

Chapter 12

Combat Service Support

Before a commander can even start thinking of maneuvering or giving battle, of marching this way and that, of penetrating, enveloping, encircling, of annihilating or wearing down, in short of putting into practice the whole rigmarole of strategy, he has—or ought—to make sure of his ability to supply his soldiers with those 3,000 calories a day without which they will very soon cease to be of any use as soldiers; that roads to carry them to the right place at the right time are available, and that movement along these roads will not be impeded by either a shortage or a superabundance of transport.

Martin Van Creveld
Supplying War

12-1. Combat service support (CSS), like all other battlefield operating systems, is commanders' business. Commanders view operations and CSS as interdependent. CSS is an enabling operation that generates and sustains combat power for employment in shaping and decisive operations at the time and place the force commander requires. Commanders lay the groundwork to seize the initiative, maintain momentum, and exploit success by combining and balancing mission and CSS requirements.

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12-2. The force commander is responsible for integrating CSS into the overall operation. The CSS commander, as the force commander's primary CSS operator, assists in this. Operators and CSS planners view complex military problems from different perspectives. Without integration, the overall operation and CSS proceed along separate paths that may not support each other. With integration, the operational and CSS perspectives both contribute to the common operational picture (COP) that supports continuous assessment, planning, preparation, and execution.

PURPOSE OF COMBAT SERVICE SUPPORT

12-3. CSS is a major component of sustaining operations. The art of CSS involves projecting a strategically responsive force that generates decisive combat power. Successful application of the art of CSS requires proper synchronization between operational and tactical commanders and their CSS commands. Effective synchronization of operational and tactical requirements enables force commanders to initiate and sustain operations and extend their operational reach.

12-4. **Combat service support reach operations involve the operational positioning and efficient use of all available CSS assets and capabilities, from the industrial base to the soldier in the field** (see Figure 12-1). They enable force commanders to extend operational reach and to deploy and employ the force simultaneously, without pause. CSS reach operations merge operational art and science into an operations enabler. They minimize the CSS footprint in theater by deploying the minimum essential CSS elements to the area of operations (AO) and establishing links to and fully exploiting all available sources of support. CSS reach operations include the use of intermediate staging bases (ISBs), forward-deployed bases, Army pre-positioned stocks, and continental US (CONUS) resources. CSS reach operations capitalize on split-based and modular operations; they take maximum advantage of all available sources of support for follow-on sustainment.

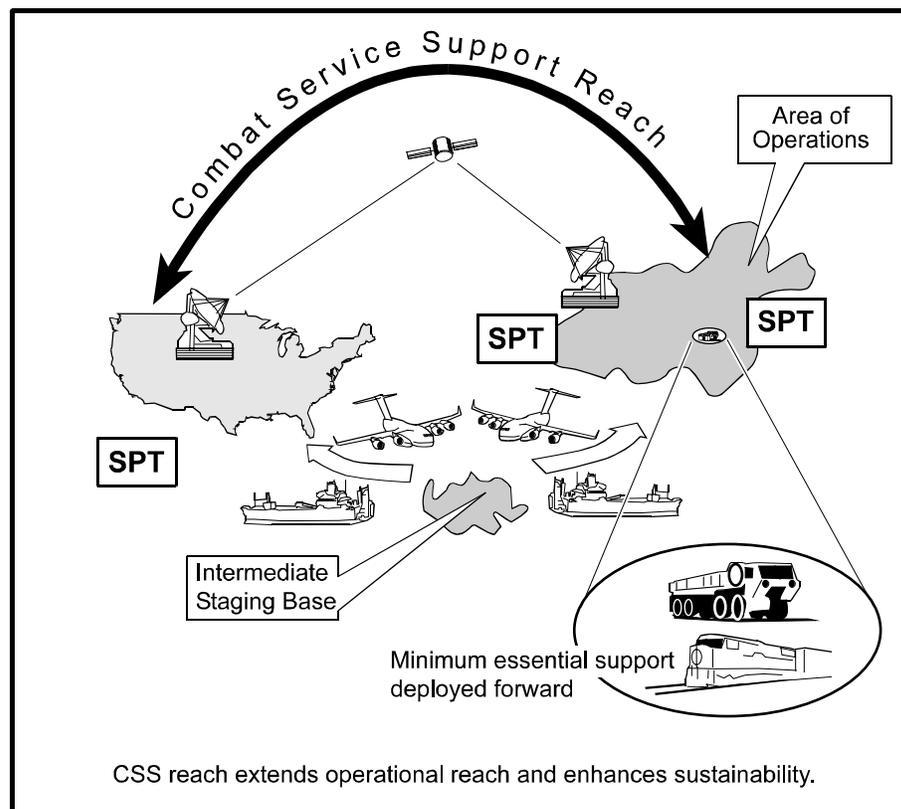


Figure 12-1. Combat Service Support Reach

12-5. CSS is integrated at all levels of war through a seamless distribution system. Active and reserve component, DOD and DA civilian, contractor, joint, and multinational assets all provide CSS from CONUS to and within the theater of operations. CSS operations enable the commander to generate combat power for employment in conducting shaping and decisive operations within the required time and at a tempo faster than the enemy can react.

