the force. Contractors, contracted support, and host nation support must play a vital part in sustaining future Army forces. The Army must be able to orchestrate and synchronize the provisions of planning, integration, execution, and management of contracts and contractor personnel providing support to future Army forces. Deployable contingency contracting units assist the Army force in operational contract support planning and obtain requested and funded supplies, services, and minor construction from commercial sources in support of military operations. As an expeditionary force, the Army must be able to operate without significant levels of contracting.

g. Enhance training and leader development.

(1) To successfully conduct future operations, Soldiers and leaders must be trained to operate and interact with multiple cultures, joint and multinational partners, and a wide array of advanced technologies. In the future, the Army will rely on an array of multiservice capabilities and will regularly participate in multinational and interagency operations. Support personnel must be trained to operate with joint, interagency, intergovernmental, and multinational, NGO, PVO, host nation, and contractor partners. Training design must promote adaptive and innovative leaders with emphasis on junior leader development, and encompass common rules and procedures, as well as service-specific procedures and processes. Joint training must enable Soldiers to understand the roles, languages, cultures, and goals of other joint forces, multinational forces, and intergovernmental and interagency organizations, to build effective working relationships quickly, within tailored organizations, and to apply collaboration and other network tools to operate as a cohesive organization.<sup>12</sup>

(2) The future Army force must develop multiskilled Soldiers capable of executing an array of mission tasks, making decisions, and employing advanced technologies and innovations. Soldier training and leader development should address critical thinking, creative problem solving, language skills, cultural awareness, and economic systems of other nations.<sup>1314</sup> The future operating environment demands that Soldiers and leaders are culturally literate and culturally competent.<sup>15</sup> The Army must understand other cultures and be able to facilitate openness and flexibility in dealing with people. These forces must also possess a base knowledge of cultural characteristics, histories, values, belief systems, and behaviors of members of a cultural group. Future personnel must be able to integrate these abilities and operate effectively in a different cultural environment. With the introduction of a variety of advanced technologies into the force structure, personnel must possess the technical expertise and knowledge necessary to competently employ these technologies and exploit the associated capabilities. Future leaders must have the capabilities to identify and respect efficiencies to reduce logistic requirements while maintaining mission effectiveness. As the cornerstone of future operational success, training that develops leaders and Soldiers to achieve tactical and technical competence builds confidence and cognitive agility.

h. Enable leaders at lower echelons to make decisions.

(1) Mission command enables sustainment operations by facilitating freedom of action and the retention of the initiative for decentralized, distributed formations. The concept of mission command calls for leaders with the wisdom to build a collaborative environment, the commitment to develop subordinates, the courage to trust, the confidence to delegate, the patience to endure mistakes, and the restraint to allow lower echelons to develop the situation. Commanders seek decentralized sustainment operations to support continuous combat operations thereby preventing operational pauses. Subordinate sustainment organizations are bound by a clear commander's intent that allows the appropriate staff to act on initiative easing the commander's burden with routine support matters. Empowering subordinates enables operational adaptability in uncertain, complex, and dynamic environments.

(2) Given the access, competency, and authority to employ the full array of combined arms maneuver capabilities, including those from joint, interagency, intergovernmental, and multinational partners, junior leaders can make timely decisions and exploit fleeting opportunities. Army forces may be deployed in areas with poor infrastructure, limited points of entry, widely disparate climates, terrain, and cultures, and little host nation support. Commanders often retain the initiative in the psychological contest of wills and strategic engagement through civil works projects. Supporting operations in such conditions mandates that sustainment forces be capable of providing support directly to forward units, regardless of METT-TC. Leaders at brigade, battalion, and company levels employ money as a weapons system to win the hearts and minds of the indigenous population. As such, the future force must possess financial management capabilities at the lowest practical echelon to enable informed decisions and provide critical support in assessing the impact of operations on local economies while supporting economic and infrastructure development.

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## **Chapter 3**

### **Core Operational Actions**

#### **3-1. Introduction**

a. The effectiveness of the future force in meeting the challenges associated with the future operational environment requires an adaptive and versatile capability, the lynchpin of which is the capability to sustain in a way which provides maneuver forces, to include Army special operations forces (ARSOF) freedom of action, extends their operational reach, and prolongs their endurance. Sustainment operations encompass the diverse and separate functions of logistics, human resource support, financial management operations, Army health services support, operational contract support, and general engineering support.

b. The ACC and AOC describe and discuss core operational actions in which the future force engages. Sustainment operations must support the core operational actions in a unified, dynamic, and adaptable way which enables both personnel and organizations to operate effectively, efficiently, and without pause. Sustainment operations will take place in such a manner as to support the force in its conduct of wide area security using combined arms maneuver and a whole of government approach. Sustainment forces serve as an integral member of the new vision of combined arms maneuver. Sustainers must use co-creation of context that ensures they are capable of assessing the operational environment, the associated units, the unit's mission and area of operations, and the capabilities of other units operating in the same. Such assessment can result in providing the most efficient support possible. The manner in which this is accomplished is the balance of the discussion in this chapter.

#### **3-2. Conduct security force assistance**

a. Security force assistance is a unified action to generate, employ, and sustain local, host nation, or regional security forces in support of a legitimate authority. These operations are normally conducted through all phases of a conflict beginning long before hostilities and continuing afterwards. Security force assistance consists of, but is not limited to the following.

(1) Organizing, manning, training, equipping, basing, and sustaining foreign security forces (FSF).

(2) Assisting employment of FSF in support of campaigns and major operations.

(3) Conducting traditional foreign internal defense and security assistance, which includes foreign military sales, international military education and training, and military transition teams.

(4) Developing Title 10 capabilities of FSF.

(5) Developing legislative and legal authorities by partner nations; integrating foreign security forces into the broader interagency of the partner nation.

(6) Professionalizing FSF as the legitimate forces of a partner nation.

b. Future operations will center on developing the capability and capacity of host nations or other FSF focusing on creating trained and resilient forces that are capable of maintaining a secure environment. The core sustainment capabilities in security force assistance provide a framework to facilitate integrated decisionmaking, synchronize and allocate resources, and optimize sustainment processes. The ARSOF contribution provides full time military expertise in regional assessment, planning, coordination, and advice or assistance on behalf of the geographic combatant commander, at the request of Ambassadors in unstable and semi-permissive areas of the world. The challenges associated with security force assistance support cuts across the entire sustainment warfighting function: Supply, maintenance, distribution, installation support, engineering, health services, logistic services, human resources, financial management, and operational contract support.

c. ARSOF sustainment capabilities will need to adjust their sustainment forces or functions based on regional assessments as well as establish interoperability with other Army sustainment forces and joint, interagency, intergovernmental, and multinational partners. Successful security force assistance activities are the result of accurate assessments and include organizing, training, equipping, rebuilding, and advising the host nation forces involved.

d. Effective security force assistance planning begins with accurately assessing and understanding U.S. policy objectives, determining the end state, and identifying resources available. Building partner capacity and security cooperation require targeted efforts to improve the collective capabilities and performance of U.S. forces and the forces of its partners. To support future operations and enable common goals, the Army must be able to communicate, collaborate, and share knowledge with its partners. It is imperative that U.S. forces and its leaders understand the implications that language and culture impart on the ability to successfully establish relationships and build partnerships. To establish coherence, future sustainment forces must be able to integrate security partner competencies, capabilities, and requirements into Army training.



