

## PART FOUR

# Enabling Operations

Part Four discusses operational-level enabling operations. Commanders direct enabling operations to support offensive, defensive, stability, and support operations. Enabling operations are usually shaping or sustaining; they may be decisive in some military operations other than war.

**Chapter 11** addresses how Army forces conduct operations to gain and maintain information superiority. It describes the necessity for Army forces to be able to see their battlespace, understand the situation in their battlespace, and act before their opponent. It outlines the characteristics of information superiority and the information environment. It discusses the contributors to information superiority: intelligence, surveillance, and reconnaissance operations; information management; and information operations, to include its related activities. It describes the aspects of the operations process important to achieving information superiority. It concludes by outlining the impact of technology on the contributors to information superiority.

**Chapter 12** addresses combat service support (CSS). It presents the purpose and characteristics of CSS and lists the CSS functions. It describes the factors that affect conducting CSS operations to support the four types of Army operations. The discussion addresses the support provided by national providers, CSS operations in joint and multinational environments, and the factors affecting operational reach and sustainability. Chapter 12 ends by describing the effect of technology on CSS operations.

Directing enabling operations is an intrinsic function of command and the art of operations. Alone, enabling operations cannot assure success; however, neglecting them can result in mission failure.

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## Chapter 11

# Information Superiority

*To guess at the intention of the enemy; to divine his opinion of yourself; to hide from both your intentions and opinion; to mislead him by feigned manoeuvres; to invoke ruses, as well as digested schemes, so as to fight under the best conditions—this is and always was the art of war.*

Napoleon

11-1. The side possessing better information and using that information more effectively to gain understanding has a major advantage over its opponent. A force that achieves this advantage and effectively uses it to affect enemy perceptions, attitudes, decisions, and actions has exploited information superiority. **Information superiority is the operational advantage derived from the ability to collect, process, and disseminate an uninterrupted flow of information while exploit-**

**ing or denying an adversary's ability to do the same.** Commanders exploit information superiority to accomplish missions. Information superiority is not static. During operations, all sides attempt to secure its advantages and deny them to adversaries and enemies. The operational advantages of information superiority can take several forms, ranging from the ability to create a better operational picture and understand it in context, to the ability to shape the environment with offensive information operations (IO).

11-2. At its essence, information superiority is about Army forces being able to see first, understand first, and act first. Army forces cannot develop information superiority if they are constantly reacting to enemy operations. Information superiority requires commanders who are proactive, view information as an element of combat power, trust their subordinates to provide relevant information, and conduct (plan, prepare, execute, and continuously assess) operations accordingly. To achieve information superiority,

### CONTENTS

<b>Characteristics of Information Superiority .....</b>	<b>11-3</b>
<b>The Information Environment .....</b>	<b>11-4</b>
<b>Contributors to Information Superiority ..</b>	<b>11-5</b>
<b>Intelligence, Surveillance, and Reconnaissance .....</b>	<b>11-7</b>
<b>Information Management .....</b>	<b>11-11</b>
<b>Information Operations .....</b>	<b>11-16</b>
<b>Planning and Preparing to Achieve Information Superiority .....</b>	<b>11-20</b>
<b>Continuous Coordination.....</b>	<b>11-21</b>
<b>Information Superiority and Strategic Responsiveness .....</b>	<b>11-21</b>
<b>Information Superiority Execution .....</b>	<b>11-22</b>
<b>Operations in Noncontiguous Areas of Operations .....</b>	<b>11-23</b>
<b>Subordinate Initiative .....</b>	<b>11-23</b>
<b>The Impact of Technology.....</b>	<b>11-23</b>

commanders synchronize and target information as intensely as they do fires and maneuver. They seek to make better use of their information and information systems than adversaries or enemies do of theirs. These information systems include the analysis, procedures, and training necessary to extract and exploit intelligence and other critical information from raw data, and present it in a form in which it can be quickly understood. Successful commanders are those who see, understand, and then exploit the situation.

## **CHARACTERISTICS OF INFORMATION SUPERIORITY**

11-3. Gaining and exploiting information superiority demands effective doctrine, training, leadership, organization, materiel, and soldiers. It puts a premium on the commander's ability to visualize, describe, and direct operations. Effective use of advanced information systems, procedures, and training allows commanders to achieve and maintain situational understanding. Modern information technologies help commanders lead more effectively and consistently make better decisions than those opposing them.

11-4. Commanders manage their information resources, combine their judgment with the knowledge of their staffs and subordinates, and use information systems to understand their battlespace better than their adversaries or enemies do. Commanders require relevant information about the factors of METT-TC to exercise effective command and control (C2). From the initial warning order to completion of redeployment, Army forces use every means, including force, to acquire that information. At the same time, they attempt to deny adversaries and enemies information about friendly forces and actively degrade their ability to collect, process, store, display, and disseminate information. Effective friendly use of information, complemented with active measures that prevent enemies from using information effectively or countering friendly information use, creates conditions for achieving information superiority. Army forces use the qualitative advantages of information superiority as a springboard for decisive operations.

11-5. The operational and tactical implications of information superiority are profound. Rapid seizure and retention of the initiative becomes the distinguishing characteristic of all operations. Information superiority allows commanders to make better decisions more quickly than their enemies and adversaries. Unable to keep pace, enemies and adversaries must deal with new problems before they can solve current ones. In combat, a rapid tempo—sustained by information superiority—can outpace enemy's ability to make decisions contribute to his destruction. In stability operations and support operations, information superiority helps deploying forces anticipate problems and requirements. It allows commanders to control events and situations earlier and with less force, creating the conditions necessary to achieve the end state.

11-6. Adversaries and enemies pursue their own relative information advantages, very likely in asymmetric ways, while continually attempting to deny information superiority to friendly forces. Because opposing forces constantly adapt and situations continually evolve, information superiority is relative and transitory. Absolute information superiority is not possible. Commanders

assess the quality of their information against their decision making requirements. Against that assessment, they estimate the quality of the enemy's operational picture. Commanders avoid any complacency associated with relative levels of military technology. They are aware that their enemy may, by chance or countermeasures, uncover the sources of friendly informational advantage, block them, or use them to deceive.

11-7. Commanders recognize that unless they envision and direct operations designed to achieve and maintain information superiority, they may lose it. Commanders exploit any advantages in information capability and intelligence to increase the effects of combat power. They constantly seek to improve their situational understanding and to assess that of their enemy. They know that losing information superiority may result in losing the initiative.

*Nations do not go to war because they think war is safe. They go to war because they think they will win.*

Richard M. Swain  
*Lucky War*

## THE INFORMATION ENVIRONMENT

11-8. The information environment is the aggregate of individuals, organizations, or systems that collect, process, or disseminate information; also included is the information itself. The climate, terrain, and weapons effects (such as electromagnetic pulse or blackout) affect the information environment but are not part of it. The information environment includes the C2 systems of friendly and enemy forces and those of other organizations and groups. Commanders consider the explosive growth of information and the pervasive nature of the information environment when they visualize an operation. They include that part of the information environment that affects their operation in their battlespace.

11-9. Most of the information environment is not under military control, adding to the challenges commanders face. While they cannot control the entire information environment, they must be prepared to operate within it. Interaction with the information environment increases the complexity of Army operations. More than ever, commanders consider how factors outside their area of operations (AO) may affect their operations. IO often requires coordination with governmental and nongovernmental agencies. Legal limitations on IO vary according to the situation. This interaction may affect the impact of tactics on operations and strategy. Military actions that are tactically or operationally insignificant may influence strategy, or even national policy, when highlighted by the media. Therefore, operational commanders consider more than the military conditions of the end state of a campaign. They consider the comprehensive diplomatic, political, and social aspects of it as well.