COMBAT SERVICE SUPPORT CHARACTERISTICS

12-6. Force commanders visualize and describe the concept of CSS together with their CSS commanders. To help them describe the considerations required to conduct (plan, prepare, execute, and assess) successful operations, commanders view CSS characteristics from the perspective of the overall operation. CSS characteristics are integrated throughout the operational framework, guide prudent planning, and assist the staff in developing the support plan. (FM 4-0 discusses the relationship between joint logistic and joint personnel principles and the US Army CSS characteristics). CSS characteristics seldom exert equal influence, and their importance varies by situation. The commander identifies CSS characteristics having priority during an operation; they become the foundation for preparing the concept of CSS. The CSS characteristics are—

- **Responsiveness.** Responsiveness is the crucial characteristic of CSS. It means providing the right support in the right place at the right time. Responsiveness includes the ability to foresee operational requirements. It involves identifying, accumulating, and maintaining the minimum assets, capabilities, and information necessary to meet support requirements. On the other hand, the force that accumulates enough material and personnel reserves to address every possible contingency usually cedes the initiative to the enemy.
- **Simplicity.** Simplicity means avoiding complexity in both planning and executing CSS operations. Mission orders, drills, rehearsals, and standing operating procedures (SOPs) contribute to simplicity.
- **Flexibility.** The key to flexibility lies in the expertise for adapting CSS structures and procedures to changing situations, missions, and concepts of operations. CSS plans and operations must be flexible enough to achieve both responsiveness and economy. Flexibility may include improvisation. Improvisation is the ability to make, invent, or arrange for what is needed from what is at hand. Improvised methods and support sources can maintain CSS continuity when the preferred method is undefined or not usable to complete the mission.
- **Attainability.** Attainability is generating the minimum essential supplies and services necessary to begin operations. Commanders determine minimum acceptable support levels for initiating operations.
- **Sustainability.** Sustainability is the ability to maintain continuous support during all phases of campaigns and major operations. CSS planners determine CSS requirements over time and synchronize the delivery of minimum sustainment stocks throughout the operation.
- **Survivability.** Being able to protect support functions from destruction or degradation equates to survivability. Robust and redundant support contributes to survivability, but may run counter to economy.

- **Economy.** Resources are always limited. Economy means providing the most efficient support to accomplish the mission. Commanders consider economy in prioritizing and allocating resources. Economy reflects the reality of resource shortfalls, while recognizing the inevitable friction and uncertainty of military operations.
- **Integration.** Integration consists of synchronizing CSS operations with all aspects of Army, joint, interagency, and multinational operations. The concept of operations achieves this through a thorough understanding of the commanders' intent and synchronization of the CSS plan. Integration includes coordination with and mutual support among Army, joint, multinational, and interagency CSS organizations.

CSS characteristics are integrated throughout the operational framework. They guide prudent planning and assist the staff in developing the CSS plan (see JP 1-0; JP 4-0; FM 4-0).

COMBAT SERVICE SUPPORT FUNCTIONS

12-7. CSS consists of many interrelated functions. Planning, managing, and executing support involves synchronizing and integrating them. At all levels of operations, the key CSS functions include—

- **Maintenance.** Keep materiel in a serviceable, operational condition, return it to service, or update and upgrade its capability (see FM 3-04.500; FM 4-30.2).
- **Transportation.** Move and transfer units, personnel, equipment, and supplies to support the concept of operations (see JP 4-01; FM 4-01).
- **Supply.** Acquire, manage, receive, store, and issue all classes of supply (except Class VIII) required to equip and sustain Army forces. Supply also covers the turn-in, exchange, and/or disposition of items (see JP 4-0; JP 4-03; FM 4-20).
- **Combat health support.** Maintain the force by preventing disease nonbattle injury (DNBI) casualties; clearing the battlefield of casualties; providing forward medical treatment; providing en route care during medical evacuation; ensuring adequate Class VIII supplies and medical equipment are available; and providing veterinary, dental, and laboratory services (see JP 4-02; FM 4-02).
- **Field services.** Feed, clothe, and provide personal services for soldiers. Field services include clothing exchange, laundry, shower, textile repair, mortuary affairs, aerial delivery, and food services (see JP 4-06; FM 4-20).
- **Explosive ordnance disposal.** Neutralize domestic or foreign conventional, nuclear, chemical, and biological munitions and devices that present a threat to military operations and civilian facilities, materiel, and personnel (see FM 3-100.38; FM 4-30.12).
- **Human resources support.** Provide all the activities and systems needed for manning the force, personnel support, and personnel services to service members, their families, DA civilians, and contractors. These activities include personnel accounting; casualty management; essential services; postal operations; and morale, welfare, and recreation (see JP 1-0; FM 1-0).

- **Financial management operations.** Financial management operations provide finance and resource management services to commanders. Finance services include pay for vendors, services, accounting, central funding, technical advice, and policy guidance. Resource management services include technical advice to commanders on resource management implications and on the costs of preparing and conducting operations (see JP 1-06; FM 1-06).
- **Religious support.** Provide and perform religious support operations for the commander to protect the soldiers', family members', and authorized civilians' free exercise of religion. This includes the personal delivery of rites, sacraments, ordinances, spiritual care, religious counseling, spiritual fitness training and assessment, religious worship services, and advice to the command on matters of religion, morals, morale, and coordination with nongovernmental organizations (NGOs) and private voluntary organizations as appropriate (see JP 1-05; FM 1-05).
- **Legal support.** Perform operational law duties and provide advice and services in military justice, international law, administrative law, civil law, claims, and legal assistance in support of the command, control, and sustainment of operations (see FM 1-04).
- **Band Support.** Provide music to enhance unit cohesion, morale, and to musically support the entire spectrum of military operations. Support information operations, and should be integrated into public affairs, civil affairs, and psychological operations plans. When the musical mission of bands is no longer feasible due to the intensity of conflict, augment security operations for command posts, or augment perimeter security for enemy prisoner of war and civilian internee operations (see FM 1-08).

12-8. General engineering and contract support also support sustaining operations. General engineering involves constructing, repairing, operating, and maintaining infrastructure and facilities to enhance provision of sustainment and services (see JP 4-04; FM 3-34.250). Contracting support obtains and provides supplies, services, and construction labor and materiel. Contracting often provides a responsive option or enhancement to support the force (see FM 4-100.2).

