

## Chapter 12: Logistics

This page is a section of FM 7-100.1 Opposing Forces Operations.

Operational logistics links strategic-level logistics resources with the tactical level of logistics, thus creating the conditions for effective sustainment of a combat force. It covers the support activities required to sustain campaigns and major operations. A dependable logistics system helps commanders seize and maintain the initiative. Operational maneuver and the exploitation of operational or tactical success often hinge on the adequacy of logistics and the ability of the force to safeguard its critical lines of communication (LOCs), materiel, and infrastructure.

Operational logistics normally supports campaigns and provides theater- wide logistics support, generally over a period of months. Operational logisticians coordinate the allocation and distribution of resources within the area of responsibility (AOR). They interface with tactical-level logisticians in order to determine shortfalls and communicate these shortfalls back to the strategic logistics complex to support operational priorities. Operational logisticians coordinate the flow of strategic capabilities within the theater based on the commander's priorities.

### Strategic Context

The State strategic logistics complex is the foundation for the logistics system. Fundamental to the logistics concept are the twin notions of total war and all means necessary. As a consequence, the State fully integrates civilian and military components of both its materiel and service industries. Thus, the State strategic logistics complex includes the national industrial base with its supply points, distribution centers, arsenals, plants, manufacturing facilities, medical support, and personnel support centers. The national industrial base is capable of building everything from small arms to nuclear-capable missiles. However, while the State has the ability to design, produce, and field weapon systems, there are some serious qualitative shortcomings in production and integration.

The State logistics system is designed to provide continuous support to the civilian populace while simultaneously supporting military forces from the strategic level to the individual fighting unit. The State's national security strategy requires that the OPFOR and the entire population be constantly prepared for the sudden outbreak of war or natural disasters. The State continues to make major improvements in all aspects of its logistics system. This includes an increased emphasis on support zone security and plans for stockpiling war materiel throughout the country.

For the OPFOR, all strategic logistics support is coordinated at the national level through the Chief of Logistics in the Ministry of Defense (MOD). The responsibilities of the Chief of Logistics are the same during war and peace. These responsibilities include:

- Procuring of personnel, materiel, and services required by the military.
- Preparing the economy and the people to provide sustained support in case of war.
- Ensuring that an uninterrupted flow of personnel, materiel, and equipment reaches the individual fighting unit at the proper place and time.

Organizations within the national-level military logistics establishment include materiel support and maintenance units, as well as mobilized civilian resources, to include medical personnel and facilities. Some national-level logistics units may be allocated to subordinate commands to augment the units forming their logistics bases, while the remaining units are centralized under General Staff control.

### Logistics Stockpiles

In preparation for war, the State's national security strategy includes plans for stockpiling war

materials, as well as critical civilian supplies and materials, throughout the country. The logistics storage of war materials consists of four major categories: national, strategic, mobilization, and mobile reserves.

## National and Strategic Reserves

Government warehouses store national-level reserves consisting of foodstuffs, petroleum products, manufactured goods, and strategic raw materials. While these stocks are separate from the military items held in strategic reserve, the military will likely use part of these stocks.

Strategic reserves are stocks of supplies and equipment controlled by the General Staff. These stocks are similar to stocks in national reserves and are not planned for early use in a conflict.

## Mobilization Reserves

The OPFOR holds mobilization reserves for issue to newly activated, large military units and for resupply to combat units in the early stages of a conflict. The Organization and Mobilization Directorate of the General Staff determines the level and configuration of these stocks. That directorate also is responsible for accountability and maintenance. If the administrative force structure includes military districts or regions, these geographic commands can coordinate mobilization measures between military and civilian sectors. Mobilizing reserve and militia units are generally dependent on stockpiled supplies.

## Mobile Reserves

Deployed ground units hold and transport mobile logistics reserves consisting of ammunition, fuel, rations, and equipment. Ground forces maintain these supplies for use in the conduct of ground operations and distribute them to both tactical and support units. Published planning factors establish quantities of these supplies. Each OPFOR unit maintains an emergency reserve of supplies, and only the unit commander can order the use of these supplies.

## Depot Facilities and Operation

### Depot Categories

The depots are generally divided into the following categories:

- Area distribution depots.
- Ammunition depots.
- Maintenance depots.
- Medical depots.

Depots are part of the strategic logistics support structure and hold national-level stockpiles and strategic reserves. They occupy fixed peacetime facilities, aboveground and underground structures, plus dispersal sites throughout the country. They manage the distribution of war stocks and armaments and materiel, and perform any higher-level repair work that is accomplished in country. Examples of these repairs include aircraft instrumentation, optics, and electronics. The depots manage the distribution of consumables such as fuel, food, and other items from the civilian economy. Rocket and missile units, aviation support units, and air defense maintenance units receive logistics support direct from the nearest depot.