11-10. Army forces increasingly rely on the unrestricted use of the information environment. Commanders and staffs need to understand its effects on operations and develop C2 systems that support their operational needs and intelligence requirements. Distance has little meaning in the information environment. Army information systems are "in contact" with enemy information systems before any operation starts. They remain in contact after the

operation ends. Commanders understand that there is no sanctuary for friendly information. Before Army forces arrive in theater, the battle for information superiority begins. Commanders and staff conduct operations accordingly.

### Information Superiority in the Gulf

In the opinion of many observers, the Gulf War emphasized integrating information systems, operations, and management in ways that heralded a new form of warfare. Air operations struck C2 nodes throughout Iraq and occupied Kuwait, disabling the air defense network and slowing operational and tactical response. Until the air operation started, Third Army restricted preparations to areas well south of the border. Under cover of intense air bombardment, Saudi and French units secured areas along the border while the powerful US forces shifted west. Even as the Third Army's VII and XVIII Corps moved into attack positions, the US Central Command conducted military deception operations at sea and on land, culminating with the feint by 1st Cavalry Division in the Wadi al-Batin area.

As the ground offensive neared, tactical reconnaissance and surveillance confirmed that the Iraqi Army had its right flank exposed to the west of Kuwait. Special Operations Forces and tactical air reconnaissance complemented these efforts. By 23 February 1991, both corps had secured the border area and extended ground and air reconnaissance well inside Iraq. Intense air attacks fixed and decimated the Iraqi army. The Marine deception and 1st Cavalry Division feint continued to draw Iraqi attention eastward. Third Army moved to attack positions west of the Wadi al-Batin to exploit the Iraqi mistake. At 0400 hours on 24 February 1991, coalition ground forces struck into Kuwait and Iraq. They ended their offensive four days later, having decisively defeated the once fourth-largest army in the world.

Speaking after the war, LTG S. Bogdanov, Chief of the General Staff Center for Operational and Strategic Studies of the former Soviet Union, stated, "Iraq lost the war before it even began. This was a war of intelligence, electronic warfare, command and control, and counterintelligence. Iraqi troops were blinded and deafened..."

## CONTRIBUTORS TO INFORMATION SUPERIORITY

11-11. Commanders direct three interdependent contributors to achieve information superiority (see Figure 11-1, page 11-6):

- Intelligence, surveillance, and reconnaissance (ISR).
- Information management (IM).
- IO (to include related activities).

These contributors enable and complement full spectrum operations. Specific objectives that contribute to information superiority include the following:

- Develop and maintain a comprehensive picture of enemies and adversaries; forecast their likely actions.
- Deny enemies and adversaries information about friendly forces and operations.

- Influence enemy and adversary leader perceptions, plans, actions, and will to oppose friendly forces.
- Influence noncombatants and neutrals to support friendly missions or not to resist friendly activities.
- Inform noncombatant and neutral organizations so they can better support friendly policies, activities, and intentions.
- Protect friendly decision making processes, information, and information systems.
- Continually provide relevant information (including intelligence) to the commander and staff in a useable form.
- Destroy, degrade, disrupt, deny, deceive, and exploit enemy decision making processes, information, and information systems, and influence those of adversaries and others.

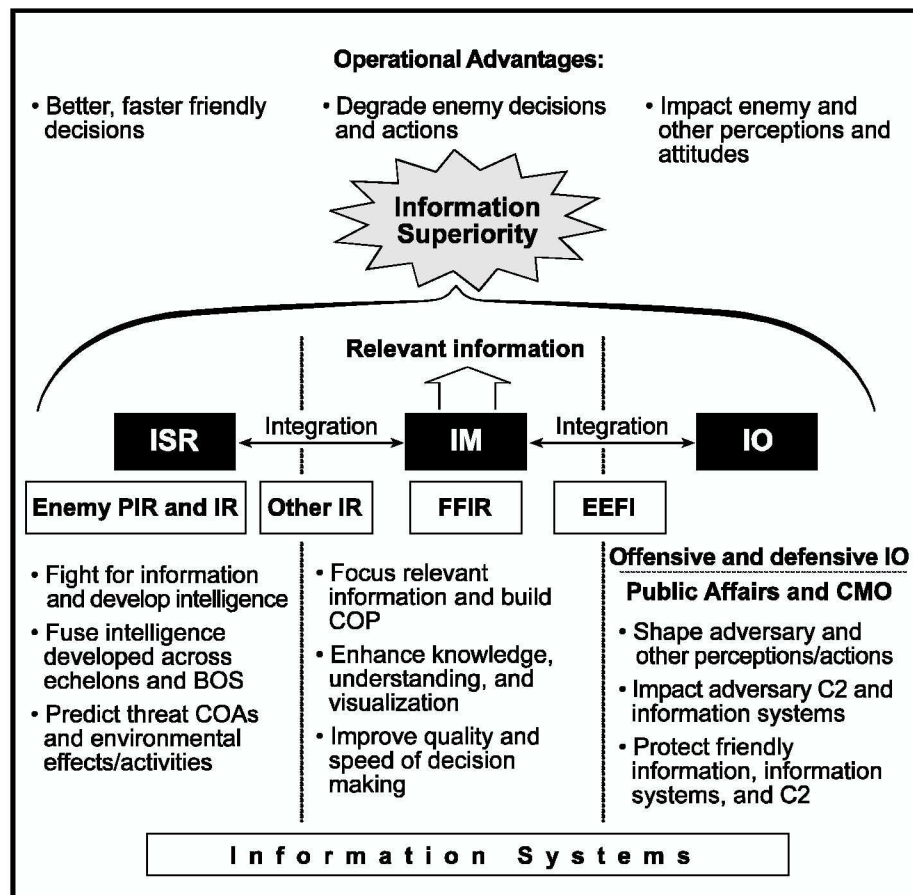


Figure 11-1. Information Superiority

11-12. Commanders wage the struggle for information superiority throughout the information environment, not only in the AO. Superiority in one contributor alone does not ensure information superiority. For example, Army forces may have better IM than a less sophisticated enemy. However, superior intelligence and better security may give the enemy commander more information about Army forces than they have about the enemy. Uncoordinated

actions within single contributors are ineffective. Information superiority results when commanders synchronize all three contributors. Figure 11-2 illustrates the nature of the struggle for information superiority.