COMBAT SERVICE SUPPORT PLANNING AND PREPARATION

12-9. Commanders of combatant commands, joint forces, ARFORs, Army service component commands (ASCCs), theater support commands, and other operational-level organizations are primarily responsible for CSS planning and preparation within a theater. CSS commanders assist force commanders in developing CSS plans based on the vision and intent of higher commanders. Force commanders visualize what needs to be done to support their concept of operations and convey that vision and intent to their CSS commanders. CSS commanders and staffs develop the concept of CSS. The staff then directs subordinate units to take actions to support the concept of operations. They consider availability of sustainment support from the CONUS base, support from pre-positioned stocks, the maturity of CSS resources in theater,

host nation and multinational support available, and support provided by other organizations. This process is common to all levels of command.

COMBAT SERVICE SUPPORT PLANNING

12-10. Force commanders integrate operational and CSS planning through the COP. They require timely CSS information to plan effectively. Staffs assist commanders by determining detailed CSS requirements during mission analysis. CSS planners use planning factors to quantify requirements. Parallel planning among staffs develops CSS plans that provide enough support to generate the requisite combat power for each phase of the operation. The CSS plan anticipates CSS requirements by phase; CSS operators respond to adjustments force commanders make during execution. CSS planning lets commanders make operational adjustments while the force continually generates and sustains combat power.

Combat Service Support Priorities

12-11. Force commanders maximize the use of limited resources by establishing CSS priorities and directing priorities of support. CSS commanders and staffs then develop a concept of CSS that meets the force commander's intent and planning guidance. In developing the concept of CSS, they ensure that it is responsive and flexible enough to accommodate changes in the situation. The force commander's decision to exploit an opportunity, reconstitute, prepare for future operations, or continue current operations may alter CSS priorities. Shifting operational priorities may require a corresponding shift in CSS priorities. During shifts, a temporary reduction in CSS capability may occur; however, CSS operations never completely cease.

Combat Service Support Estimates

12-12. The force commander directs the staff and CSS commanders to provide estimates that examine support to operational missions and requirements. CSS estimates, based on a thorough logistics preparation of the theater, provide a comprehensive and meaningful picture of CSS units, their capabilities, and options for employment. Personnel, combat health support, and CSS estimates are used to develop CSS plans and annexes. Force commanders require CSS personnel to express capabilities and their implications in operationally significant terms. Force commanders state their requirements to CSS commanders and staffs in a manner that achieves shared understanding. These requirements may include—

- The distance and locations to move the force.
- How positioning CSS assets affects the concept of operations.
- How long particular equipment must remain operational under tactical conditions.
- The types of material necessary for shaping and decisive operations throughout the AO.
- The availability and authority for use of Army pre-positioned stocks.
- Awareness of factors that limit operational reach and sustainability and ways to alleviate the situation.
- Rapid recovery and redeployment of scarce logistic assets, equipment, and supplies following the completion of operations.

- Expected medical or DNBI casualties and replacement rates.
- Security considerations based on the current threat assessment.
- Resource constraints on operational infrastructure repair.

12-13. Commanders understand that CSS is both an art and a science. The CSS command and staff challenge is to present force commanders with meaningful information that uses operational measures of support at the appropriate level of detail. Technology advances—such as improved asset visibility, the global transportation network, improved distribution methods, and enhanced CSS reach capabilities—enable CSS planners to prepare credible CSS plans that meet force commander requirements.

Concept of Combat Service Support

12-14. Force commanders use CSS characteristics to describe how CSS capabilities enable the force to generate and sustain combat power. CSS commanders and staffs use the military decision making process to develop CSS courses of action. The concept of CSS derives from the course of action that best supports the overall operation. In evaluating courses of action, commanders and staffs ask questions similar to these:

- Does the force projection flow generate the requisite combat power in accordance with the operational commander's priorities?
- Are we generating the appropriate level of CSS at the right locations for each phase of the operation?
- Can we simultaneously sustain the entire force throughout the operation?
- Which characteristics of CSS have priority during each phase of the operation? Are they addressed in the CSS plan?
- Are the distribution networks in place to accommodate the sustainment flow?
- Can we generate the operational reach and sustainability adequate for simultaneous and continuous operations, or do we accept an operational pause?
- Have we achieved the proper balance between combat, combat support (CS), and CSS forces, thereby optimizing our operational reach and sustainability?
- What is the plan for reconstitution of forces, if required?
- Have we adjusted the CSS factors influencing operational reach and sustainability, thereby maximizing the effectiveness of the distribution system and the lines of communications (LOCs)?
- Have we taken advantage of all available facilities, resources, and sources of support?
- Have we allocated resources and established CSS priorities?
- Have we assigned responsibilities and made the necessary command and control (C2) arrangements to execute the support plan?

COMBAT SERVICE SUPPORT PREPARATION

12-15. The force commander prepares the battlespace by integrating the operational and CSS components. CSS commanders assist by obtaining,

managing, and distributing the resources identified during planning. Negotiating host nation support agreements, contingency contracts, and other bilateral agreements, such as the acquisition and cross-service agreements (ACSAs), are part of this effort. CSS preparation also includes coordinating with strategic-level CSS managers to gain access to pre-positioned stocks or assets received through national-level agreements. Support base locations and LOCs are established and improved to meet operational requirements. Theater infrastructure, host nation support, multinational CSS, and contracted support are vital to Army CSS plans and operations. Each contributes to generating and sustaining combat power.

Theater Infrastructure

12-16. Army forces deploy with sufficient CSS to conduct operations upon arrival in theater. That amount may vary, depending on the availability of pre-positioned stocks. For protracted operations, CSS personnel plan for and prepare the essential theater infrastructure to establish the support base. The support base becomes critical for long-duration, enhanced responsiveness and force sustainability. All required facilities are usually not available at the start of operations. Facility capacities may be inadequate or damaged. Improving the theater base capabilities may require early deployment of maintenance, engineering, or terminal operations forces. Contracting support staff and medical, finance, legal, civil affairs, and resource management personnel—who are among the first to deploy—arrange access to host nation capabilities at staging and support bases. The requirement for adequate CSS capability is especially important in the early stages of operations, when reception, staging, onward movement, and integration are critical.