A single depot may have one or more of the above missions. An area distribution depot (ADD) receives, stores, and distributes items for units operating or assigned within its geographic support area. Major end items may also be stored in an ADD, but normally are stored in a maintenance depot. The materiel stored within an ADD should accommodate a majority of the demands placed on the distribution system for the units located in its respective support area. An ammunition depot receives stores, renovates, issues, and demilitarizes munitions of all types. Maintenance depots overhaul major end items and repairable components and, as necessary,

perform limited fabrication and manufacturing. All overhaul items are stored at a maintenance depot until disposition instructions are received from the MOD. Medical depots are discussed in the Medical Logistics section of this chapter.

## Aboveground Structures

Aboveground structures range from factory warehouses to aboveground hardened structures. Hardened structures are reinforced for protection against aerial and ground attack. Earth mounded bunkers are an example of an aboveground hardened structure. The State uses extensive camouflage and concealment techniques to reduce the detection signature of these structures to enemy reconnaissance platforms. The State will also develop sophisticated decoy sites.

## Underground Structures

Underground structures include shallow buried and deep underground bunkers and complexes. There are cases where the State uses underground storage facilities to house its C2 complexes and medical facilities. Underground structures are dispersed throughout the country and consist of intersecting tunnels with multiple exits. Some of these exits may lead to either external combat positions or other subterranean facilities. Large camouflaged doors cover the entrances. The camouflage material matches the surrounding rock so closely that one has to knock on the surface to determine the difference. Normally, a complex may extend over a square kilometer or more. Auxiliary casements in the underground facility may hold fuel, water, food, medical supplies, clothing, or life support equipment.

## Short-Duration Facilities

Short-duration storage facilities play a central role in any strategic campaign that may involve intervention by an extraregional power. For example, prior to conducting adaptive operations, the State plans, develops, and builds short-duration storage facilities for the pre-positioning of equipment and supplies to sustain deployed forces. The State attempts to anticipate outside intervention and plan accordingly. Logistics items are stockpiled or cached in underground caves and dugout holes, tents, or warehouses, and are dispersed over a wide area. These facilities can be considered a mini-supply depot. They also undergo extensive camouflage and concealment to reduce their detection signature.

## Theater Distribution Network

### Theater Distribution Network

The theater distribution network consists of:

- Physical network.
- Resource network.

Theater distribution is the flow of personnel, equipment, and materiel within a theater, which enables combat forces to accomplish their assigned missions. The theater distribution network consists of the physical and resource networks.

The physical network consists of fixed structures and established facilities to support distribution operations. It includes roads, airfields, railroads, hardened structures (warehouses and storage facilities), inland waterways, ports, and pipelines. The quantity, capacity, and capability of these structures and facilities determine the robustness of the distribution network.

The resource network consists of personnel (military and civilian), organizations, materiel, and equipment. These resources operate within the physical network of the distribution system.

## Tailored Logistics Units

The OPFOR concentrates the bulk of its logistics units at two levelsâ the theater and operational-strategic command (OSC). This concentration supports the OPFOR philosophy of streamlined, highly mobile combat forces at the tactical level. These higher levels maintain the responsibility and the primary means for logistics support.

Tailoring allows allocation of logistics resources to the combat forces most essential to mission success. It also allows the OPFOR to assign priorities for logistics support. Subordinate units receive assets according to the importance of their mission, the nature of the terrain, and the level of fighting anticipated. Commanders not only can reallocate their own resources in line with changes in the situation, but also can take away their subordinatesâ organic resources and give them to other subordinates if the situation warrants.

## Administrative Force Structure

The administrative force structure is the aggregate of military headquarters, organizations, facilities, and installations that are designed to man, train, and equip the OPFOR. After transferring control of its major fighting forces to one or more task-organized fighting commands, an administrative headquarters, facility, or installation continues to provide depot and area support-level administrative, supply, and maintenance functions. The logistics function of the administrative force structure is extensive and complex, serving as the major connecting link between the industrial base of the State and forces engaged in combat.

## Fighting Force Structure

The OPFORâ fighting force structure is a flexible organization. It receives logistics assets from the administrative force structure and tailors them to meet specific objectives, based on forces available, mission requirements, enemy forces, and the geography of the AOR. Tailoring affects both the number and type of subordinate combat units and the number and type of logistics units allocated to support them.

## Logistics Missions

In operational (and tactical) logistics, three terms describe how the OPFOR provides support to the field. These terms are primary support, area support, and depot support.