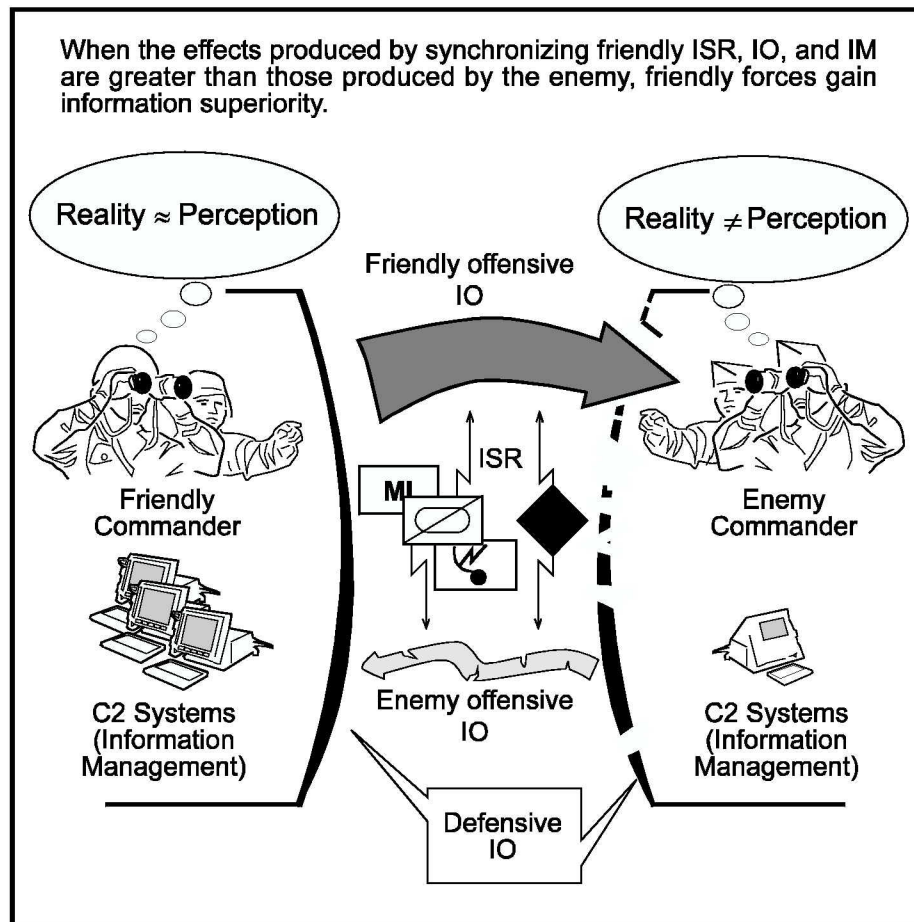


Figure 11-2. Information Operations and Information Superiority

## INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE

11-13. ISR integration is fundamental to information superiority. Thoroughly integrated ISR operations add many collection sources. ISR integration eliminates unit and functional “stovepipes” for planning, reporting, and processing information and producing intelligence. It provides a common mechanism for all units to conduct ISR operations in a coordinated, synergistic way.

11-14. ISR operations allow units to produce intelligence on the enemy and environment (to include weather, terrain, and civil considerations) necessary to make decisions. This intelligence answers requirements developed throughout the operations process. Timely and accurate intelligence encourages audacity and can facilitate actions that may negate enemy superiority in soldiers and materiel. Normally, timely and accurate intelligence depends on aggressive and continuous reconnaissance and surveillance.

## Intelligence

11-15. The complexity of the operational environment requires sharing intelligence from the national level to the tactical level and among headquarters at each level. Analysis is a complex task that requires fusing information and intelligence from each ISR discipline and asset into an all-source product. Analysis is increasingly distributed and collaborative. Analysts who are closest to the

***Intelligence is (1) the product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas; (2) information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding.***

point of collection enter data and perform initial processing one time for the entire force. Modern information systems allow analysts to collaborate on the overall analysis without degrading support to their own commanders, regardless of their geographic dispersion. This distributed, collaborative analysis process starts with the initial intelligence preparation of the battlefield (IPB) and continues throughout operations.

11-16. The commander drives the intelligence system. Managing the ISR effort entails—

- **Requirements visibility.** Intelligence personnel use procedures and information systems to monitor and display the status of information requirements.
- **Asset visibility.** Intelligence personnel use procedures and information systems to monitor and display collection asset status, location, and activities.
- **ISR assessment capability.** Intelligence personnel use procedures and information systems to assess the effectiveness of the ISR effort and the operational impact of ISR results (such as its success or gaps in collection), and to task collection assets.

11-17. Intelligence provides critical support to all operations, including IO. It supports planning, decision making, target development, targeting, and protecting the force. It is a continuous process for any operation. Surveillance and reconnaissance are the primary means of collecting information used to produce intelligence. A thorough understanding of joint ISR capabilities allows commanders to prepare complementary collection plans. Surveillance and reconnaissance assets focus primarily on collecting

***Intelligence preparation of the battlefield is a systematic approach to analyzing the enemy and environment (for example, weather, terrain, and civil considerations) in a specific geographic area. It integrates enemy doctrine with the weather, terrain, and civil considerations as they relate to the mission and the specific environment. This is done to determine and evaluate enemy capabilities, vulnerabilities, and probable courses of action.***



information about the enemy and the environment to satisfy the priority intelligence requirements (PIR). In the end, the art of intelligence and its focus on supporting the commander are more important than any information system. This art includes an understanding of intelligence, analysis, the enemy, operations, and the commander's needs.

11-18. IPB is the first step toward placing an operation in context. It drives the process that commanders and staff use to focus information assets and to integrate surveillance and reconnaissance operations across the AO. IPB provides commanders with information about the enemy and environment, and how these factors affect the operation. In most cases, IPB allows commanders to fill gaps in information about the enemy with informed assessments and predictions. IPB is also the starting point for situational development, which intelligence personnel use to develop the enemy and environment portions of the common operational picture (COP). As such, IPB is important to the commander's visualization. The commander drives IPB, and the entire staff assists the intelligence staff with continuous updates. All staff officers develop, validate, and maintain IPB components relating to their areas of expertise. For example, the engineer contributes and maintains current mobility and countermobility situation overlays.

## Surveillance

11-19. Surveillance involves continuously observing an area to collect information. Wide-area and focused surveillance provide valuable information.

***Surveillance is the systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic or other means.***

11-20. Army forces at all echelons receive intelligence based on information from national, joint, Army, and commercial surveillance systems. National and theater surveillance systems focus on information requirements for combatant commanders and provide information to all services for theater-wide operations. Continuous theater surveillance helps analysts determine the location and approximate dispositions of enemy land forces. When available, near real-time surveillance platforms—such as the joint surveillance, target attack radar system (JSTARS)—provide moving target indicators. Additionally, long-range surveillance units can provide extremely accurate and valuable information.

11-21. Although the US may enjoy an advantage in surveillance assets, commanders should assume that enemies also have adequate surveillance means. For example, an enemy may purchase high-resolution imagery from commercial space-based systems. Alternatively, the local populace may report Army force actions through the civilian police to enemy intelligence agencies.

## Reconnaissance

11-22. Reconnaissance collects information and can validate current intelligence or predictions. Reconnaissance units, unlike other units, are designed to collect information.

11-23. Information collected by means other than reconnaissance has great operational and tactical value. However, those assets may not be able to meet some requirements or collect information with adequate accuracy and level of detail. Operational priorities within the theater may limit ground

***Reconnaissance is a mission undertaken to obtain by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area.***

commanders' ability to task theater surveillance systems. Therefore, Army commanders complement surveillance with aggressive and continuous reconnaissance. Surveillance, in turn, increases the efficiency of and reduces the risk to reconnaissance elements by focusing their operations.

11-24. In some situations, the firepower, flexibility, survivability, and mobility of reconnaissance assets allow them to collect information where other assets cannot. Reconnaissance units obtain information on adversary and potential enemy forces as well as on the characteristics of a particular area. Reconnaissance missions normally precede all operations and begin as early as the situation, political direction, and rules of engagement permit (see FM 5-0). They continue aggressively throughout the operation. Reconnaissance can locate mobile enemy C2 assets, such as command posts, communication nodes, and satellite terminals for neutralization, attack, or destruction. Commanders at all echelons incorporate reconnaissance into the conduct of operations (see FM 3-90).

11-25. Continuous and aggressive reconnaissance does more than collect information. It may also produce effects or prompt enemy actions. The enemy may take forces needed elsewhere to counter friendly reconnaissance efforts. Hostile forces sometimes mistake reconnaissance units for the decisive operation and prematurely expose their dispositions or commit their reserves. Friendly commanders may exploit opportunities revealed by friendly reconnaissance, often using the reconnaissance force as the spearhead. Information from reconnaissance missions allows commanders to refine or change plans and orders, preclude surprises, and save the lives of soldiers.