12-17. The time required to prepare a support base depends upon the extent and nature of the existing civil and military infrastructure in theater. When ports, airfields, roads, depots, repair facilities, supplies, and transportation facilities exist, CSS operations begin quickly, without establishing a new support base. When capabilities do not exist, Army units operate from austere theater bases until CSS facilities are built. In an immature theater, CSS and construction units are needed much earlier in the deployment flow.

12-18. Army watercraft are often essential in an immature theater. They allow commanders to avoid obstacles and enhance their scheme of maneuver. Army watercraft can self deploy to the theater of operations, augment existing seaport capabilities with in-stream offloading, and support reception capabilities through joint logistics over-the-shore (JLOTS) operations. They can supplement limited surface transportation capabilities by allowing coastal waterways to be used as main supply routes or through riverine operations.

Host Nation Support

12-19. Host nation support agreements are formal agreements with a nation to provide support and services. They include in-theater as well as en route support. Host nation support agreements can significantly reduce the preparation requirement for early augmentation of CSS forces. Their effective use can reduce the CSS forces required in theater and free early strategic lift for other purposes. Host nation support may include resources, transportation

assets, civilian labor, local security and police forces. Other examples include—

- Operation, maintenance, and security of seaports and airports.
- Construction and management of routes, railways, and inland waterways.
- Transportation support.
- Provision of limited health services.
- Subsistence support.
- Laundry and bath support.
- Petroleum support and bulk storage or warehouse support for storage.
- Augmentation of existing communication and automation networks.
- Indigenous religious leadership support.

Multinational Support

12-20. US law requires US forces to be reimbursed for support they provide to other militaries. When the necessary agreements are in place, Army forces may provide CSS to and receive support from multinational forces. Operations in Saudi Arabia, Somalia, Bosnia, and Kosovo all required support to multinational partners. Given authority, the US negotiates agreements with multinational partners. Even in cases where formal agreements exist, multinational sustainment presents a challenge. Commanders assess differences in support doctrine, quality of support standards, stockage levels, CSS mobility, interoperability, infrastructure, national resource limitations, and domestic law for their effect on preparation. The level of standardization among participating countries affects how support is provided.

12-21. In the absence of appropriate international agreements, no authority exists for combatant commanders to provide for or accept CSS from multinational partners. Legal authority to exchange support with multinational partners rests with host nation support agreements and other bilateral agreements, such as ACSAs. Approval to exchange support with NGOs normally comes

A coordinating authority is ... [an] individual assigned responsibility for coordinating specific functions or activities involving forces of two or more military departments or two or more forces of the same service.... Coordinating authority is a consultation relationship, not an authority through which command may be exercised.

from the Department of State. Bilateral agreements are necessary to leverage local resources to support deployed forces. Commanders and staffs at all levels need to be familiar with the scope and authorities provided by existing agreements. Staff estimates should reflect only those resources provided for by agreement. Negotiation and approval of these agreements may be restricted to the National Command Authorities or may be limited by statute or other legislative restrictions. Where no international agreements exist, requirements that need negotiation and approval must be identified early. The operational law judge advocate can assist in resolving issues involving international agreements.

12-22. Preparing for multinational support starts early in the planning process and continues throughout an operation. Although CSS is primarily a national responsibility, that fact cannot supplant detailed multinational CSS planning. Planners provide for emergency support that goes beyond requirements for temporary or routine circumstances. In some cases, US commanders exercise control over the various national support units; in others, they may have only coordinating authority. A multinational military commission may be formed to determine what nations are assigned specific support functions. When feasible, multinational commanders form a multinational support staff section (see FM 3-16).

12-23. Forces may be designated as lead nation or role specialization nation. *Lead nation* occurs when one nation assumes the responsibility for providing a broad spectrum of support in all or part of a multinational operation. *Role specialization* occurs when one nation assumes the responsibility for providing a particular class of supply (for example fuels) or service.

12-24. Multinational force commanders may exercise directive CSS authority only under formal multinational agreements. The degree of authority depends on existing agreements or arrangements negotiated among participating nations (see JP 4-08).

Contracted Support

12-25. Throughout its history, the Army has used contractors to support operations. Army forces increasingly rely on contracted support. Using contractors may help prepare CSS by decreasing strategic lift requirements and reducing reliance on military support forces (see JP 4-0; FM 3-100.21; FM 4-100.2). The following types of contractors support Army operations:

- **Systems contractors.** Systems contractors support deployed forces under prearranged contracts awarded by project managers, program evaluation offices, and the US Army Material Command (AMC). They provide specific materiel systems throughout their life cycle, during both peacetime and contingency operations. These systems include, but are not limited to, vehicles, weapons systems, aircraft, C2 infrastructure, and communications equipment.
- **External support contractors.** External support contractors work under contracts awarded by contracting officers serving under the command and procurement authority of supporting headquarters outside the theater. They augment the supported commander's organic CSS capability. For example, AMC's logistics civil augmentation program (LOGCAP) provides external support contractors through its prearranged umbrella contract. AMC logistic support elements administer these contracts in theater.
- **Theater support contractors.** Theater support contractors support deployed operational forces under prearranged contracts or contracts awarded from the mission area. Theater support contractors provide goods, services, and minor construction—usually from local vendors—to meet the immediate operational needs (see FM 4-100.2).