Primary support is a mission given to supply, services, transportation, and maintenance units that normally provide support directly to other units. This allows the primary support unit to respond directly to the supported unitâ request for assistance or supplies.

Area support is a mission given to supply, services, transportation, and maintenance units that normally provide support to primary support units and other area support units. Lower-priority units may have to rely on area support, rather than receiving supplies and services directly from the next-higher echelon.

Depot support is a mission given to national- or theater-level units that normally provide support to area support units. Depot support operations include the receipt, storage, and issue of war stocks and domestically produced armaments and materiel, and the overhaul and rebuilding of major end items.

## Operational Logistics Concepts

Operational Logistics Concepts

The OPFOR relies on the following logistics concepts:

- Centralized planning and decentralized execution.
- Support forward.
- Sustainment from other sources.

The OPFOR understands that there is as much chance of an operation being brought to culmination by a lack of sufficient logistics support as by enemy action. Therefore, it considers thorough logistics planning and preparation essential to executing operation plans. The OPFOR relies on three concepts: centralized planning and decentralized execution, support forward, and sustainment from other sources.

## Centralized Planning and Decentralized Execution

To ensure both priority of effort and efficiency in the logistics process, the OPFOR's logistics operations are characterized by the concept of centralized planning and decentralized execution. Logistics plans are developed at higher levels and executed by units and organizations at lower levels. At OSC level, the resources officer has overall responsibility for logistics planning. Centralized planning requires a focal point for logistics planning and resource allocation at all levels. Regardless of whether the focal point is an individual (the resources officer or his secondary staff) or a unit, it must be constantly aware of requirements and capabilities. Decentralized execution enhances the flexibility of lower-level commanders to meet local requirements and to rapidly reprioritize support.

The concept of centralized planning and decentralized execution is key to supporting reconnaissance fire (see Chapter 7) and strike operations (see Chapter 3). The OPFOR uses reconnaissance fire to attack specific enemy systems in order to destroy or degrade the combat potential of the enemy force. It employs a strike to destroy an enemy formation after setting the conditions for its destruction. The OPFOR uses a series of caches and short-duration storage facilities to sustain fire support and maneuver forces during these operations.

This concept of centralized planning and decentralized execution is particularly important for supporting the deployment of special-purpose forces (SPF). Generally, SPF deployed into the enemy's strategic depth or against his LOCs are inserted with the munitions and supplies their missions require. Since SPF units are expected to sustain themselves for the duration of their missions, the OPFOR relies on the careful planning and stockage of supply caches to sustain these forces.

## Support Forward

Logistics units are organized and deployed to support forward. The guiding principle is that a combat force should retain its organic support resources (such as trucks, recovery equipment, and ambulances) to support its subordinate units. It should not have to use its own resources to go to support areas to pick up supplies or to evacuate resources that can no longer contribute to combat power.

## Sustainment from Other Sources

Finally, the logistics system may have to rely on sustainment from other than military sources. Supplies may be procured or obtained from social groups, consumer cooperatives, government farms, or individual citizens, and by coercion or foraging in the AOR. Captured enemy supplies and equipment are another source of outside sustainment.

## Command and Control

The General Staff may keep some national-level logistics units in its direct control. However, it normally allocates some national-level assets, as well as logistics assets of operational-level commands in the administrative force structure, to provide logistics support to an OSC.<sup>[1]</sup> In

some cases, these allocated assets may remain under the command of their original parent headquarters but become associated with an OSC in a supporting relationship. In other cases, they actually come under the command of the OSC in a constituent or dedicated status. (See Chapter 2 for a more detailed explanation of the various command and support relationships.)