*You can never do too much reconnaissance.*

General George S. Patton Jr.  
*War As I Knew It*

11-26. Reconnaissance elements may have to fight for information. However, the purpose of reconnaissance is to gain information through stealth, not initiate combat. Reconnaissance operations that draw significant combat power into unplanned actions not in line with the commander's intent may jeopardize mission accomplishment.

11-27. Commanders integrate ISR missions into a single plan that capitalizes on their different capabilities. They synchronize reconnaissance and surveillance missions that employ maneuver units with both the ISR plan and scheme of maneuver.

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## INFORMATION MANAGEMENT

11-28. **Information management is the provision of relevant information to the right person at the right time in a usable form to facilitate situational understanding and decision making. It uses procedures and information systems to collect, process, store, display, and disseminate information** (see FM 6-0). IM is far more than technical control of data flowing across networks. It communicates decisions that initiate effective actions to accomplish missions and fuses information from many sources. Successful IM adds meaning to information as it is processed, so decision makers can focus on achieving understanding instead of processing or evaluating information. IM consists of two supporting components: information systems and relevant information.

11-29. Successful IM includes processing. Processing adds meaning to relevant information through progressively higher-level and complex cognitive methods to create a COP. Among other aspects, processing includes lower-level mechanical and mechanistic methods, such as organizing, collating, plotting, and arranging. However, effective processing requires analysis and evaluation (higher-level cognitive methods) to convert information into knowledge and knowledge into understanding. This aspect of processing depends on the insight and flexibility of well-trained and adaptive analysts.

11-30. Commanders and staffs assess the effectiveness of IM by considering how information contributes to lessening the “fog of war.” First, untimely information or unusable data has the same effect as not having the information. It either arrives too late or cannot be understood in time to affect the commander’s decision. Second, incomplete or imprecise information is better than no information. While not perfect, it contributes to the commander’s grasp of the situation and may assist decision making. Finally, irrelevant or inaccurate information is worse than no information. Irrelevant information distracts and delays; inaccurate information may lead to an inappropriate decision. Computers and software cannot make these qualitative distinctions; making them requires soldiers with good judgment.

### Information Systems

11-31. **Information systems are the equipment and facilities that collect, process, store, display and disseminate information. These include computers—hardware and software—and communications, as well as policies and procedures for their use.** Information systems are integral components of C2 systems. Effective information systems automatically process, disseminate, and display information according to user requirements. IM centers on commanders and the information relevant to C2. Commanders make the best use of information systems when they determine their information requirements and focus their staffs and organizations on meeting them.

### Relevant Information

11-32. **Relevant information is all information of importance to commanders and staffs in the exercise of command and control.** To be relevant, information must be accurate, timely, usable, complete, precise, and reliable. Relevant information provides the answers commanders and staffs

need to successfully conduct operations, that is, all elements necessary to address the factors of METT-TC. The intelligence system, for example, provides intelligence that constitutes relevant information on the enemy, terrain and weather, time available (to the enemy), and civil considerations.

11-33. Relevant information results from assigning meaning to data to assist understanding. Processing changes raw data into information by assigning meaning to it. Analysis and evaluation transform information into knowledge, which is presented to commanders as relevant information. When commanders apply judgment to knowledge, it becomes understanding. Understanding enables making informed decisions with less-than-perfect data. Combined with will, understanding generates effective action.

11-34. Relevant information is perishable. If not delivered and acted upon quickly, it may become outdated (no longer relevant) and distort the commander's situational understanding. Masses of data and information may overwhelm the command post. Without effective IM, critical information will be misrouted, delayed, or buried in routine data and overlooked. Information systems can assist in managing volumes of data, but will not do so unless commanders define their information requirements, tie them to their intent, and update them as execution unfolds.

### Categories of Information

11-35. IM narrows the gap between available information and information commanders require. Effective IM facilitates rapid dissemination of relevant information. IM assigns information into four categories: specified requirements, implied requirements, gaps, and distractions.

- **Specified requirements.** Specified requirements are requirements the commander specifically identifies. This information may take the form of facts, estimates, or assumptions.
- **Implied requirements.** Implied requirements are important pieces of information that commanders have not specifically requested. Full spectrum operations may place Army forces in situations that lie outside the commander's experience. Commanders may not know to obtain some elements of information. They may not know that they need a piece of information or may not recognize its importance. Effective staffs develop and recommend these additional information requirements. Commanders encourage intellectual versatility and agility within their staff and examine recommendations carefully.
- **Gaps.** Gaps are elements of information commanders need to achieve situational understanding but do not have. Ideally, analysis identifies gaps and translates them into specified requirements. To fill gaps, commanders and staffs make assumptions, clearly identifying them as such. There may be circumstances when commanders and staffs fail to identify a gap. Such circumstances are especially dangerous, particularly when facing an asymmetric threat. The commander not only does not have a piece of relevant information, but also does not know he needs it. This situation may result in the commander being surprised. Commanders and staffs remain adaptive and examine circumstances as they are, rather than fitting circumstances into preconceived notions.

- **Distractions.** Distractions include information commanders do not need to know but continue to be told. Excessive distractions result in information overload.

11-36. Information is further classified as facts, estimates, and assumptions. *Facts* are information commanders want to know and can know with certainty. A fact must be confirmed or come from a reliable source. *Estimates* and *assumptions* are information commanders want to know but cannot know with certainty. Commanders and staffs must use discipline in separating fact from assumption; otherwise they are vulnerable to deception or risk inaccurate situational understanding. Estimates and assumptions primarily include information about the enemy, the future, or factors over which commanders have little or no control.

11-37. Facts, estimates, and assumptions can be either relevant information or distractions. They are relevant information if the commander both wants and needs to know the information. They are distractions if the commander wants to know but does not need to know the information. Photographs, for example, can be distractions. Unless the commander clearly understands the imagery, demands for photos only clog overloaded information systems. Effective IM filters distractions from relevant information.

### Quality of Information

11-38. Sources of information are imperfect and susceptible to distortion and deception. Soldiers processing information use these qualities to evaluate it:

- **Accuracy.** The information conveys the actual situation; in short, it is fact.
- **Timeliness.** The information has not been overtaken by events.
- **Usability.** The information is easily understood or displayed in a format that immediately conveys the meaning.
- **Completeness.** The information contains all required components.
- **Precision.** The information has the required level of detail, no more and no less.
- **Reliability.** The information is trustworthy, uncorrupted, and undistorted.

Effective IM keeps commanders and staffs aware of the quality of their information as they use it to build situational understanding.

### Commander's Critical Information Requirements

11-39. Commanders channel information processing by clearly expressing which information is most important. They designate critical information that derives from their intent—the commander's critical information requirements (CCIR). **The *commander's critical information requirements* are elements of information required by commanders that directly affect decision making and dictate the successful execution of military operations.** The key to effective IM is answering the CCIR.

11-40. When commanders receive a mission, they and their staffs analyze it using the military decision making process. As part of this process, commanders visualize the battlefield and the fight. CCIR are those key elements

of information commanders require to support decisions they anticipate. Information collected to answer the CCIR either confirms the commander's vision of the fight or indicates the need to issue a fragmentary order or execute a branch or sequel. CCIR directly support the commander's vision of the battle—commanders develop them personally. Once articulated, CCIR normally generate two types of supporting information requirements: friendly force information requirements (FFIR) and PIR.

***Priority intelligence requirements*** are those intelligence requirements for which a commander has an anticipated and stated priority in his task of planning and decision making.

***Friendly force information requirements*** are information that the commander and staff need about the forces available for the operation.

11-41. CCIR must be focused enough to generate relevant information. Unfocused requests, such as "I need to know if the enemy moves," may provide data but not much useable information. However, "I need to know when the enemy lead brigade reaches Named Area of Interest 2" or "I need to know if the multinational unit on our right flank advances beyond Phase Line Blue" are examples of CCIR specific enough to focus collection and IM priorities.