Contractor Support—Operations in the Balkans

As part of Operation Joint Endeavor in 1995, Army forces deployed 25,000 troops into Bosnia under uncertain conditions during the worst Balkan winter in 100 years. Army force commanders understood that war-torn Bosnia was an immature theater requiring extensive LOGCAP support. The deployment plan also called for establishing an ISB at Kaposvar and Taszar in Hungary, where units prepared for operations before entering the theater. Logisticians from the 21st Theater Army Area Command identified the requirements, and the deputy chief of staff for logistics, US Army, Europe, contracted for billeting, food, laundry and bath services, sanitation, transportation, base camp construction, and translators in the ISB before deployment. Contractors provided similar services in Bosnia, where numerous base camps supported the force. Contracted trucks hauled tons of building material, gravel, and other construction supplies as well as food, water, and other necessities. As in past operations, commanders retained total responsibility for soldier needs. However, contractors executed steady-state sustainment that enhanced the Army support structure and contributed toward mission accomplishment.

COMBAT SERVICE SUPPORT EXECUTION

12-26. The force commander is responsible for integrating CSS considerations into the overall operation. The types and quantities of CSS required and the methods used to provide it vary by type of operation.

COMBAT SERVICE SUPPORT IN OFFENSIVE OPERATIONS

12-27. Force commanders consider how the operational framework and CSS affect each other during offensive operations. A commander's decision to fight a simultaneous or sequential, linear or nonlinear operation may depend on CSS capabilities. CSS operations may be affected dramatically by such decisions. For example, in linear offensive operations, commanders may secure CSS assets on ground LOCs with maneuver forces. In nonlinear operations, commanders may move CSS primarily by air. Regardless of the operational framework, CSS commanders and staff support the decisive offensive operation at the time and place of the force commander's choosing.

12-28. Effective CSS in offensive operations demands CSS operators who foresee requirements and prepare to meet them before they occur. Force commanders require a simple concept of CSS that is responsive and flexible enough to adjust while executing offensive operations. To sustain momentum and provide freedom of action to exploit success, they integrate CSS considerations into plans. To ensure continuity of support, plans include provisions for CSS units to follow exploiting forces. Due to the tempo of offensive operations, units may experience high losses from combat operations, combat stress, and fatigue. Recognizing the potential for loss during offensive operations, commanders plan for reconstitution. Planners consider the potential effects these losses have on tactical operations, combat health support operations, strength and casualty reporting, replacement operations, religious support, and soldier morale.

12-29. Commanders visualize the effects of rapid tempo on their ability to sustain offensive operations. The tempo and depth of offensive operations wear out equipment and consume great quantities of supplies, particularly bulk fuel and ammunition. The high workloads and evacuation requirements of offensive operations put stress on maintenance, Class IX, and supply operations, and increase Class VII requirements. Greater movement requirements and potentially longer LOCs tax transportation resources. As the Army transitions to a “replace forward, fix rear” maintenance system, contracted support in forward areas during offensive and defensive operations is less viable than in stability operations or support operations.

Full Spectrum Support— 22d Support Command in Southwest Asia

During Operations Desert Shield and Desert Storm, 22d Support Command CSS soldiers provided operational-level support for reception, staging, and onward movement of US and coalition forces. They employed US units and host nation assets, working with the strategic sustainment base, joint and multinational headquarters, and the host government. Army logisticians turned Dhahran airport into the primary aerial port of debarkation, with over 6,700 aircraft arriving between August 1990 and March 1991. CSS soldiers processed thousands of combat troops into the theater, an effort requiring contracted support for food, fuel, water, shelter, and transportation. Contracting, which included placing purchasing power in commanders' hands, aided a rapid build-up. Finance, contracting, and host nation support played major roles in Army CSS efforts.

CSS units created and operated numerous CSS bases to sustain two Army corps in combat. Ammunition and fuel requirements totaled 14,000 tons and 4.5 million gallons daily. With Kuwait's liberation, the 22d Support Command redeployed forces and sustained those left in theater. Simultaneously, CSS soldiers supported humanitarian relief actions for Kurdish refugee camps in Iraq and Turkey and sustained four prisoner of war camps holding 60,000 Iraqis. Throughout Operations Desert Shield and Desert Storm, 22d Support Command demonstrated Army support capability for full spectrum operations.

COMBAT SERVICE SUPPORT IN DEFENSIVE OPERATIONS

12-30. Tactical commanders consider CSS capabilities when deciding whether to conduct a mobile or area defense. For example, in an area defense, commanders may position CSS assets well forward to respond quickly and be protected by maneuver forces. In a mobile defense, commanders may move CSS assets further away from combat and CS forces to free up space for maneuver. Regardless of the type of defense, CSS commanders and staffs design a concept of CSS that allows a smooth transition to the offense.

12-31. CSS requirements for defensive operations depend on the type of defense. Forces in a mobile defense consume more fuel than those in an area defense. Typically, bulk fuel consumption may be less than in offensive operations. However, ammunition consumption is higher and will likely have the highest movement priority. Barrier and fortification material is moved

forward in preparation for all types of defense. Chemical defense equipment may also be a significant requirement. As with the offense, the force commander's operational design affects the concept of CSS. The CSS commander synchronizes the concept of CSS with the force commander's concept of operations. The CSS plan includes branches or sequels that address generating and sustaining combat power after the transition to offensive operations.

COMBAT SERVICE SUPPORT IN STABILITY OPERATIONS

12-32. CSS requirements in stability operations vary greatly, depending on the mission and circumstances. Force commanders conduct stability operations in complex, dynamic, and often asymmetric environments. For example, they may be required to establish a presence, separate combatants, restore order, or perform other operations that provide stability. Frequently, force commanders must repair enough infrastructure to maneuver and sustain the force while simultaneously stabilizing the situation. CSS commanders and staffs devise concepts of CSS that give force commanders flexibility to meet changing situations.