## Operational Staff Responsibilities

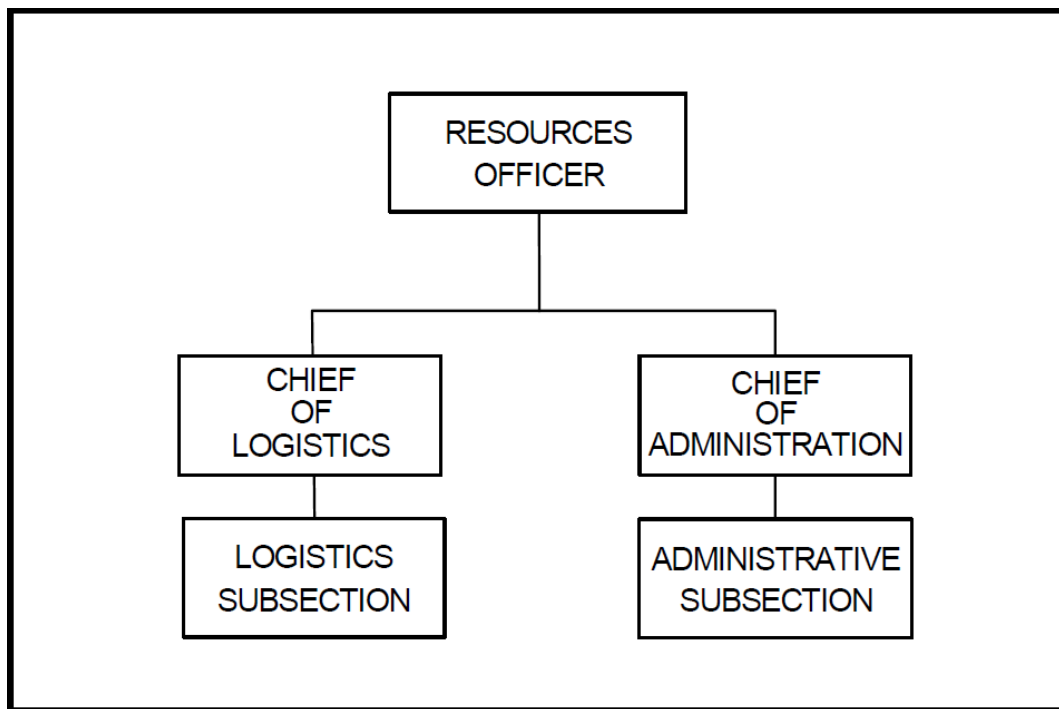


Figure 12-1. Resources Section

At all levels of command, including the OSC, the resources section of the primary staff is the principal office for the logistics integration of supply, maintenance, transportation, and services. The resources officer heads this section, with two subsections headed by secondary staff officers who support him: the chief of logistics and the chief of administration. See Figure 12-1.

### Resources Officer

The resources officer is responsible for the requisition, acquisition, distribution, and care of all of the command's resources, both human and materiel. He ensures the commander's logistics and administrative requirements are met and executes staff supervision over the command's logistics and administrative procedures. One additional major task of the resources officer is to free the commander from the need to bring his influence to bear on priority logistics and administrative functions. He is also the officer in charge of the sustainment command post (CP).

### Chief of Logistics

The chief of logistics is responsible for managing the order, receipt, and distribution of supplies to sustain the command. He is responsible for the condition and combat readiness of armaments and related combat equipment and instruments. He is also responsible for their supply, proper utilization, repair, and evacuation. He oversees the supply and maintenance of the command's combat and technical equipment. These responsibilities encompass the essential wartime tasks of organizing and controlling the command's recovery, repair, and replacement system. During combat, he keeps the commander informed on the status of the command's equipment.

## Chief of Administration

The chief of administration supervises all personnel actions and transactions in the command. His subsection maintains daily strength reports; records changes in table of organization and equipment of units in the administrative force structure; assigns personnel; requests replacements; records losses; administers awards and decorations; and collects, records, and disposes of war booty.

## Integrated Support Command

The integrated support command (ISC) is the aggregate of combat service support units (and perhaps some combat support units) allocated from the administrative force structure to an OSC in a constituent or dedicated command relationship and not suballocated in a constituent or dedicated command relationship to a subordinate headquarters within the OSC. Normally, the OSC further allocates part of its combat service support units to its tactical-level subordinates and some, as an integrated support group (ISG), to support its IFC. The rest remain in the ISC at OSC level to provide overall support of the OSC. For organizational efficiency, other combat service support units may be grouped in this ISC, although they may support only one of the major units of the OSC. An ISC has six major functions:

- Materiel support (supply and services).
- Maintenance.
- Transportation.
- Medical support.
- Personnel support.

Sometimes, an ISC might also include units performing combat support tasks (such as chemical defense, IW, or law enforcement) that support the OSC.