### Essential Elements of Friendly Information

11-42. Although essential elements of friendly information (EEFI) are not part of the CCIR, they become a commander's priorities when he states them. EEFI help commanders understand what enemy commanders want to know about friendly forces and why (see FM 6-0). They tell commanders what cannot be compromised. For example, a commander may determine that if the enemy discovers the movement of the reserve, the operation is at risk. In this case, the location and movement of the reserve become EEFI. EEFI support defensive IO, and as such may become information requirements. EEFI provide a basis for indirectly assessing the quality of the enemy's situational understanding: if the enemy does not know an element of EEFI, it degrades his situational understanding.

***Essential elements of friendly information*** are the critical aspects of a friendly operation that, if known by the enemy, would subsequently compromise, lead to failure, or limit success of the operation, and therefore must be protected from enemy detection.

### Common Operational Picture

11-43. An ***operational picture*** is a single display of relevant information within a commander's area of interest. By collaborating, sharing, and tailoring relevant information, separate echelons create a COP. A ***common operational picture*** is an operational picture tailored to the user's requirements, based on common data and information shared by more than one command. The COP is displayed at a scale and level of detail that meets the information needs of the command at a particular

echelon. C2 systems fuse information from a variety of sources, while information systems facilitate its rapid distribution in usable displays that facilitate understanding.

11-44. Different echelons require different information at different levels of precision and detail. The presentation of information in meaningful images assists its assimilation. IM provides relevant information as meaningful displays rather than masses of data. The COP allows collaborative interaction and real-time sharing of information among commanders and staffs without providing them with too much or too little information.

11-45. The Army continues to invest in technologies and develop procedures that increase commanders' ability to understand their battlespace. These modernizing efforts will increase the capability of Army forces to share a full-dimensional, highly accurate COP and rapidly disseminate guidance, orders, and plans. Technological applications that help visualize, illustrate, brief, and rehearse options contribute to a common understanding of the commander's intent and concept of operations. Increasing the speed of analysis, compilation, and communication leaves more time for synthesis—assigning meaning to information and generating potential options.

### **Situational Understanding**

11-46. ***Situational understanding*** is the product of applying analysis and judgment to the common operational picture to determine the relationships among the factors of METT-TC (see FM 6-0). It enhances decision making by identifying opportunities, threats to the force or mission accomplishment, and information gaps. It helps commanders identify enemy options and likely future actions, the probable consequences of proposed friendly actions, and the effects of the environment on both. Situational understanding based on a COP fosters initiative in subordinate commanders by reducing, although not eliminating, uncertainty (see Figure 11-3, page 11-16).

11-47. Situational understanding has limits. It is imperfect, particularly with respect to the enemy situation. It requires constant verification. Situational understanding focuses on the current situation. It can reduce the friction caused by the fog of war. However, achieving accurate situational understanding depends at least as much on human judgment as on machine-processed information—particularly when assessing enemy intent and combat power. Simply having a technologically assisted portrayal of the situation cannot substitute for technical and tactical competence. Additionally, portions of the force will not be modernized for some time. The level of situational understanding between modernized and less modernized units may vary over time. Commanders recognize the disparity between organizations and adjust procedures and subordinate unit missions accordingly.

### **Information Management in Full Spectrum Operations**

11-48. IM is a command responsibility. IM plans establish responsibilities and provide instructions for managing information. The IM plan is the commander's "concept of operations" for handling information. Effective IM plans cover the entire scope of operations. Designated staff elements refine the IM plan and provide overall management of information.

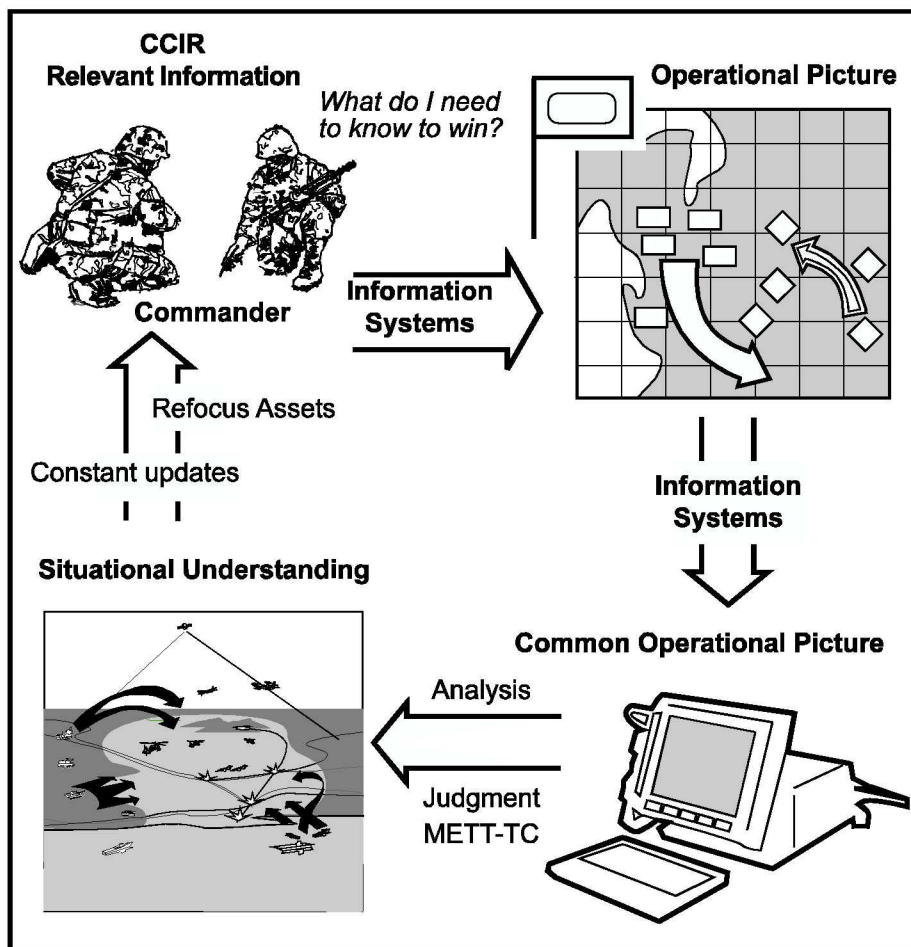


Figure 11-3. Situational Understanding

## INFORMATION OPERATIONS

11-49. IO are primarily shaping operations that create and preserve opportunities for decisive operations. IO are both offensive and defensive. Related activities—public affairs and civil-military operations (CMO)—support IO.

11-50. The value of IO is not in their effect on how well an enemy transmits data. Their real value is measured only by their effect on the enemy's ability to execute military actions. Commanders use IO to attack enemy decision making processes, information, and information systems. Effective IO allow commanders to mass effects at decisive points more quickly than the enemy. IO are used to deny, destroy, degrade, disrupt, deceive, exploit, and influence the enemy's ability to exercise C2. To create this effect, friendly forces attempt to influence the enemy's perception of the situation.

***Information operations are actions taken to affect adversary, and influence others', decision making processes, information and information systems while protecting one's own information and information systems.***



11-51. Similarly, IO and related activities affect the perceptions and attitudes of a host of others in the AO. These include the local population, displaced persons, and civilian leaders. IO are shaping operations that help commanders create favorable conditions for not only decisive operations but also sustaining operations. Commanders use IO and related activities to mitigate the effects of enemy IO, as well as adverse effects stemming from misinformation, rumors, confusion, and apprehension.