12-33. Some stability operations, such as peace enforcement operations, may involve levels of support comparable to offensive and defensive operations. In other operations, demands may be lower but distances between units may increase. In stability operations, contracted support is often more appropriate than in other operations. Contracting may be appropriate for such CSS activities as food service; morale, welfare, and recreation; billeting; transportation; shower; laundry; and clothing repair. It is important to integrate support not only with other US services and multinational partners but also with nongovernmental organizations. Class IV and explosive ordnance disposal support may be prominent requirements in stability operations.

COMBAT SERVICE SUPPORT IN SUPPORT OPERATIONS

12-34. In support operations, CSS forces may conduct the decisive operation. Support operations involve providing relatively high levels of CSS-related support to civilian populations. For example, a commander given a disaster relief mission—such as aiding victims of a hurricane where thousands of homes were destroyed—may need to provide water, food, medical care, and electricity to people in communities spread over hundreds of miles. In other support operations, such humanitarian relief missions in areas stricken by floods or drought, the force must counter disease and starvation. Support operations such as these involve providing services to meet the immediate needs of designated groups for a limited time until civil authorities can assume responsibility. Distribution of food, water, supplies, and field services are often the primary activities. Combat health support, which involves such activities as providing basic necessities and establishing or improving basic health and sanitation services, may be prominent as well. The lack of usable road space may place a greater dependency upon air assets. The Army forces best suited to accomplishing these complex missions in difficult conditions are CSS organizations.

12-35. How force commanders approach providing support to civil authorities affects the concept of CSS. CSS commanders and staffs devise concepts of CSS that meet mission requirements in the priority that force commanders specify. Planners work with multinational, joint, and interagency planners,

along with local authorities, to ensure support responsibilities, priorities, and standards, as well as rules of engagement, are clearly laid out.

TACTICAL COMBAT SERVICE SUPPORT

12-36. Tactical CSS supports battles and engagements. While tactical operations can last for weeks, tactical support is measured in days or hours. Tactical CSS sustains force momentum. It focuses resources to support the commander's intent and concept of operations and maximize freedom of action. The tactical CSS plan addresses how each CSS function supports the operation. Planning identifies CSS risks. Army units make up the bulk of the tactical CSS structure. Support also comes from host nation, joint, and multinational military organizations; DOD and DA civilians; and civilian contractors—especially in stability operations and support operations.

ARMY COMBAT SERVICE SUPPORT WITHIN JOINT OPERATIONS

12-37. Combatant commanders and staffs, along with their service component commands, manage theater strategic- and operational-level support. At the theater strategic level, combatant commanders and their subordinate service or functional component commanders generate and move forces, materiel, and sustainment into theater (see JP 3-35; JP 4-0; FM 3-35 series; FM 3-100.7).

12-38. In joint operations, coordination and execution of CSS is a service responsibility unless the combatant commander directs otherwise through lead service designation or existing interservice support agreements (ISSAs). Regardless of the joint or multinational command arrangements, the ASCC retains the responsibility for Title 10 support of all subordinate Army units through the service chain of command via administrative control (ADCON) authority. ASCC commanders, together with combatant commanders, identify CSS requirements, coordinate resource distribution from the strategic base, allocate necessary CSS capabilities, and establish Army CSS C2 relationships within the theater of operations. The ASCC commander ensures proper execution of all combatant commander- or ISSA-directed common support requirements within the theater of operations.

12-39. Operational CSS links the national sustainment base capabilities to tactical support requirements during campaigns and major operations. Planners integrate CSS and operational concerns at the operational level. Commanders rely on experience and judgment to balance the deployment and support of combat, CS, and CSS units to generate combat power in accordance with joint force commander (JFC) priorities. Staffs link tactical requirements with inbound strategic support while meeting joint and multinational support responsibilities outlined in applicable combatant command and JFC operation plans or orders.

12-40. Operational-level CSS organizations and staffs interface with elements of the strategic sustainment base that deploy into the theater of operations. National sustainment base operational and tactical-level contingency support includes—

- Defense Logistics Agency (DLA) contingency support teams.
- AMC logistic support elements.
- Elements of the US Army Medical Research and Materiel Command.

- US Transportation Command, through its component commands—the Air Mobility Command, Military Traffic Management Command, and Military Sealift Command.

12-41. Each service is responsible for supporting its own forces except when otherwise directed by DOD or combatant command directives, plans, and orders, or when provided for by agreements with national agencies, services, or other nations. While the Army has been designated as the peacetime DOD executive agent for numerous CSS-related requirements, these responsibilities are normally focused at the national strategic level and may not directly apply to a specific joint operation. In all joint operations, the combatant, joint force, and ARFOR commanders take these DOD-level responsibilities into account when determining the lead service for a specific common user logistic (CUL) requirement.

12-42. Combatant commanders use their directive authority for logistics to assign lead service CUL support requirements. Normally, the service component (or DOD agency, such as DLA) that is the dominant user or most capable organization for a particular common logistic item or service becomes the lead service. These lead service directives often require the Army to plan and provide significant CUL support to other service components, multinational partners, governmental agencies, and nongovernmental agencies. These requirements can generate major planning and resource requirements for ASCCs and the operational-level support commands tasked to meet them.

12-43. Army operational-level CSS and CUL tasks are best executed by operational-level CSS organizations designed and resourced to execute them. Operational-level support organizations include the multifunctional theater support command as well as functional engineer, finance, medical, personnel, and transportation commands. Operational-level support units deploy tailorable early-entry functional modules during the early stages of force projection. The ARFOR commander uses these tailored organizations to provide the functional expertise and C2 capabilities necessary to properly support the force. These modular organizations expand as necessary to provide the proper level of support for each operation or phase (see FM 4-93.4).

12-44. In some situations, tactical-level CSS organizations may perform operational-level support missions. In most cases, tactical-level CSS units require augmentation from echelons above division forces to properly accomplish operational-level support tasks.