### 3-3. Conduct shaping and entry operations

a. Army forces are an integral component of shaping and entry operations. These operations involve various combinations and degrees of joint, interagency, intergovernmental, and multinational integration.

b. Shaping operations. Shaping operations establish the regional security environment before a conflict arises and set the conditions to promote peace, prevent conflict, or conduct decisive operations. Future Army forces must be able to get to the area of operations in such a manner that positively influences the strategic goal and allows for rapid reaction in the event of escalation of force. Operationally, this requires the use of intermediate and forward staging bases, as close to the theater as possible, to facilitate rapid deployment and sustained build-up of power. Activities at these bases, such as training, rehearsals, and building liaison relationships, complement and enable rapid response should a crisis occur and provide forces capable of conducting combined arms operations on arrival. Seabasing, as illustrated in figure 3-1, is an example of an intermediate staging capability as it enables rapid deployment, assembly, command, projection, reconstitution, and re-employment of joint combat power from the sea, while providing continuous support, sustainment, and protection to selected expeditionary joint forces without reliance on land bases within the area of operations.

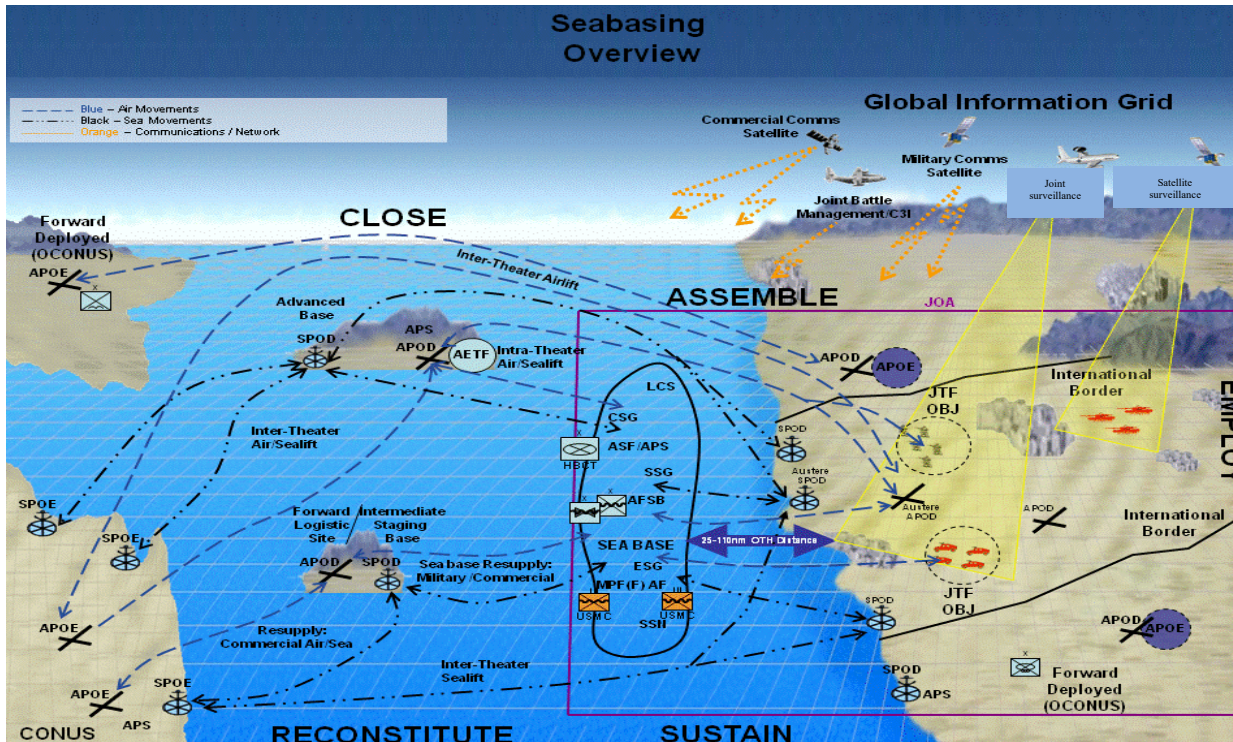


Figure 3-1. Seabasing overview

c. Entry operations.

(1) Whenever possible, Army forces seek unopposed entry to an area of operations, either assisted or unassisted by the host nation. The future operational environment requires that future

Army forces be prepared to conduct forcible entry operations in an antiaccess environment. To conduct entry operations under this premise, the Army requires access to joint capabilities such as logistics, airlift and sealift, as well as high altitude and space-based capabilities that provide enhanced communications and persistent wide-area observation.<sup>16</sup>

(2) Future Army forces require units with the capability to rapidly offload, move through austere entry points, and to sustain themselves for predetermined periods of time allowing them to conduct operations with limited local or strategic based support. By improving characteristics such as demand, energy efficiency, reliability, availability, maintainability of equipment, and interoperability with joint, interagency, intergovernmental, and multinational partners, the Army can conduct successful entry operations and set the stage for effective follow-on operations.

### **3-4. Support the conduct of intertheater and intratheater operational maneuver**

a. Future operational maneuver must be sustained through a globally networked sustainment system. Future sustainment operations must be capable of supporting all phases of deployment including reception, staging, onward movement, and integration at multiple points in the joint operations area. Operational maneuver of forces directly into an area of operations will require sustainment forces with access to a common operational picture and have the resources available (to include operational contract support) to assist in building sustainable units that can be employed immediately after clearing the selected entry points.

b. Increased operational distances, non-secure LOCs and a noncontiguous operational environment will result in a greater reliance on aerial distribution platforms. These aerial platforms must have takeoff and landing capabilities, which enable the use of unimproved, degraded, or less optimal locations to mitigate the risks posed by enemy and provide responsive support from multiple locations within the theater. These assets may include manned and/or unmanned ground and air vehicles to detect, provide early warning and reaction time, and allow avoidance of enemy threats attempting to disrupt lines of communication or fixed base operations. Additionally, unmanned ground and air systems will provide sustainment support directly to units in forward areas, allowing sustainment units to avoid unsecured LOCs.

### **3-5. Conduct full-spectrum operations**

a. As part of the interdependent joint force operating in the operational environment, future Army forces will conduct offensive, defensive, and stability or civil support operations, including internment and resettlement operations, special operations, homeland security, and homeland defense. Future Army forces conducting full-spectrum operations must initially be self-sustaining to provide freedom of action and operational adaptability. Sustainment operations are essential to achieving success in these operations.

b. Sustainment operations maintain combat power and endurance for an expeditionary Army. Offensive and defensive operations are typically high intensity and require a sustainment capability which can support that level of intensity. Sustainment of these operations requires continuous coordination, control, and monitoring. Full-spectrum operations requires supporting joint and multinational forces in a wide range of missions and tasks, including economic and

infrastructure development, establishment of civil security and control and restoration of essential services. To deploy successfully, distribute to, and sustain future Army forces, commanders must synchronize the requirements of the operational plan and integrate joint, interagency, intergovernmental, multinational, NGO, PVO, and contractor partner capabilities. Accomplishing synchronization requires a single command structure responsible for the execution of theater opening, sustainment, and distribution operations and provides unity of command and unity of effort. Stability operations normally are less intense; however, sustainment units must be able to surge immediately if the situation escalates to combat operations.

c. In homeland defense operations, the DOD has lead responsibility and the rest of the U.S. Government is in support. Conversely, in civil support operations, such as homeland security, the DOD is in support of another primary agency. Homeland defense and civil support must be conducted in accordance with applicable public laws.

d. In the future operational environment, different types of operations will occur simultaneously. Support requirements and partnering relationships vary based on the type of operation and the area of operation. Regardless of mission type, success demands that leaders establish and maintain mission command. Sustainment operations require an organizational structure capable of coordinating operations with joint, interagency, intergovernmental, and multinational partners. Sustainment considerations must be included in the commander's decision cycle to reduce delay and to allow sustainment actions to be more predictive rather than reactive. Commanders must be able to understand the operational situation, anticipate requirements, and forecast operational solutions within shortened decision cycles. Subordinate leaders at all echelons must be trained to exercise disciplined initiative and act independently to accomplish the mission within the commander's intent. Support must be provided without interruption, while maintaining momentum and freedom of action for the supported commander.