11-52. Successful IO require a thorough and detailed IPB. IPB includes information about enemy capabilities, decision making style, and information systems. It also considers the effect of the media and the

attitudes, culture, economy, demographics, politics, and personalities of people in the AO. Successful IO influences the perceptions, decisions, and will of enemies, adversaries, and others in the AO. Its primary goals are to produce a disparity in enemy commanders' minds between reality and their perception of reality and to disrupt their ability to exercise C2 (see FM 3-13).

11-53. Offensive and defensive operations use complementary, reinforcing, and asymmetric effects to attack enemies, influence adversaries and others, and protect friendly forces. On a battlefield where concentrating forces is hazardous, IO can attack enemy C2 systems and undermine enemy capabilities and will to fight. It can reduce friendly vulnerabilities and exploit enemy weaknesses. Where the use of force is restricted or is not a viable option, IO can influence attitudes, reduce commitment to a hostile cause, and convey the willingness to use force without actually employing it. Information used in this manner allows friendly forces to accomplish missions faster, with fewer casualties.

***Offensive information operations*** are the integrated use of assigned and supporting capabilities and activities, mutually supported by intelligence, to affect enemy decision makers or to influence others to achieve or promote specific objectives.

***Defensive information operations*** are the integration and coordination of policies and procedures, operations, personnel, and technology to protect and defend friendly information and information systems. Defensive information operations ensure timely, accurate, and relevant information access while denying adversaries the opportunity to exploit friendly information and information systems for their own purposes.

### **Offensive Information Operations**

11-54. The desired effects of offensive IO are to destroy, degrade, disrupt, deny, deceive, exploit, and influence enemy functions. Concurrently, Army forces employ elements of offensive IO to affect the perceptions of adversaries and others within the AO. Using the elements of IO offensively, Army forces can either prevent the enemy from exercising effective C2 or leverage it to their advantage. Ultimately, IO targets are the human leaders and human decision making processes of adversaries, enemies, and others in the AO.

## Defensive Information Operations

11-55. Defensive IO protect friendly access to relevant information while denying adversaries and enemies the opportunity to affect friendly information and information systems. Defensive IO limit the vulnerability of C2 systems.

## Information Operations Elements

11-56. Integrating offensive and defensive IO is essential to success. Many activities or operations comprise IO. Each element may have offensive or defensive applications (see FM 3-13).

11-57. **Military Deception.** Military deception includes measures designed to mislead adversaries and enemies by manipulation, distortion, or falsification. Its aim is to influence the enemy's situational understanding and lead him to act in a manner that favors friendly forces.

11-58. **Counterdeception.** Counterdeception includes efforts to negate, neutralize, or diminish the effects of, or gain advantage from, a hostile deception operation. Counterdeception supports offensive IO by reducing harmful effects of enemy deception. Defensively, counterdeception identifies enemy attempts to mislead friendly forces.

11-59. **Operations Security.** Operations security (OPSEC) denies the enemy information critical to the success of friendly military operations. It contributes to the security of Army forces and their ability to surprise enemies and adversaries. OPSEC identifies routine activities that may telegraph friendly intentions, operations, capabilities, or military activities. It acts to suppress, conceal, control, or eliminate these indicators. OPSEC includes countersurveillance, signal security, and information security.

11-60. **Physical Security.** Physical security prevents unauthorized access to equipment, installations, and documents. It safeguards and protects information and information systems.

11-61. **Electronic Warfare.** Electronic warfare (EW) is military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. EW can cause an enemy to misinterpret the information received by his electronic systems. EW includes—

- **Electronic attack.** Electronic attack involves actions taken to degrade, neutralize, or destroy enemy electronic combat capabilities. Actions may include lethal attack, such as antiradiation missiles and directed energy weapons, and nonlethal electronic attack, such as jamming.

### Information Operations Elements

- Military deception
- Counterdeception
- Operations security
- Physical security
- Electronic warfare
  - Electronic attack
  - Electronic protection
  - Electronic warfare support
- Information assurance
- Physical destruction
- Psychological operations
- Counterpropaganda
- Counterintelligence
- Computer network attack
- Computer network defense

- **Electronic protection.** Electronic protection involves actions taken to protect friendly use of the electronic spectrum by minimizing the effects of friendly or enemy EW. Actions may include radio silence and antijamming measures.
- **Electronic warfare support.** Electronic warfare support involves detecting, identifying, locating, and exploiting enemy signal emitters. It contributes to achieving situational understanding, target development and acquisition, damage assessment, and force protection.

11-62. **Information Assurance.** Information assurance protects and defends information systems. Threats to information systems include physical destruction, denial of service, capture, environmental damage, and malfunctions. Information assurance provides an enhanced degree of confidence that information and information systems possess the following characteristics: availability, integrity, authentication, confidentiality, and nonrepudiation. Computer network defense is part of this element.

11-63. **Physical Destruction.** Physical destruction applies combat power against IO-related targets. Targets include information systems, EW systems, and command posts. Physical destruction that supports IO is synchronized with other aspects of the operation. For example, when deciding whether to destroy an enemy command post, the friendly commander weighs the advantages gained from disrupting enemy C2 against those gained from collecting information from the command post's radio traffic.

11-64. **Psychological Operations.** Psychological operations (PSYOP) are planned operations that influence the behavior and actions of foreign audiences by conveying selected information and indicators to them (see JP 3-53; FM 3-05.30). The aim of PSYOP is to create behaviors that support US national interests and the mission of the force. PSYOP are closely integrated with OPSEC, military deception, physical destruction, and EW to create a perception of reality that supports friendly objectives.

11-65. **Counterpropaganda.** Counterpropaganda includes activities directed at an enemy or adversary conducting PSYOP against friendly forces. Counterpropaganda can contribute to situational understanding and expose enemy attempts to influence friendly populations and military forces. Preventive actions include propaganda awareness programs that inform US and friendly forces and friendly populations about hostile propaganda.

11-66. **Counterintelligence.** Counterintelligence consists of activities that identify and counteract threats to security posed by espionage, subversion, or terrorism. It detects, neutralizes, or prevents espionage or other intelligence activities. Counterintelligence supports the commander's requirements to preserve essential security and protect the force.

11-67. **Computer Network Attack.** Computer network attack consists of operations that disrupt, deny, degrade, or destroy information resident in computers and computer networks. It may also target computers and networks themselves. Although theater or national elements normally conduct computer network attack, the effects may be evident at corps and below.

11-68. **Computer Network Defense.** Computer network defense consists of all measures to defend computers and other components that are

interconnected in electronic telecommunications networks against computer network attacks by an adversary. Such measures include access controls, detection of malicious computer code and programs, and tools to detect intrusions. Army forces use inherent capabilities and accomplish specific computer network defense actions to defend computer networks from unauthorized users.

### **Related Activities**

11-69. Public affairs and CMO are activities related to IO. Both communicate information to critical audiences to influence their understanding and perception of military operations. Related activities are distinct from IO because they do not manipulate or distort information; their effectiveness stems from their credibility with the local populace and news media. Public affairs and CMO—prime sources of information—link the force, the local populace, and the news media. They also provide assessments of the impact of military operations on civilians, neutrals, and others within the battlespace.

11-70. **Public Affairs.** Public affairs operations influence populations by transmitting information through the news media. They fulfill the Army's obligation to keep the American people and the Army informed. Public affairs help to establish conditions that lead to confidence in the Army and its readiness to conduct operations in peace, conflict, and war. Disseminating this information is desirable and consistent with security. Information disseminated through public affairs counters the effects of propaganda and misinformation.