NATIONAL PROVIDERS AND NATIONAL STRATEGIC SUPPORT

12-45. National-level CSS is strategic-level support provided by the national economic base, which includes the DOD and military department national providers. At the national strategic level, the Joint Staff, military departments, US Transportation Command, and national CSS providers focus on force readiness and support of force projection operations. Key national CSS providers that support Army operations include the DLA, AMC, US Army Medical Command, US Army Personnel Command, and Defense Finance and Accounting Service. Department of the Army accomplishes the force readiness mission through day-to-day execution of its Title 10 responsibilities. Army CSS Title 10 responsibilities include supplying, equipping,

administering, and maintaining the force. Meeting all responsibilities is essential to maintaining appropriate force readiness levels.

EXTENDING OPERATIONAL REACH AND SUSTAINABILITY

12-46. Operational reach and CSS reach operations are related components of the operational art. Commanders practice operational reach and CSS operations to extend their battlespace in time and space across the range of operations. Effective CSS operations are required to extend the depth and duration of full spectrum operations. Commanders study the factors that influence operational reach and sustainability. Only a thorough understanding of these factors allows commanders to understand how CSS operations generate and sustain combat power.

12-47. CSS can also extend the operational reach by reaching back to the national provider, AMC. The AMC Operations Support Command has forward elements in Korea, Southwest Asia, Europe, and CONUS. The forward elements include Army field support centers. They sustain Army materiel in theater, minimizing the load on strategic lift and theater logistics footprint. As required, the AMC forward command can deploy a modular, tailored logistic support element into the AO. AMC manages pre-positioned and afloat stocks, which are available to combatant commanders. AMC also manages the single stock fund with the ability to pull stocks as required from anywhere in the world into an integrated Army supply and maintenance program.

12-48. Effective CSS allows commanders to initiate and sustain operations over time as well as extend the operational reach of the force. Operational reach reflects the operating ranges of combat, CS, and CSS assets. Sustainability refers to the force's ability to conduct operations over time. CSS commanders enable the force commander to extend operational reach and enhance sustainability through CSS reach operations.

12-49. If military operations extend beyond a force commander's operational reach, culmination normally follows. Commanders arrange operations in time and space to avoid culmination. The essence of the art of CSS involves continuously adjusting CSS plans and operations within the commander's intent to delay or preclude an operational pause or culmination.

Combat Service Support Factors Influencing Operational Reach And Sustainability

12-50. Commanders consider secure LOCs, the distribution system, and C2 as key CSS factors that generate and sustain combat power and extend operational reach and sustainability. In allocating resources, commanders take into account the physical factors that limit a force's operational reach and freedom of action. Ignoring these factors risks culmination. To understand their influence on operations is to master the art of CSS. CSS factors influencing operational reach and sustainability include—

- **Scope of support.** The scope of support refers to the types and levels of support provided to the force. It varies with the type of operation, the time to prepare for an operation, the maturity of the theater, and the phase of the operation. As the theater matures, the type of support provided and the locations of support facilities may change.

- **Distribution networks.** The Army CSS system in theater operates within the joint theater distribution system (see JP 4-01.4; FM 4-01.4). The distribution system consists of several interrelated networks: communications and automation, physical, and resource. These networks provide the asset visibility necessary for efficient and effective distribution. The communications and automation network distributes and correlates CSS data across the force, while assisting all commanders with management of the information. The physical network consists of the quantity and capability of fixed structures and established facilities. It includes factories, warehouses, airfields, seaports, roads, railroads, inland waterways, pipelines, terminals, bridges, tunnels, and buildings. These facilities can be located in CONUS, at an ISB, at a forward deployed base, or in theater. The resource network consists of the people, materiel, and machines operating within and over the physical network.
- **Sources of support.** Support may come from DOD, Army, joint, multinational, host nation, and NGO sources. In addition, theater support contracts can be obtained through contracting or host nation support.
- **Availability of materiel.** Materiel is available to a force through its stocks and resupply. There are several internal constraints on stocks. They include the upload capacity of its soldiers and equipment and the storage capacity for materiel not uploaded. They also include the internal transportation assets needed to move supplies from stockpiles to their point of employment. Effective use of the multiple sources of support can increase the availability of materiel, enhance responsiveness, and improve the flexibility and sustainability of the operation.
- **Modularity.** Modularity is the ability to provide force elements that are interchangeable, expandable, and tailorable to meet changing missions and needs. Modular units combine the assets required to provide a support function or group of related functions. A module can be sent to support a deploying force without adversely affecting the ability of the parent unit to function at a reduced level. Modularity enhances the CSS commander's ability to conduct C2 operations as well as the functional CSS operations in a dispersed environment.

12-51. Force commanders provide for essential CSS functions by tailoring and task organizing a force capable of providing the appropriate level of support throughout an operation. This ensures a proper balance of combat, CS, and CSS capabilities. Provision of all services in the AO can enhance sustainability and operational reach. These services include personnel, medical, field services, maintenance, transportation, religious, financial management, legal, and explosive ordnance disposal.

12-52. LOCs are a key factor of operational reach and CSS reach operations. LOCs are all routes—land, water, and air—that connect military forces with their support base and along which supplies, personnel, equipment, and military forces move. The designation of LOCs and securing their use is commanders' business. LOCs and the assets on them must be protected. LOCs consist of complexes of networks, facilities, procedures, arrangements, and units. They link the strategic sustainment base to the operational support

base and the operational support base to tactical formations. Multiple LOCs require a substantial increase in forces to secure them.

12-53. LOC security and support are essential to CSS operations and may effect combat power allocation. The ability to secure LOCs is an important consideration in determining operational objectives. LOCs require particular attention during nonlinear, episodic, or easily interdicted operations. LOC security and support enables effective management of the distribution system that permits on-time delivery of supplies and extends operational reach.