## ISC Headquarters

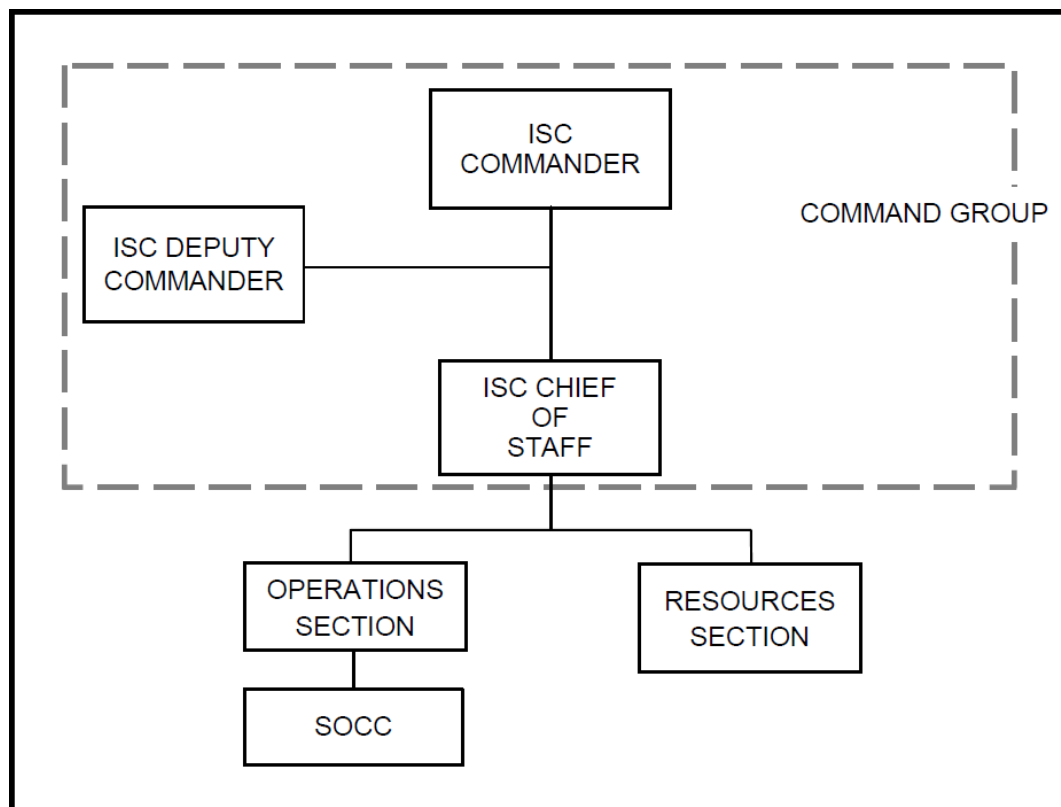


Figure 12-2. ISC Headquarters

The ISC headquarters is composed of the ISC commander and his command group, an

operations section, and a resources section. (See Figure 12-2.) The operations section provides the control, coordination, communications, and IW support for the ISC headquarters. Located within the operations section is the support operations coordination center (SOCC). The SOCC is the staff element responsible for the planning and coordination of support for the OSC. In addition to the SOCC, the operations section has subsections for future operations and airspace operations. The resources section consists of logistics and administrative subsections which, respectively, execute staff supervision over the ISC's logistics and personnel support procedures. The ISC headquarters includes liaison teams from subordinate units of the ISC and from other OSC subordinates to which the ISC provides support. These liaison teams work together with the SOCC to ensure the necessary coordination of support for combat operations.

The ISC commander and his staff are the OSC logisticians. The ISC commander advises the OSC commander, resources officer, and the rest of the OSC staff on logistics matters. The ISC commander normally receives guidance and direction from the OSC commander. The overall responsibility for logistics planning belongs to the OSC resources officer. The OSC commander tasks the ISC commander to evaluate the logistics supportability of future operation plans or courses of action. The ISC commander tasks and provides guidance to the ISC staff. The ISC staff gives the alternatives and preferred solutions to the ISC commander for a decision. If necessary, the ISC headquarters can assume the functions of the OSC's sustainment CP, should that CP containing the OSC resources officer be incapacitated.