11-71. **Civil-Military Operations.** CMO applies civil affairs to military operations. It encompasses activities that commanders take to establish, maintain, influence, or exploit relations between military forces and civil authorities—both governmental and nongovernmental—and the civilian populace. Commanders direct these activities in friendly, neutral, or hostile AOs to facilitate military operations and consolidate operational objectives. Civil affairs may include performance by military forces of activities and functions normally the responsibility of local government. These activities may occur before, during, or after other military actions. They may also occur as stand-alone operations. CMO is the decisive and timely application of planned activities that enhance the relationship between military forces and civilian authorities and population. They promote the development of favorable emotions, attitudes, or behavior in neutral, friendly, or hostile groups. CMO range from support to combat operations to assisting countries in establishing political, economic, and social stability (see JP 3-57).

## **PLANNING AND PREPARING TO ACHIEVE INFORMATION SUPERIORITY**

11-72. Information superiority requires extensive planning and preparation. It cannot be an afterthought. As an element of combat power, information requires the same attention as the other elements.

11-73. The foremost information superiority planning requirement is vertical and horizontal integration of ISR, IO, and IM. Army force plans support joint force commander (JFC) objectives and receive support from the JFC. In

particular, offensive IO follow a common theme and are directed against supporting objectives. If not integrated, IO at different echelons may counteract each other.

11-74. Preparation focuses on IM and deploying the right ISR assets to support the force. Because Army forces are in varying states of modernization, the integration of information systems requires not only careful planning but also rehearsal and testing, whenever time permits. IM planning ensures that Army forces are able to disseminate relevant information vertically and horizontally. Commanders assess their information requirements against collection capabilities and tailor the force accordingly.

### **CONTINUOUS COORDINATION**

11-75. Continuous coordination distinguishes effective C2. The impact of information technologies increases the importance of coordination. There is an unfortunate tendency to accept everything that appears on a computer screen. Coordination, focused by CCIR, verifies information. Constant coordination identifies friction in IM and develops solutions. Coordination between humans becomes the lubricant that drives IM within each headquarters. Commanders emphasize the necessity of coordination between higher and lower units as well as adjacent and supporting units. Commanders coordinate with other commanders; they understand that coordination, while primarily the task of the staff, is not solely a staff responsibility.

### **INFORMATION SUPERIORITY AND STRATEGIC RESPONSIVENESS**

11-76. Deploying forces may not have information superiority at deployment. The commander's information needs, coupled with an understanding of METT-TC, influence force tailoring and the deployment sequence. ISR assets deploy to the theater ahead of or with initial-entry forces, depending on enemy. In areas where Army forces are already deployed and surveillance systems are established and collecting, available information may be adequate. However, crises often occur where forces are not forward deployed and intelligence is relatively sparse. In those cases, getting additional surveillance and reconnaissance assets immediately into theater becomes critical. Commanders deploy ISR and information systems with habitually supported forces. Assets assigned to early deploying units reinforce assets already deployed to or covering the theater.

11-77. The available intelligence on potential AOs may have limited tactical use. Commanders and staffs often find they must develop intelligence on an AO while their units are deploying there. To answer some specified and implied requirements, commanders may use subject matter experts. Subject matter experts understand the terrain, culture, enemy capabilities, and civil considerations of the AO and can help staffs develop estimates. Contingency operations in response to unanticipated crises are usually conducted under time constraints. It is critical that commanders and staffs consult subject matter experts familiar with the AO while developing the commander's vision, establishing CCIR, and refining situational understanding.

11-78. As intelligence is refined and IPB continues, commanders focus surveillance and reconnaissance assets to collect additional information or verify

existing intelligence. Persistent gaps may require additional collection assets. In a low-threat environment, host nation assets may provide significant augmentation and reduce requirements for US assets. In a high-threat environment, extensive reconnaissance and surveillance may be required before the main body deploys. All these factors influence how commanders tailor their forces (see Figure 11-4).

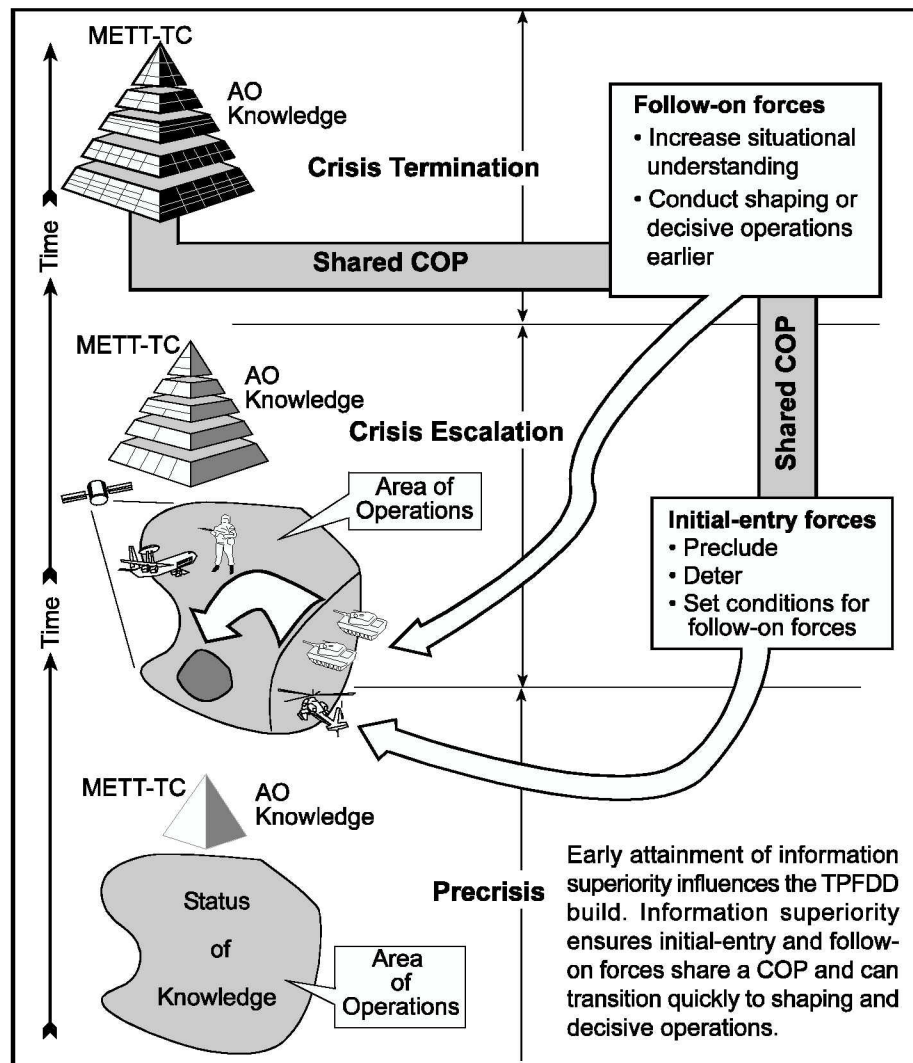


Figure 11-4. Information Superiority and Strategic Responsiveness

## INFORMATION SUPERIORITY EXECUTION

11-79. Information superiority enables decisive action and is, in turn, complemented by that action. IO achieve greatest effect when complementing other operations. Effective jamming, for example, is a nuisance to an enemy force postured for defense but not facing assault. Confronted with swiftly maneuvering Army forces, however, effective jamming that degrades enemy C2 and synchronization can significantly disrupt enemy operations.

## **OPERATIONS IN NONCONTIGUOUS AREAS OF OPERATIONS**

11-80. Noncontiguous areas of operations challenge commanders to use intelligence elements, reconnaissance units, and surveillance systems efficiently and imaginatively. When operating in noncontiguous AOs, commanders focus collection operations on areas between formations. Surveillance and reconnaissance assets cover areas between noncontiguous AOs. When the area requiring coverage exceeds the capabilities of reconnaissance units, commanders coordinate for additional coverage, with joint elements if available. When necessary, commanders task other forces to complement surveillance and reconnaissance assets.