### **3-6. Ensure overlapping protection**

Sustainment forces operating in an environment of uncertainty, complexity, and ambiguity require protection of Soldiers, systems, and distribution platforms. At a minimum, protection for supporting Soldiers, systems, and platforms must be commensurate with the combat forces being supported. Future Army forces will face several challenges in providing uninterrupted and robust protection of supported forces, as sustainment operations will support widely dispersed units over extended distances amongst densely populated areas in a variety of adversarial environments. Force protection also encompasses health protection of the force such as preventative medicine, veterinary services, combat operational stress control, and dental care.

### **3-7. Employ distributed support and sustainment**

a. Distributed support and sustainment is the capability to provide supplies, personnel, and equipment to decentralized forces across noncontiguous locations, over any distance, and in any combination of offensive, defensive, stability, and/or civil support operations to maintain readiness and ensure the freedom of action of the joint force.



b. Future Army forces must be able to conduct all operations, often simultaneously in any combination, across the globe in a variety of secure and unsecure environments. Sustainment operations must meet this need through rapid, precise, and responsive support. This requires the composite functions to be more efficient, adaptable, and easily distributed. Additionally, future Army forces may be called upon to provide support to other services, partner nations, with contractors authorized to accompany the force, with civilians (including refugees and disaster victims), and/or members of NGO and PVOs. As illustrated by figure 3-2, future expeditionary operations require rapidly built and deployable force packages that are driven by specific capabilities and configured to mission requirements.

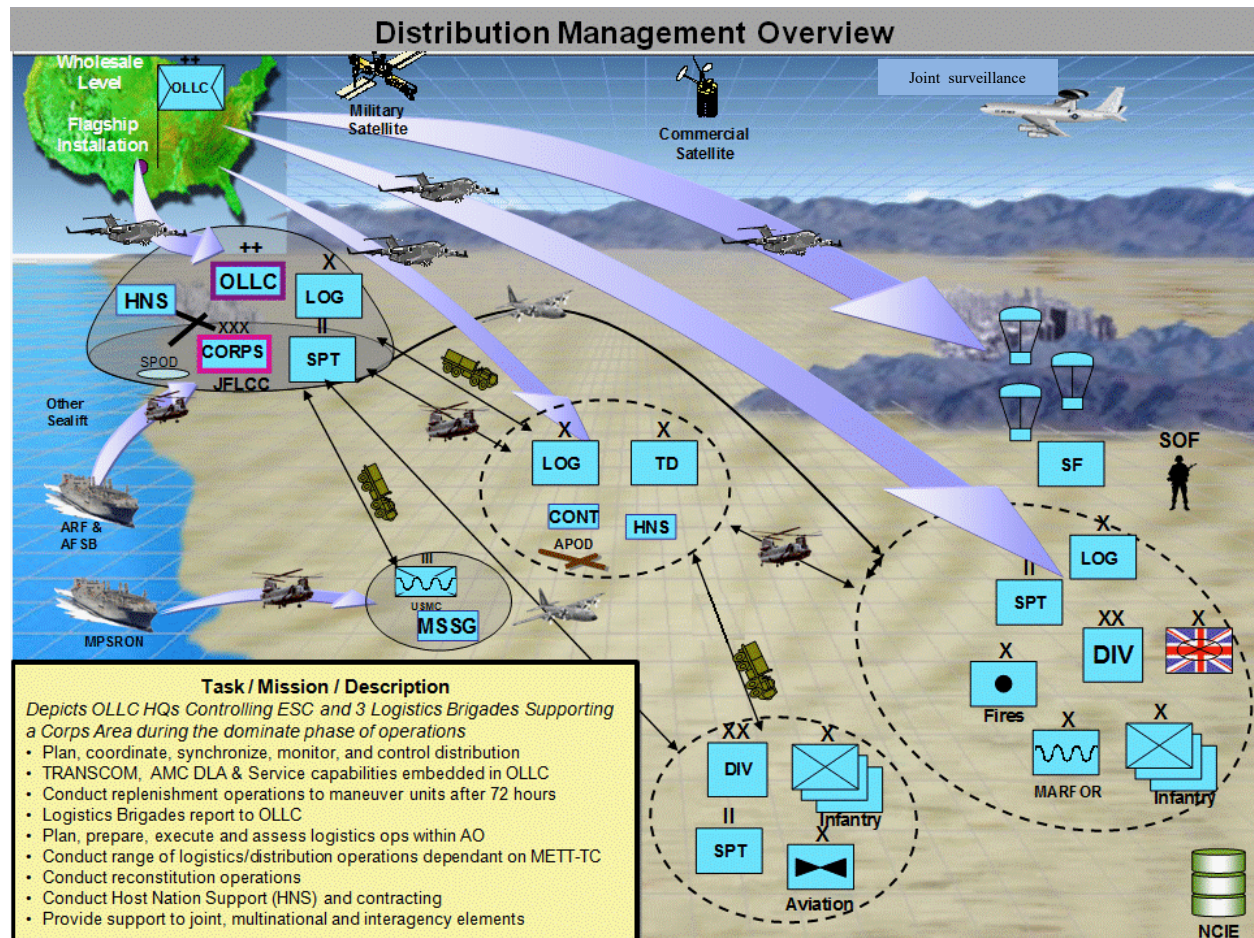


Figure 3-2. Distribution management overview

c. The past decades highlight the need for an effective system that can rapidly deploy self-sustaining forces to austere locations that support themselves for extended periods of time with limited infrastructure, such as required following the Haiti earthquake in January 2010. Future Army forces require support which can prolong endurance and extend operational reach. Successful sustainment operations will require deployment and distribution systems capable of delivering and sustaining an expeditionary Army from strategic bases to multiple points of employment and/or need within and throughout the future operational environment. Improvements in operational reach, speed, and responsiveness require advances in processes and systems such as: air-land, air-drop, and sling-load delivery utilizing both manned and unmanned

aircraft systems; diagnostics and prognostics and repair from afar; single mission command capability; joint, interagency, intergovernmental, and multinational interoperability; water from air production; improved design, construction, and operation of base camps; general engineering support; minimized environmental impacts; and streamlined demand requirements. The current force does not have these capabilities.<sup>17</sup>

d. To overcome capability shortfalls, the Army routinely uses operational contract support in contingency operations to augment other support capabilities by providing an additional source for required supplies and services. Operational contract support, combined with the ability to assess and advise leaders on the economic implications that financial transactions have on influencing the local populace while achieving desired outcomes, provides leaders with an additional awareness of the operational environment and can be used as a decisionmaking tool. Financial management support by means of an integrated system with interorganizational partners and services will provide a more accurate and comprehensive financial picture. This capability, when integrated at all levels of war, enables commanders to make resource-informed decisions (cost analysis, economic assessment, banking, and procurement support). Financial management capabilities leverage economic resources and facilitate the application of the economic instrument of power.