## Task Organization

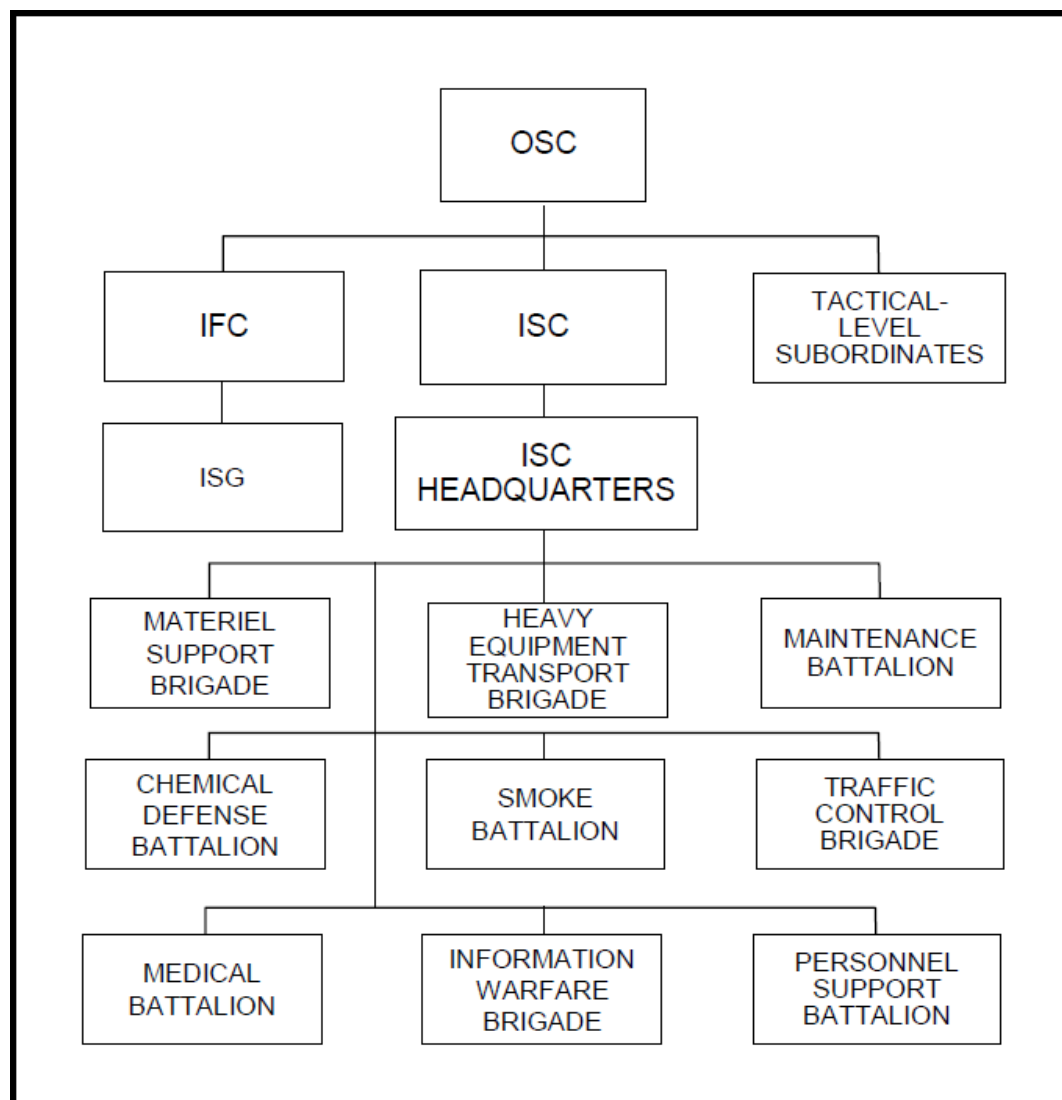


Figure 12-3. Task Organization, with ISC Example



The units allocated to an OSC and its ISC vary according to the mission of that OSC and the support requirements of other operational-level commands. The OSC resources officer (in consultation with his chiefs of logistics and administration and the ISC commander) determines the proper task organization of logistics and administrative support assets allocated to the OSC. He suballocates some assets to the IFC and to other OSC subordinates based on support mission requirements. The remainder he places under the ISC commander. Figure 12-3 shows a typical OSC organization, with an example of the types of combat service support and combat support units that might appear in an OSC ISC.

The number and type of units in the ISC and ISG will vary according to the number and size of supported units in the OSC and its IFC, respectively. For example, an ISC supporting an OSC composed mainly of tank and mechanized infantry units will differ from an ISC supporting an OSC composed mainly of infantry or motorized infantry units. When the logistics units are no longer required for ISC or ISG functions, the primary or area support units will revert to control of their original parent units in the administrative force structure or otherwise will be assigned to other operational-level commands, as appropriate.

### **Integrated Support Group**

The integrated support group (ISG) is a compilation of units performing logistics tasks that support the IFC in a constituent or dedicated command relationship. For organizational efficiency, various units performing other combat support and combat service support tasks might be grouped into the ISG, even though they may support only one of the major units or components of the IFC.

There is no standard ISG organizational structure. The number, type, and mix of subordinate units vary based on the operational support situation. In essence, the ISG is tailored to the mission and the task organization of the IFC. An ISG can have many of the same types of units as shown in Figure 12-3 for one example of ISC subordinates, but tailored in size and functions to support the IFC.

### **Materiel Support**

The OPFOR materiel support system comprises a mix of very modern and less modern capabilities that vary depending on the priority of the supported units. Generally, high-priority or elite units enjoy the benefits of a robust materiel support system that affords a higher degree of flexibility and responsiveness to rapid changes in plans. For such units, the system may be fully automated to track requirements and control the issue of supplies. Less capable units (including reserve and militia forces) typically have little or no automation support. Both types of materiel support system are based on allocating supplies and services to units in order to accomplish mission objectives. However, the aim of the OPFOR is to continue the upgrade of its less capable units to a robust supply system capable of sustaining the force in all environments.