12-54. Where the force commander establishes the support base influences the course of a campaign and the support plan. Lodgments are generally established near key seaport or airport facilities. They need to allow easy access to strategic sealift and airlift, offer adequate space for dispersal and storage, facilitate transshipment of supplies, and be accessible to multiple LOCs. A key to the success of the CSS plan is the capability of the distribution system to receive, store, manage, maintain, issue, and move materiel and personnel to using activities and units at the right time. An effective distribution system allows commanders to generate and sustain the necessary combat power for each phase of the operation.

Adjusting the Factors

12-55. Commanders adjust and balance CSS factors based on their vision and intent. Commanders can enhance sustainability and extend operational reach by adjusting the scope of support provided. Some CSS functions can be deferred or performed at reduced levels. Doing this during force projection may allow combat forces to move up in the deployment flow. For example, laundry and bath services may be deferred during the early stages of force projection; however, doing this risks disease and adverse morale. Commanders consider such tradeoffs when deciding whether to adjust the scope of support.

12-56. Commanders may adjust the location of certain support activities and facilities to increase responsiveness and force sustainability. If automation and communication networks permit, commanders may require CSS units to perform portions of support functions, such as CSS management and administration, remotely—in an ISB, the main theater base, home station, or CONUS. Split-based operations help minimize the size of the deployed CSS force, reduce demands on LOCs, and increase force agility. The positioning of stocks, units, or other capabilities dedicated for a specific operation is another component of CSS reach operations. These stocks or units may be positioned at home station, an ISB, or another location within the theater of operations.

12-57. Commanders must make maximum use of all sources of support. Several factors can increase the availability of materiel, enhance responsiveness, and improve the flexibility and sustainability of operations. These factors include making effective use of theater support contracts (host nation support and contracted assets), support from other nations, and common user support to all services in theater. They also include efficient use of DOD and DA civilians, civilian contractors, and CSS reach capabilities.

12-58. Digital linkage of combat, CS, and CSS units allows positive control of CSS functions. Combined with reliable and responsive distribution networks, this enhanced asset visibility can achieve optimal stockage levels and

maximize CSS reach capabilities. The COP enables CSS operators to foresee requirements and enhances force commanders' confidence in CSS operations.

12-59. Adjusting CSS factors can entail risks. When necessary, commanders conduct a risk analysis to determine what CSS functions can be deferred, performed at a reduced level, or performed in alternative locations in the short term. Initially deferred functions can be enhanced through follow-on support or call-forward capabilities pre-positioned at an ISB or other location.

12-60. Commanders may also adjust factors related to materiel availability. Information systems and connectivity enhance asset visibility. Coupling them with an effective distribution system allows commanders to reduce in-theater stockage levels. Increasing a unit's basic load may extend its operational reach and sustainability. However, since a unit's upload capacity is normally fixed, increasing the basic load may reduce its agility. This can be offset by increasing the unit's transportation assets if the key concern is the threat of interruptions to the distribution system and LOCs rather than unit agility.

12-61. Commanders can adjust resupply by increasing lift or lift frequency, or by removing transfer bottlenecks at points such as ports, airfields, roads, and bridges. Commanders may also control resupply of critical items by setting priorities and controlling expenditure and supply rates. They can extend operational reach by establishing forward bases and depots and by improving the security and efficiency of LOCs. This is one example of how tactics and CSS interact. Gaining control of the communication centers, transportation nodes, and base areas necessary to support the force requires combat assets.

THE IMPACT OF TECHNOLOGY

12-62. To generate and sustain combat power, commanders conducting full spectrum operations require responsive, flexible, and modular CSS. Key to achieving proper CSS force mix is improved management of information and distribution systems. Technology advances in asset visibility, communications, C2, and distribution methods have increased CSS reach and enable the CSS system to provide rapid throughput with a reduced CSS footprint. Increasing throughput results in faster force projection and reduction of the overall demand for CSS in theater.

12-63. Developing CSS technology will create CSS organizations that are modular, have asset visibility, and are more responsive to the commander's CSS requirements. Technological developments focus on such items as—

- Precision and common-caliber munitions.
- Common chassis family of vehicles and ultrareliable equipment.
- Support vehicles with on-board upload and download capabilities.

Technology continues to evolve, depending on funding and available resources. Developing and fielding new CSS technologies will enable the commander to generate and sustain combat power faster and more decisively than before. Commanders prepare to leverage the capabilities of new CSS technology when it enters the force.

Leveraging Technology—Real-time CSS

During Operations Desert Shield and Desert Storm in the early 1990s, logistic data moved on floppy diskettes manually transported between computers at distant locations, a better method than before but time and resource consuming.

By the late 1990s, logisticians benefited from incredible technological leaps. During Operation Joint Endeavor in 1995, 5th Signal Command created a robust communications architecture that linked CSS supporting units to the theater logistics base in Germany. CSS soldiers used in-transit visibility to track equipment, personnel, and supplies. CSS units used the Standard Army Management Information System (STAMIS) to exchange information near instantaneously. For the first time, commanders and logisticians accessed, planned, and directed CSS at every level.

During Operation Joint Endeavor, radio frequency interrogators tracked equipment shipped from CONUS and throughout the theater and could identify contents within containers. One such container arrived in Taszar, Hungary, releasing a noxious smell, a potentially unsafe situation that required opening the container. Personnel from the freight forwarding activity used radio frequency interrogator technology to read the tag and discovered the presence of powdered battery acid and petroleum products. Forewarned, the CSS soldiers took appropriate measures, and upon opening the container discovered that the acid carton had ruptured during shipment.

In addition to radio frequency interrogators, logisticians used the Defense Transportation Reporting and Control System (DTRACS) to locate troop trains and convoys. DTRACS enabled commanders to track soldiers and equipment, enhance force protection, and redirect assets on the move. Less than five years after the Gulf War, technology significantly enhanced logisticians' capabilities to support Army forces with greater accuracy and speed.