e. Future operations hinge on the ability of the Army health system to provide flexible and responsive health service support and force health protection. Health service support to future Army forces will integrate joint capabilities in the theater and the Generating Force, focusing on four major tasks: Reducing the incidence of disease and non-battle injury through the utilization of sound preventive medicine, utilizing safety and health promotion systems; reducing casualties incurred in operations or from operational stress through training programs and early intervention; providing essential medical treatment, enhanced care during evacuation, and real time electronic health documentation in situ using modular capabilities and improvements implemented via a joint trauma system for illnesses, injuries, or wounds, evacuating those patients that cannot return to duty; and, returning patients to duty status once they are medically fit. Future health care requires the capability to establish smaller, more efficient medical service facilities to mitigate requirements at multiple, dispersed, and often austere locations. Future Army force requires mobile, scalable, enhanced medical capabilities to provide forward emergency and resuscitative care.

### **3-8. Conduct network-enabled mission command**

a. Mission command must encompass systems which allow the efficient flow of information vertically and horizontally with joint, interagency, intergovernmental, multinational, host nation, and strategic partners to facilitate integrated support and sustainment operations. This ability will be provided through the use of networked autonomous reporting systems and platforms which produce a common operational picture that integrates all data from multiple sources, including that from joint, multinational, intergovernmental, interagency and contractor sources. Global computing will radically change the world and the Army must adapt to and leverage these advances, particularly in the area of mission command. Given the challenges of the future operational environment, subordinate commanders and leaders must be able to execute the mission based on the orders and intent of their higher commander without centralized over watch.

b. Uncertainty places increased demand on mission command to obtain, process, and disseminate commander's critical information requirements within the JFC's decision cycle. Commanders must be capable of reading the operational situation and taking preemptive action to ensure mission success, including anticipation of requirements and forecasting operational solutions to support shortened decision cycles. The future logistics command and control envisions that future processes must utilize the intent of the senior commander to control operations, collect actionable information and intelligence, and conduct courses of action decisionmaking in the logistics domain.

c. Planning and execution activities must be supported across the future operational environment in a near real-time, collaborative, network environment complete with total asset visibility, advanced data mining, and decision support tools. This increases the speed of decision cycles and the accuracy of information, accommodating the needs of dispersed, distributed forces at the rate of mission change. The noticeable requirement is the need for assimilation of timely, accurate, and authoritative data, information, and intelligence to enable quicker decisions. Pursuit of technologies against unconstrained or poorly defined data requirements can be as much of a hindrance as staffs and the network are both quickly overwhelmed. The growth and development of networks and the application of technologies will allow us to collect, understand, move, and act upon larger volumes of data, and achieve situational awareness more rapidly, while enabling situational understanding at all levels. The application of technologies against this defined or targeted data set will expedite the decision cycle. While the Army relies on the Nation's use of networks, future capabilities must also allow leaders at multiple echelons to operate to mission completion continuously, fully knowledgeable of the commander's intent, when forced to perform in degraded network environments or during periods of compromised communications.

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## **Chapter 4**

### **Conclusion**

a. Future Army sustainment operations will contribute to a coherent joint system that provides continuous, precise, assured sustainment of forces in full-spectrum operations. It will provide for a joint-capable interdependent mission command organization to support highly distributed noncontiguous operations simultaneously occurring in multiple joint operations areas. Future forces will have reduced demand and redundancy characteristics resulting from improvements in reliability, availability, and maintainability, as well as innovations in air-based and sea-based delivery platforms to augment land-based platforms; supporting a distribution system that provides goods and services at the right place, at the right time, and in the right amount, in both routine and emergency situations.

b. The Army is the geographic combatant commander's choice for sustaining land-based forces. Army organizations, units, and capabilities are designed for coherent, sustained land combat operations; together with joint and multinational partners, are technologically savvy, culturally aware, and able to fight and win.

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## **Appendix A**

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## **Appendix B**

### **Sustainment Required Capabilities**

#### **B-1. Introduction**

The following is a list of essential capabilities which support TRADOC Pam 525-4-1 and provide for the capabilities based assessment process.

#### **B-2. ACC level required capabilities**

a. Deploy the force and overcome antiaccess capabilities. Future Army forces require the capability to mobilize, deploy, receive, stage, move, and integrate people, supplies, equipment, and units into an area of operations using advanced technology to avoid and/or mitigate enemy employment of strategic preclusion, operational exclusion, antiaccess and area denial capabilities to ensure continuous operations.

b. Utilize the JDDE. Future Army forces require a planning, execution, and control capability that delivers, governs, and tracks the location, movement, configuration, and condition of materiel, people, and related information to sustain unified action.

c. Decentralized sustainment operations. Future sustainment forces require the capability to provide logistics, personnel services, health services support from and across extended distances to decentralized force elements (military personnel, civil servants, contractors, and indigenous or third country nationals), and joint, interagency, intergovernmental, and multinational partners, that enable decisive action by leaders at lower echelons to provide commanders with agility, flexibility, and freedom of action that ensures operational adaptability.

#### **B-3. AOC level required capabilities**

a. Future sustainment forces require the capability to support decentralized force elements during operations for extended periods of time, overextended distances to enable commanders to exploit opportunities, control the tempo of operations, and maintain freedom of action.

b. Future Army forces require the capability to conduct sustainment operations in concert with diplomatic, informational, and economic efforts as part of a comprehensive, or whole of government, approach across the joint logistics enterprise to enhance the unity of effort and reduce complexity.

c. Future Army forces require the capability to incorporate joint and multinational sustainment information, assets, processes, personnel, and commodities into operations to achieve unity of effort and economy of force.

d. Future Army forces require the capability to rapidly deploy and sustain forces, equipment, and materiel to multiple, widely dispersed locations down to point of employment without reliance on improved air ports of debarkation (APOD) or sea ports of debarkation (SPOD) to mitigate antiaccess challenges and allow the joint force to seize and retain the initiative.

e. Future Army forces require the capability to deploy forces with a fight off the ramp configuration which requires minimal reception, staging, reconfiguration, onward movement, and integration prior to employment in austere and complex geographical environments to allow the joint force to seize and retain the initiative.

f. Future Army forces require the capability to deliver, manage, and track the location, movement, configuration, and condition of people, supplies, equipment, and unit information in near real-time to achieve unity of effort and economy of force.

#### **B-4. Functional level required capabilities**

a. Future Army forces require the capability to sustain operations under conditions of limited natural resource availability using methods which reduce consumption and minimize dependence on those resources to overcome resource challenges and ensure freedom of action.

b. Deployment and distribution.