### **Supply**

Supply includes actions to acquire, manage, receive, store, and issue the materiel required to equip and sustain the force from deployment through combat operations and recovery into State territory. The allocation of supplies is based on the unit mission, supply reports, and the availability of supplies.

### **Services**

The OPFOR concept of services includes all troops, installations, and duty positions that perform logistics support for combat arms units. Such services are not specific to the ground forces, but support other Armed Forces components as well.

## Methods of Distribution

During peacetime, the OPFOR operates under the "pull" system of supply. For example, units in the field may request materiel from a depot where they must pick it up and deliver it to the field. During wartime, however, the OPFOR operates under the forward distribution or "push" system principle, in which the higher echelon directly supplies and services the "next-lower" echelon. "Supplies" and "services" are "delivered" directly "to subordinate units using the organic transportation assets of the higher headquarters. Lower-priority units may have to rely on area support or even supply point distribution.

The three methods by which supplying units distribute supplies to using units are supply point distribution, unit distribution, and throughput. In supply point distribution, the supplying unit issues supplies from a supply point to a receiving unit. The receiving unit must go to the supply point and use its own transportation to move supplies to where they are needed.

In unit distribution, the supplying unit issues supplies and delivers supplies to the receiving unit in an area in transportation assets the supplying unit has arranged. Throughput is a method of distribution in which shipments bypass intermediate supply points or logistics sites. Throughput eliminates the need for double handling, uses transportation assets more efficiently, and is more responsive to the user's needs.

## Maintenance

Maintenance includes actions taken to keep materiel and equipment in a serviceable condition, to return it to service, or to update and upgrade its capability. Since supplies are limited, the OPFOR stresses preventive maintenance, technical inspections, and proper operating methods to extend the life cycle of equipment. The maintenance system is designed to repair vehicles and equipment in the battle zone or as close to it as possible. Repair facilities and units move near the scene of combat rather than waiting for damaged equipment to be evacuated to them. Fixed and mobile repair units extend repair capabilities into the battle zone and provide service to the customer unit. During wartime, the types of repair performed at each level depend on the situation. Generally, they are of a lesser degree than in peacetime. The OPFOR classifies three categories of repair: routine, medium, or capital.

Routine repairs such as replacements, adjustments, or repair of individual components require a short time to fix. Generally, maintenance personnel do not disassemble major components as part of routine repair. Medium repairs include the minor overhaul of equipment and the repair of individual components requiring a short time to fix. Capital repairs are conducted at depot level and involve the major overhaul and/or assembly of equipment.

## Transportation

Transportation is a critical function that cannot be looked at in isolation; it is the one function that ties sustainment and all other battlefield operations together. The OPFOR envisions an environment characterized by dynamic, nonlinear operations; wide dispersion of forces; the need to concentrate rapidly for battle and disperse quickly; and the need to conduct a wide range of operations simultaneously.

Military logistics planners base their estimates on the use of all movement resources available. These estimates include "tactical" combat vehicles as well as civilian transportation assets mobilized to move supplies, equipment, and personnel. For example, during mobilization, "civilian trucking and bus companies may be organized as militia truck units to provide transportation of cargo and personnel within the State or occupied territory. The mobility of logistics units must match that of the supported force. If the logistics support units fail to achieve this, they may jeopardize the overall success of the operation. Traffic management at the operational level is the responsibility of the military transportation center (MTC). The MTC is

subordinate to the OSC chief of logistics and is responsible for managing OSC transportation requirements, using military and civilian resources.

## **Movement Principles**

The principles of movement apply to all military transportation services and remain constant throughout peace and war. Additionally, they apply regardless of the planning level. During wartime, civilian personnel, transportation assets (including farm animals, vehicles, aircraft, and water vessels), and materiel-handling equipment are mobilized to support the war effort.

## **Centralized Planning and Decentralized Execution**

Movement control is centralized at the highest level at which commanders charged with providing total logistics support and monitoring the transportation system and infrastructure can exercise it. This requires a focal point for transportation movement planning and resource allocation at all levels. That focal point, whether an individual (the resources officer or chief of logistics) or unit, must be constantly aware of requirements and capabilities. Decentralized execution enhances the flexibility of lower-level commanders to meet local requirements and to rapidly reprioritize support.

## **Regulated Movement**

All movement is regulated according to command priorities. Movements are not validated, approved, or initiated if any part of the transportation system cannot meet the requirement. Regulating transportation assets and LOCs is required to prevent congestion, confusion, and conflict of movements. Unregulated use of the transportation system can severely hamper the movement of critical cargo and personnel supporting the operation or the overall strategic campaign. Therefore, traffic in the AOR is programmed to provide fluid movement throughout the transportation network.