## **SUBORDINATE INITIATIVE**

11-81. Commanders depend on subordinate initiative to accomplish missions, even in the absence of orders or a COP. Information technology enhances Army operations but does not govern them. Inevitably, some information systems will fail—either of their own accord or because of enemy action. Commanders develop and communicate their vision to subordinates with enough clarity to allow them to act when this happens. Subordinates complement initiative with constant coordination and by keeping their higher commanders informed. Because Army forces must be able to execute in the absence of a COP, senior commanders avoid the temptation to overcontrol subordinates.

11-82. The capabilities of new information systems encourage subordinates to exercise disciplined initiative. A COP gives subordinates access to the same information as their commanders and tailors it to subordinate needs. Subordinates who know their commander's intent can act based on the COP, confident that their commander will understand what they are doing and why. More complete information allows well-trained leaders to make better decisions. A force in which commanders make good decisions at the lowest level will operate faster than one where decisions are centralized. Such a force is agile and can exploit opportunities as soon as they occur. As subordinates report their actions, those reports become part of the COP. Elements of the force affected by the action learn of it and can synchronize their actions with it. Properly used, modern information systems allow commanders to issue mission orders and control the battle through empowered subordinates. These subordinates can make decisions that fit both their immediate circumstances and the mission of the force as a whole.

## **THE IMPACT OF TECHNOLOGY**

11-83. The increased range and lethality of weapons systems, faster tempo, shorter decision cycles, and extended battlespace all serve to increase confusion and the volume of information. The key to achieving situational understanding and avoiding information overload is identifying relevant information and filtering out distractions. Although emerging user-friendly technologies will facilitate coordinating, fusing, sharing, and displaying relevant information, these functions remain very human. The extended battlespace places increased emphasis on the initiative, judgment, and tactical and technical competence of skilled subordinate leaders. Current information technology is no substitute for small unit training and aggressive leadership.

11-84. Information technology helps commanders lead by allowing them more freedom to move around the battlefield while remaining connected electronically to the command post. This capability allows commanders to add their personal observations and feel for the ongoing operation to the synthesized information in the COP. Commanders can increase face-to-face contact with subordinates at decisive points without losing sight of the overall situation.

11-85. Technology is creating new techniques for displaying and disseminating information. Imagery, video, color graphics, digital maps and overlays all present relevant information faster and more precisely than analog methods. These new capabilities allow greater understanding by different audiences. Today, for example, commanders use collaborative planning across data networks to link subordinates with commanders throughout the operations process. Displays of information tailored to suit the audience, reduce acronyms, and eliminate jargon are particularly important when dealing with joint, multinational, and interagency participants. Technology allows staffs to quickly produce such tailored displays.

11-86. Modern technology provides a variety of means for commanders to see and engage the enemy in depth. Sensor-to-shooter links used with precision weapons enable forces to strike multiple targets simultaneously in near real-time with little regard for distance or geography. What these systems hit and when they hit it are important decisions. The results are in the effects they create, not solely in the targets they destroy. Systematic lethal attacks on enemy C2 systems provide leverage for air and ground forces and help create the conditions for success. By their nature, these effects are temporary; commanders must exploit them with maneuver to make them permanent.

11-87. Information technology can reduce, but not eliminate, uncertainty. It gives commanders windows of opportunity that, with quick and decisive action, help them seize the initiative. Commanders may lose opportunities if the quest for certainty leads them to centralize control and decision making. Technologically assisted situational understanding may tempt senior leaders to micromanage subordinate actions. This is not new; the telegraph and the command helicopter created similar tensions. Senior commanders need to develop command styles that exploit information technology while allowing subordinates authority to accomplish their missions. Exploiting the capabilities of information technology demands well-trained leaders willing to take risks within the bounds of the commander's intent. An understanding of the capabilities and limitations of information technology mitigates those risks.



## 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.

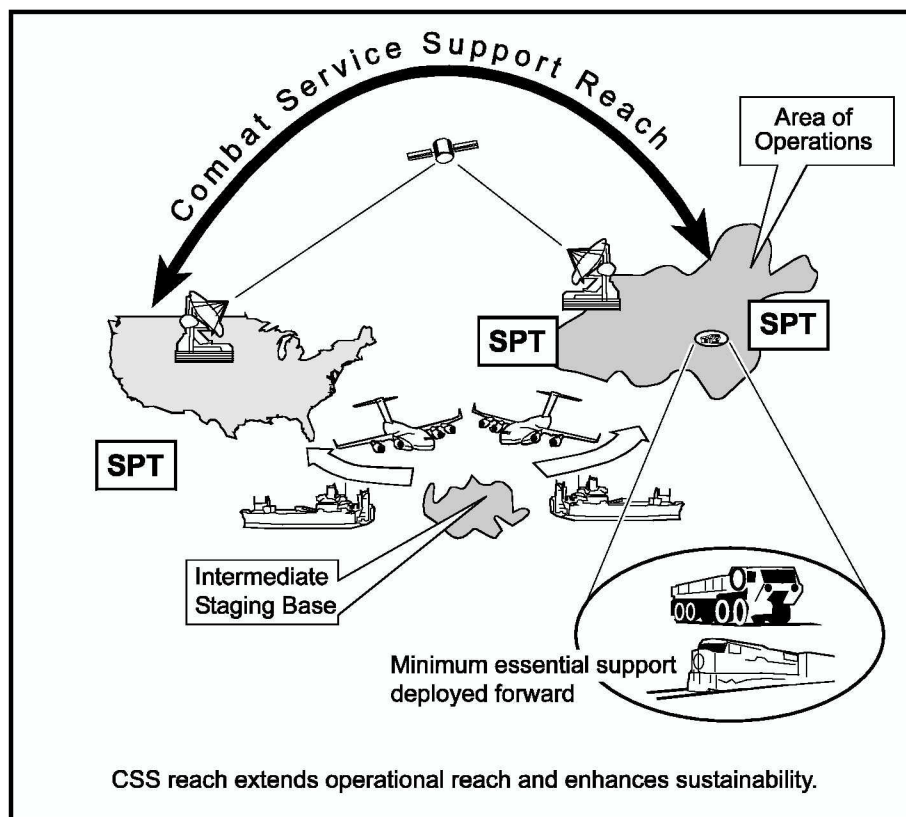
<b>CONTENTS</b>	
<b>Purpose of Combat Service Support .....</b>	<b>12-2</b>
<b>CSS Characteristics.....</b>	<b>12-3</b>
<b>CSS Functions .....</b>	<b>12-4</b>
<b>CSS Planning and Preparation.....</b>	<b>12-5</b>
<b>CSS Planning.....</b>	<b>12-6</b>
<b>CSS Preparation.....</b>	<b>12-7</b>
<b>CSS Execution .....</b>	<b>12-11</b>
<b>CSS in Offensive Operations .....</b>	<b>12-11</b>
<b>CSS in Defensive Operations .....</b>	<b>12-12</b>
<b>CSS in Stability Operations .....</b>	<b>12-13</b>
<b>CSS in Support Operations.....</b>	<b>12-13</b>
<b>Tactical Combat Service Support.....</b>	<b>12-14</b>
<b>Army CSS Within Joint Operations.....</b>	<b>12-14</b>
<b>National Providers and National Strategic Support .....</b>	<b>12-15</b>
<b>Extending Operational Reach and Sustainability .....</b>	<b>12-16</b>
<b>The Impact of Technology .....</b>	<b>12-19</b>

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.