(1) Future Army forces require the capability to rapidly deploy joint forces and distribute and retrograde equipment and materiel utilizing manned and unmanned ground and aircraft systems across extended distances, to multiple points of need, relying on the full range of developed and austere APODs and SPODs to ensure national interests are met without delay and forces are able to access permissive and nonpermissive areas of operation to include antiaccess and area-denial environments

(2) Future Army forces requires the capability to manage, track, redirect, and account for as well as distribute supplies in a secure and automated manner to provide improved asset visibility and understand demand.

c. Transportation. Future Army forces require the capability to conduct distribution of personnel, equipment, and supplies with platforms that use more efficient types of power, have greater reliability and availability, with less specialized maintenance, and that are interoperable with joint, interagency, intergovernmental, and multinational partners to support distributed operations.

d. Supply. Future Army forces require the capability to procure, distribute, maintain, store, account, issue, salvage, and dispose of supplies using adaptive technology and unmanned systems to ensure freedom of action.

e. Maintenance. Future Army forces require the capability to predict and resolve equipment faults and failures, rapidly and precisely, and conduct advanced platform and equipment maintenance and recovery, at the lowest level, using unmanned systems and imbedded prognostics and diagnostics to improve reliability, availability, maintainability, and operational readiness.

f. Field services. Future Army forces require the capability to provide expeditionary field service support utilizing advances in technology and produced at the point of need to be more responsive and ensure effective use of resources.

g. Operational contract support. Future Army forces require the capability to support forces by integrating decentralized operational contract support which provides complimentary technical and surge capacity to overcome shortfalls and allow the joint force to seize and retain the initiative.

h. General engineering.

(1) Future Army forces require the capability to provide general engineering services to assure mobility, enhance protection, enable expeditionary logistics, build capacity, and minimize environmental impacts.

(2) Future Army forces require the capability to plan, design, construct, operate, transfer, and close base camps in a joint, international, and multinational environment to provide safe, secure, and largely self-sustaining base camps to support full-spectrum operations.

i. Internment and resettlement. Future Army forces require the capability to conduct internment and resettlement operations to protect populations, preserve the rule of law, and retain freedom of action.

j. Medical and force health protection.

(1) Future Army forces require an increased capability to provide medical care at the point of need through the application of remote technologies and care providers in a joint interdependent trauma system while conducting full-spectrum operations in a joint, interagency, intergovernmental, and multinational environment.

(2) Future Army forces require the capability to capture, process, and disseminate electronically, real-time medical information on a Soldier's physiological status, exposure, injuries, illnesses, wounds, and care provided while conducting full-spectrum operations in a joint, interagency, intergovernmental, and multinational environment to provide the commander greater awareness of Soldier wellness and the Soldier with a complete digital medical history.

(3) Future Army forces require the capability to improve Soldier performance and resistance involving a full range of threats through the use of medical technology during full-spectrum operations in a joint, interagency, intergovernmental, and multinational environment.



(4) Future Army forces require the capability to provide expeditionary Army health system support utilizing advanced technology to improve patient care in support of full-spectrum operations in a joint, interagency, intergovernmental, and multinational environment.

k. Human resources.

(1) Future Army forces require the capability to accurately assess, predict, and fill manpower requirements, assess a Soldier's readiness to deploy, and account for the force in near real time to ensure commanders have the right Soldier, with the right skill sets, at the right time.

(2) Future Army forces require an integrated capability to pay Soldiers and manage their careers, throughout the personnel life cycle, at the lowest appropriate echelon to sustain the all-volunteer force.

(3) Future Army forces require the capability to provide essential personnel services, postal support, and casualty operations to sustain Soldiers and their family members.

(4) Future Army forces require the capability to provide morale, welfare, and recreation support and command interest programs to enhance the quality of life for the force while sustaining unit readiness.

l. Financial management.

(1) Future Army forces require the capability to fund resource requirements, identify appropriate funding authorities, and assess resources of joint and interorganizational partners, at the lowest level, to provide the force with the necessary resources to execute its mission.

(2) Future Army forces require the capability to provide banking and disbursing services to support the deployed force.

(3) Future Army forces require the capability to analyze the impacts of financial transactions on the local economy to assist in stabilizing the host nation's economy.

(4) Future Army forces require the capability to account for financial resources to properly track and report funding requirements.

(5) Future Army forces require a capability to integrate financial data in near real time to provide synchronized financial data at all echelons.

(6) Future Army forces require the capability to identify, capture, and analyze the cost of operations and optimize the allocation of resources for desired outcomes to enable resource informed decisionmaking at all levels of command.

m. Legal.

(1) Future Army forces require the capability to provide legal services across the six core competencies: military justice, international and operational law, administrative and civil law, contract and fiscal law, legal assistance, and claims, execute successful decentralized full-spectrum operations.

(2) Future Army forces require the capability to fully understand the international, national, and host nation authorities and caveats to include formal and informal legal practices of the specific operating environment, to execute successful stability operations, security force assistance, and support to rule of law and governance missions.

(3) Future Army forces require the capability to understand fully the applicable status of forces agreement or equivalent and the applicable rules of engagement, to execute successful operations.

n. Religious support.

(1) Future Army forces require the capability to provide religious support, across extended distances, which accommodates a Soldier's free exercise of religion and supports resiliency efforts to nurture the living, care for the wounded, and honor the dead.

(2) Future Army forces require the capability to advise commanders on the impact of religion on all aspects of military operations.

o. Band support.

(1) Future Army forces require the capability to provide music support during military operations and ceremonies to promote customs and traditions to provide morale, sustain Soldiers, and inspire the force.

(2) Future Army forces require the capability to employ Army bands worldwide to support the Army recruiting missions, provide comfort to recovering Soldiers, and contribute to a positive climate for Army Families and sustain the all-volunteer force.

p. Explosive ordnance disposal. Future Army forces require the capability to dispose of conventional and unconventional explosive threats utilizing advanced technology, in complex environments, over extended distances, and for extended periods of time to facilitate operational adaptability throughout full-spectrum operations in a joint, interagency, intergovernmental, and multinational environment and to meet statutory requirements.

q. ARSOF. Future Army forces require the capability to support ARSOF sustainment operations to widely distributed force elements (military, civilian, contractors, indigenous, host nation, or third country nationals), including joint, interagency, intergovernmental, and multinational partners, that enable decisive action at the lowest practical level. This includes the capability to provide sustainment functions to critical partner nation's forces to advance the geographic combatant commander's objectives. ARSOF requirements normally emanate from and within remote, austere, immature, and undeveloped locations.

r. Security of sustainment.

(1) Future Army sustainment forces require the capability for self-securing formations capable of providing full range of security on a 360 degree aerial, surface and subsurface basis, to sustain future operations and maintain freedom of movement in full-spectrum operations.

(2) Future Army sustainment forces require access to joint, service, and organizational fires, sensors, platforms, weapons, measures, and mission command systems to enable them to traverse within the joint operations area between the operational and tactical level.

**B-5. Sustainment required capability dependencies on other functions**

a. TRADOC Pam 525-4-1 and the sustainment warfighting function are dependent on other warfighting functions for the following capabilities:

b. Mission command.

(1) Future Army forces require the capability to provide single source data input that feeds and interrogates a single integrated and collaborative common operational picture to support operations in the future operating environment.

(2) Future Army forces require the capability to be interoperable with joint, interagency, intergovernmental, and multinational partners.

(3) Future Army forces require the capability to enable sustainment leaders at lower echelons to make decisions during the conduct of decentralized operations in the future operating environment.

(4) Future Army forces require the capability to understand cultural aspects of the operational environment, particularly with regard to sustainment operations associated with the area of operations in full-spectrum operations.

c. Protection.

(1) Future Army forces require the capability to secure and protect sustainment assets and personnel in full-spectrum operations in the future operating environment.

(2) Future Army forces require the capability to provide early warning of offensive indirect fires directed against sustainment sites and convoys to maintain freedom of action in full-spectrum operations in the future operating environment.

d. Fires. Future Army forces require the capability to provide sustainment convoys and sites with rapid defensive fires to maintain freedom of action in full-spectrum operations in the future operating environment.

## **B-6. Sustainment required capabilities from other functions**

a. Other warfighting functions may be dependent on sustainment for capabilities. Those capabilities are below. (Mission command has no requirements under this category.)

### b. Intelligence.

(1) Future Army forces require the capability to integrate every Soldier as a sensor information with intelligence collection, planning, and analysis to enhance operations and intelligence integration and provide intelligence that supports all levels of decisionmaking.

(2) Future Army forces require the capability to integrate medical intelligence and surveillance operations results with intelligence collection and planning and analysis to enhance operations and intelligence integration and provide intelligence that supports all levels of decisionmaking.

c. Protection. Future Army forces require the capability to conduct law and order operations on military installations, and to strengthen host nation security forces, in full-spectrum operations to protect the personnel and population and preserve the rule of law.

### d. Fires.

(1) Future Army forces require the capability to provide continuous sustainment of all classes of supply to firing elements dispersed across wide areas in austere areas of operation to provide uninterrupted offensive and defensive fires during decentralized full-spectrum operations.

(2) Future Army forces require the capability to manage indirect fires and air missile defense Class V requirements to provide uninterrupted offensive and defensive fires during decentralized full-spectrum operations.

### e. Movement and maneuver.

(1) Future Army maneuver forces require the capability to provide rapid air movement and delivery of critical supplies, personnel, and repair parts directly to forward battlefield locations using manned and unmanned aerial systems to bypass unsecure LOCs, overcome antiaccess efforts, and maintain the momentum of operations

(2) Future Army maneuver force support units require platforms with the capabilities equal to the supported units, sufficient lethality to enable survivability, and mission command systems to maintain the momentum of operations.

(3) Future Army forces require the capability to support a force with dramatic reductions of demand requirements using technological advancements in power, fuel, water, ammunition, and distribution advancements that maximize production as close to the point of use as possible to support decentralized full-spectrum operations in the future operating environment.

(4) Future Army maneuver forces require the capability to have platforms with less fuel consumption per vehicle pound than the current fleet of platforms to support and sustain operations from and across extended distances.

(5) Future Army maneuver forces require the capability to have systems with increased operational availability and reduced sustainment requirements to support the concept of operating over extended distances.

(6) Future Army maneuver forces require the capability to have sufficient sustainment distribution assets to support widely dispersed noncontiguous operations to support decentralized operations.

(7) Future Army maneuver forces require the capability to store, issue, refrigerate, and deliver in classes I, II, III (P), IV, V, VI, VII, and IX in the context of a joint operating environment, to provide distributed sustainment in full-spectrum operations.

(8) Future Army maneuver forces require the capability to treat and evacuate casualties from point of injury, under close combat conditions, to save Soldiers lives.

(9) Future Army maneuver forces require the capability to generate and maintain high operational readiness rates for aviation platforms while reducing maintenance and sustainment requirements to support simultaneous aerial reconnaissance, aerial attack, air assault, vertical maneuver, and aerial resupply missions.

(10) Future Army forces require the capability to conduct reconstruction efforts in a joint environment to increase stability and security for the host nation

(11) Future Army forces require the capability to rapidly deploy and sustain forces throughout the area of operations in multiple locations down to point of employment to conduct combined arms maneuver.

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## **Appendix C**

### **Sustainment by Echelons**

#### **C-1. Overview**

The sustainment warfighting function is the related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance.<sup>18</sup> It is essential to retaining and exploiting the initiative. Successful sustainment enables freedom of action by increasing the number and quality of options available to the commander. The sustainment warfighting consists of three major subfunctions: logistics, personnel services, and health services support. These subfunctions involve many of the technical specialties and activities enumerated under the sustainment warfighting function, namely maintenance, supply, field services, and some transportation tasks, human resource support, financial management operations, and Army health system. The supported force may be comprised of joint, interagency, intergovernmental, or multinational forces. Army forces may be called upon to

provide support to other services, partner nations, contractors authorized to accompany the force, civilians (including refugees and disaster victims), and/or members of NGOs and PVOs.

## **C-2. Theater**

a. Sustainment operations within a theater are the responsibility of a Theater Sustainment Command (TSC), the senior Army sustainment headquarters (less health service support) in the theater. The mission of the TSC is to plan, prepare, rapidly deploy, and execute operational sustainment within an assigned theater. It and its subordinate units are assigned to a regionally focused theater Army. The TSC supports full-spectrum operations conducted in a complex, interconnected, and increasingly global operational environment. The TSC provides mission command of Army operational level sustainment (less health service support) in support of a joint or multinational force; providing centralized mission command and decentralized execution of sustainment operations throughout the theater. The TSC is capable of planning, controlling, and synchronizing all sustainment operations for the Theater Army commander or JFC. It provides full-spectrum sustainment operations from deployment through redeployment. The TSC's relationship with units in theater is supporting to supported. The TSC executes many of the Army's support responsibilities to other Services, support to partner nations as required, and performs as executive agent for numerous DOD common support requirements.

b. The TSC assists the Theater Army sustainment planners in identifying all lead service sustainment requirements, prioritizing requirements, and synchronizing distribution throughout the theater. Commanders identify their support requirements in terms of priority, location, timing, and duration and then the TSC commander determines the forces, methods, and procedures to be employed in providing the necessary support.

c. Integral to the TSC success is its ability to leverage and synchronize support from joint and strategic partners (such as, the U.S. Transportation Command, the Defense Logistics Agency, the Air Mobility Command, the General Services Administration, and U.S. Army Materiel Command). Selected common user logistics support, to include limited multinational cooperation, is possible for some logistics functions, such as providing bulk fuel and water, class I, movement and movement control, port arrangements and operations, and sharing of facilities such as distribution and warehousing.

d. The Medical Command (MEDCOM) (deployment support (DS)) conserves the fighting strength of the command through the synchronization of Army health system operations, commanding and controlling medical brigades (MEDBDEs) (support), multifunctional medical battalions (MMBs), and/or other medical units assigned and/or attached to the headquarters. The MEDCOM (DS) serves as the medical force provider within the theater by providing patient evacuation, laboratory services, hospitalization, dental services, combat stress, and other medical care as needed.

e. The MEDCOM (DS) commander identifies and evaluates health care requirements throughout his area of operations. Within the MEDCOM (DS) operational area, medical resources may be dispersed over an extended area and may include numerous areas with increased patient densities, transient troop populations, varying levels of hostilities, and

significantly different health care requirements. To execute Army health system operations successfully, the MEDCOM (DS) commander has the ability to rapidly task-organize and allocate medical assets across the theater of operations. The complexities of the operational environment, the myriad of medical functions, assets, and the requirement to provide health care across full-spectrum operations to diverse populations (U.S., joint, multinational, host nation, and civilian) necessitates a medical command authority that is regionally focused and capable of utilizing the scarce medical resources available to their full potential and capacity.

### **C-3. Corps and division**

a. The TSC executes its mission through the mission command of expeditionary sustainment commands (ESC), sustainment brigades, and combat sustainment support battalions in a support to supported relationship with units in theater. As required by METT-TC, the TSC may extend its operational reach by deploying multiple ESCs or sustainment brigades into specified areas of operations or joint operational areas to more effectively provide responsive support to supported units.

b. ESCs provide forward-based operational level sustainment support (less health service support), mission command of TSC sustainment forces, including those conducting theater opening, theater distribution, and area support within and between specified areas of operations. This capability provides the TSC commander with the geographical focus necessary to provide effective operational-level support to joint or Army task force missions and facilitates agile and responsive support by placing the ESC in relative proximity of the supported force and its operational environment. When necessary, the TSC may provide interim tactical-level support to early deploying Army elements.

c. Sustainment brigades are also subordinate commands of the TSC. They consolidate selected functions previously performed by corps and division support commands and area support groups into a single operational echelon and provide mission command of the full range of sustainment operations (less health service support) conducted at the operational level. Sustainment brigades through their combat support sustainment brigades conduct operational level sustainment operations (less health service support) to include area support of supply, maintenance, transportation, financial management, and human resources throughout their specified operational area. With augmentation, these brigades are capable of performing theater opening functions. Sustainment brigades may be placed in direct support of Army forces elements when appropriate. When supporting theater forces, a supporting to supported relationship is established. Under certain METT-TC conditions, a corps or division commander may take tactical control of a sustainment brigade when the commander has the Army forces for a specified purpose or period of time. Sustainment brigade headquarters are identical in organizational structure and capabilities.

d. The MEDCOM (DS) executes its mission through the use of the MEDBDE and the multifunctional medical battalion (MMB). The MEDBDE provides mission command to all assigned and attached units. One MEDBDE can provide direct support to a tactical commander, provide Army health system support to a division, corps headquarters, or a theater sustainment forces. These organizations provide simultaneous support to stability operations occurring

within their area of operations. The MEDBDE, in addition to providing mission command to subordinate and attached units, provides operational medical augmentation to Role 2<sup>19</sup> medical companies. It provides advice to the commanders on the medical aspects of their operations, such as medical staff planning, operational, and technical supervision, and administrative assistance for subordinate or attached units. It provides coordination with the supporting patient movement requirements center for medical regulating and medical evacuation support; medical consultation services in preventive medicine, behavioral health to include combat and operational stress control and neuropsychiatric care and nutrition services. The MEDBDE provides advice and recommendations for the conduct of civil-military operations to the corps G-9; controls and supervises Class VIII supply and resupply to include blood management; provides a joint-capable mission command capability when augmented with appropriate joint assets; provides support to all services as the executive agent for veterinary services. The MEDBDE provides field maintenance on all organic equipment, except communications-electronics and communications security equipment; and provides religious support and pastoral care ministry to all assigned and attached.

e. The MMB is a multifunctional medical mission command organization that replaces the functionally aligned medical battalion - area support; medical battalion - logistics; and medical battalion - evacuation. This multifunctional headquarters is composed of two standard requirement codes identified modules to facilitate the deployment and integration of the unit on the time phased force deployment list. This headquarters conducts operational planning for assigned and attached medical functional companies, detachments, and teams. The MMB headquarters should be deployed as far forward as the division area of operations. Even in this circumstance, the MMB would remain under the direct command of the MEDBDE and not directly attached to the brigade combat team. Detachments and/or teams assigned or attached to the MMB may be further attached to the medical company (brigade support battalion) to augment or reconstitute brigade combat team medical elements. The array of health care units assigned and attached varies depending upon METT-TC.

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## Glossary

### Section I

#### Abbreviations

ACC	Army Capstone Concept
AETF	air and space expeditionary task force
AF	assault force
AFSB	afloat forward staging base
AKO	Army Knowledge online
AMC	Army Material Command
AO	area of operations
AOC	Army Operating Concept
APOD	aerial port of debarkation
APOE	aerial port of embarkation
APS	Army prepositioned stocks
AR	Army regulation
ARCIC	Army Capabilities Integration Center
ARSOFF	Army special operations forces
ASCC	Army Service component command
ASF	Army strategic flotilla
BSB	brigade support battalion
C3I	command, control, communications, and intelligence
CAMEX	computer assisted map service
CONUS	continental U.S.
Cont	contractor
CSG	carrier strike group
DA	Department of the Army (intro)
Div	division
DLA	Defense Logistics Agency
DOD	Department of Defense
DOTMLPF	doctrine, organization, training, materiel, leadership and education, personnel, and facilities
DS	deployment support
ESC	expeditionary sustainment command
ESG	expeditionary strike group
FM	field manual
FSF	foreign security forces
HBCT	heavy brigade combat team
HNS	host nation support
HQ	headquarters
ISR	intelligence, surveillance, and reconnaissance
JDDE	joint deployment and distribution enterprise
JFC	joint force commander
JFLCC	joint forces land component command

JIIM	joint, interagency, intergovernmental, and multinational
JOA	joint operations area
JP	joint publication
JTF	joint task force
LCS	littoral combat ship
LOC	line of communication
LOG	logistics
MARFOR	Marine Corps forces
MEDBDE	medical brigade
MEDCOM	Medical Command
METT-TC	mission, enemy, terrain and weather, troops and support available, time available, and civil considerations
MMB	multifunctional medical battalion
MPF(F)	maritime prepositioning force future
MPSRON	maritime prepositioning ship squadron
MSSG	Marine expeditionary unit service support group
NCIE	net-centric information enterprise
NGO	nongovernmental organizations
OBJ	objective
OCONUS	outside the continental U.S.
OEF	Operation Enduring Freedom
OLLC	operational level logistics command
OPS	operations
OTH	over the horizon
Pam	pamphlet
PVO	private volunteer organizations
SB	sustainment brigade
SBCT	Striker brigade combat team
SF	special forces
SOF	special operations forces
SPOD	sea port of embarkation
SPOE	sea port of embarkation
SPT	support
SSG	surface strike group
SSN	nuclear attack submarine
TD	theater distribution
TRANSCOM	Transportation Command
TSC	Theater Support Command
U.S.	United States (intro)
USMC	United States Marine Corps
WFF	warfighting function

## **Section II**

### **Terms**

#### **anticipation**

The ability to foresee events and requirements and initiate necessary actions that most appropriately satisfy a response.

#### **civil support operations**

DOD support to U.S. civil authorities for domestic emergencies, and for designated law enforcement and other activities.

#### **coalition**

An ad hoc arrangement between two or more nations for common action.

#### **defensive operations**

Combat operations that defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations.

#### **distribution**

The operational process of synchronizing all elements of the logistics system to deliver the right things to the right place and right time to support the combatant commander. It is a diverse process incorporating distribution management and asset visibility.

#### **distribution management**

The function of synchronizing and coordinating a complex of networks (physical, communications, information, and resources) and the sustainment warfighting function (logistics, personnel services, and health service support to achieve responsive support to operational requirements.

#### **economy**

The provision of sustainment resources in an efficient manner to enable a commander to employ all assets to generate the greatest effect possible.

#### **field services**

The maintenance of combat strength of the force by providing for its basic needs and promoting its health, welfare, morale, and endurance.

#### **financial management operations**

Financial management encompasses two mutually supporting core functions of resource management and finance operations. These two functions are comprised of fund the force, banking and disbursing support, pay support, accounting support and cost management, financial management planning and operations, and management internal controls.

#### **general engineering**

Those engineering capabilities and activities, other than combat engineering, that modify, maintain, or protect the physical environment. Examples include: the construction, repair,

maintenance, and operation of infrastructure, facilities, lines of communication and bases, and terrain modification and repair and selected explosive hazard activities (JP 3-34).

**Generating Force**

Those Army organizations whose primary mission is to generate and sustain the operational Army's capabilities for employment by JFCs (FM 1-01).

**health services support**

All support and services performed, provided, and arranged by the Army Medical Department to promote, improve, conserve, or restore the mental and physical well-being of personnel in the Army, and as directed in other Services, agencies, and organizations (FM 4-02.12).

**human resources support**

Human resources support includes all activities and functions executed within the Army to man the force and provide personnel support and services to Soldiers, their Families, DOD civilians, and contractors (FM 1-0).

**integration**

The joining all of the elements of sustainment (tasks, functions, systems, processes, and organizations) to operations assuring unity of purpose and effort.

**interagency coordination**

The coordination that occurs between elements of DOD and engaged U.S. Government agencies for the purpose of achieving an objective (FM 3-0).

**information system**

Equipment and facilities that collect, process, store, display, and disseminate information. This includes computers—hardware and software—and communications, as well as policies and procedures for their use (FM 3-0).

**liaison**

Contact or intercommunication maintained between elements of military forces or other agencies to ensure mutual understanding and unity of purpose and action (JP 3-08).

**legal support**

The provision of professional legal services at all echelons (FM 1-04).

**logistics**

The planning and executing the movement and support of forces. It includes those aspects of military operations that deal with: design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; movement, evacuation, and hospitalization of personnel; acquisition or construction, maintenance, operation, and disposition of facilities; and acquisition or furnishing of services (JP 4-0).

**maintenance**

All actions taken to retain materiel in a serviceable condition or to restore it to serviceability.

**multinational operations**

A collective term to describe military actions conducted by forces of two or more nations, usually undertaken within the structure of a coalition or alliance.

**offensive operations**

Combat operations conducted to defeat and destroy enemy forces and seize terrain, resources, and population centers (FM 3-0).

**operational environment**

The composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0).

**operational contract support**

The process of planning for and obtaining supplies, services, and construction from commercial sources in support of operations along with the associated contractor management functions (JP 4-10).

**operational reach**

The distance and duration across which a unit can successfully employ military capabilities.

**personnel services**

Those sustainment functions maintaining Soldier and family readiness and fighting qualities of the Army force.

**property accountability**

The obligation of a person to keep records of property, documents, or funds. These records show identification data, gains, losses, dues-in, dues-out, and balances on hand or in use.

**regeneration**

The rebuilding of a unit. It requires large-scale replacement of personnel, equipment, and supplies.

**relevant information**

All information of importance to commanders and staffs in the exercise of mission command.

**reorganization**

Action to shift resources within a degraded unit to increase its combat effectiveness.

**responsiveness**

The ability to meet changing requirements on short notice and to rapidly sustain efforts to meet changing circumstances over time.

**stability operations**

An overarching term encompassing various military missions, tasks, and activities conducted outside the U.S. in coordination with other instruments of national power to maintain or re-

establish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief (JP 3-0).

**supply**

The procurement, distribution, maintenance while in storage, and salvage of supplies, including the determination of kind and quantity of supplies.

**support**

The action of force that aids, protects, complements, or sustains another force in accordance with a directive requiring such action.

**survivability**

The ability to protect personnel, information, infrastructure, and assets from destruction or degradation.

**sustainment**

The provision of logistics, personnel services, and health services support necessary to maintain operations until mission accomplishment (FM 3-0).

**transportation**

The moving and transferring of personnel, equipment, and supplies to support the concept of operations, including the associated planning, requesting, and monitoring.

**warfighting function**

A group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives.

**Section III**

**Special Terms**

**co-creation of context**

A continuous process in which commanders direct intelligence priorities to drive operations, and the intelligence that these operations produce causes commanders to refine operations based on an improved understanding of the situation.

**combined arms**

The combination of the elements of combat power with the integration and sequencing of all actions, activities, and programs necessary to seize, retain, and exploit the initiative in the context of full-spectrum operations.

**combined arms maneuver**

The application of the elements of combat power in a complementary and reinforcing manner to achieve physical, temporal, or psychological advantages over the enemy, preserve freedom of action, and exploit success.

**mission command**

The exercise of authority and direction by commanders, supported by their staffs, using the art of command and the science of control to integrate warfighting functions in the conduct of full-spectrum operations. Mission command uses mission orders to ensure disciplined initiative within the commander's intent, enabling agile and adaptive commanders, leaders, and organizations.

**network**

A single, secure, standards-based, versatile infrastructure linked by networked, redundant transport systems, sensors, warfighting and business applications, and services that provide Soldiers and civilians timely and accurate information in any environment, to manage the Army enterprise and enable full-spectrum operations with joint, allied, and interagency partners.

**operating decentralized**

A manner of conducting military operations which enables subordinates to act aggressively and independently with disciplined initiative to develop the situation; seize, retain, and exploit the initiative; and cope with uncertainty to accomplish the mission within the commander's intent.

**operational adaptability**

A quality that Army leaders and forces exhibit based on critical thinking, comfort with ambiguity and decentralization, a willingness to accept prudent risk, and ability to make rapid adjustments based on a continuous assessment of the situation.

**wide area security**

The application of the elements of combat power in coordination with other military and civilian capabilities to deny the enemy positions of advantage; protect forces, populations, infrastructure, and activities; and consolidate tactical and operational gains to set conditions for achieving strategic and policy goals.

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## Endnotes

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<sup>1</sup> FM 4-0.

<sup>2</sup> TRADOC Pam 525-3-0.

<sup>3</sup> Joint Logistics White Paper, version 0.9.

<sup>4</sup> Report: Energy security – America’s best defense; a study of increasing dependence on fossil fuels in wartime, and it’s contribution to ever higher casualty rates, written by GEN Charles F. Wald (USAF Ret.) and Tom Captain, published by Deloitte LLP, November 2009.

<sup>5</sup> Tactical Fuel AR 5-5 Study, 2009.

<sup>6</sup> Distribution Seminar Report, November 2009, Sustainment Battle Lab, 175-179.

<sup>7</sup> Distribution Seminar Report, November 2009, Sustainment Battle Lab, 172.

<sup>8</sup> Joint Logistics White Paper (JLWP).

<sup>9</sup> Joint Mobility Seminar Report, December 2008, Sustainment Battle Lab, 16-20.

<sup>10</sup> Logistics Command and Control Seminar Report, September 2008, Sustainment Battle Lab, 16.

<sup>11</sup> Air-Ground Distribution Management Experiment, May 2008, Sustainment Battle Lab, 115.

<sup>12</sup> TRADOC PAM 525-3-7-01, 103.

<sup>13</sup> Joint Mobility Seminar, December 2008, Sustainment Battle Lab, p. 76.

<sup>14</sup> Modular Force Logistics Concept (MFLC), September 2006.

<sup>15</sup> TRADOC PAM 525-3-7-01.

<sup>16</sup> Joint Mobility Seminar Report, December 2008, Sustainment Battle Lab, 20.

<sup>17</sup> Supply Support and Materiel Management Seminar Report, February 2009, 21-22.

<sup>18</sup> FM 3-0.

<sup>19</sup> Role 2 support is normally provided at larger unit level, usually a brigade or larger, though it may be provided farther forward depending on the operational requirement.