The OPFOR employs a system of measures organized and executed for the purpose of ensuring convoy and traffic regulation as well as maintaining general order in areas where troops are deployed. A traffic control brigade is responsible for traffic control and law enforcement at the operational level. It is responsible for directing military traffic along convoy routes and ensuring that the proper convoy speed and spacing are maintained. The State's Internal Security Forces support movement control through protection of supply routes of movement in the State's homeland and of key transportation nodes and centers.

A movement program is a directive that allocates the available transport mode capability to satisfy the movement requirements in accordance with the commander's priorities. The program normally contains detailed information concerning origins, destinations, weights, and cube of cargo, and/or types and number of personnel to be moved.

## **Fluid and Flexible Movement**

The transportation system is designed to provide an uninterrupted flow of traffic that adjusts rapidly to changing situations. It is flexible enough to meet the changing priorities of a fluid battlefield and reallocate resources as necessary. Adjustments must be made to meet the variations in combat intensity. For example, when units are in the offense, the transportation system expands to maintain the tempo of the operation. Conversely, when units are in the defense, the system is contracted, the mode changes, and differing cargo priorities may be necessary. Changes in the operational environment necessitate adjustments to operate in varying conditions and operational and/or tactical situations that may dictate the types of convoys and controls established for movement.

The availability and use of road and rail networks, airfields, inland waterways, ports, and beaches

not only allow the transportation system to meet operational and tactical changes, but also provide redundancy within the overall transportation network. For example, if a portion of a road network is destroyed or rendered unusable, the mode could change to rail or inland waterway.

## Maximum Use of Carrying Capacity

The principle of making maximum use of carrying capacity involves more than just loading each transportation asset to its optimum carrying capacity. Transport capability that is not used in one day cannot be stored to provide an increase in capability for subsequent days. Similarly, a situation allowing fully-loaded transport to sit idle is just as much a loss of carrying capacity as is a partially-loaded vehicle moving through the system. While allowing for sufficient equipment, maintenance, and personnel rest, planners should keep transportation assets loaded and moving as much as the situation permits.

## Transportation Modes

Transportation operations may include motor vehicles, rail, aircraft, and waterway (coastal and inland) transport vessels. The OPFOR generally uses motor vehicles to move large quantities of general cargo, petroleum products, and personnel throughout the AOR. However, waterway transport vessels may be used to move large quantities of supplies and personnel along coastal or inland waterways to remote areas that are not accessible to motor vehicles.

As requirements for transportation fluctuate, each mode must be properly used to accomplish the commander's objective. For example, air transport is employed if reaction speed is the priority. Motor transport is considered the most flexible surface mode. It provides door-to-door delivery service and an interface with all other transportation modes.

Motor transport becomes essential as supplies are moved forward from railheads, field depots, or supply points to combat units. After the relocation of supplies from national-level depots, the OPFOR distributes them within OSCs primarily by truck. Within an OSC, the heaviest truck transport requirements are primarily above the division level.[2]

## Supply and Evacuation Routes

Within their AORs, OSCs establish and improve supply and evacuation routes, using the network of military roads, and maintain them in passable condition. Staff responsibility for this is shared by the OSC resources officer and the chief of infrastructure management at that level. Engineer units at OSC level may form road and bridge construction and repair groups to prepare and maintain these and other movement routes. At national level, the Strategic Integration Directorate (SID) also organizes civil engineering and construction efforts required to sustain military actions. During wartime, civil engineering units from the Ministry of the Interior, as directed by the SID, may be employed at the national and/or OSC levels. Employed on an area basis, these units are responsible for the upkeep of supply and evacuation routes and for repair of battle-damaged roads and bridges. The OSC chief of infrastructure management must coordinate and prioritize the route construction and maintenance functions of both civil and combat engineers within his AOR.

## Personnel

The MOD establishes policy, assigns responsibilities, and prescribes procedures for personnel readiness issues as they apply to all members and components (standing forces, reserve, and militia) of the armed services. The Manpower and Readiness Department under the MOD Chief of Logistics is responsible for the administration and management of the personnel support system.

During peacetime, the State may be unable to fully man the military with critical professional and

technical specialists to maintain an elaborate support structure. Thus, the OPFOR may experience a shortage of doctors, engineers, computer programmers, electronic technicians, and other support professionals. Once the country has been mobilized, however, these critical professionals are detailed into the military structure to augment existing professionals.

The State considers people as one of the assets most critical to the success of any military operation. Thorough planning and efficient personnel support directly influence mission readiness. Therefore, the MOD requires each of the armed services to resource personnel requirements in a timely manner to support operational requirements. The State views "personnel support" as all activities associated with assignment of personnel against authorized billets and validated individual augmentation requirements, as well as those administrative activities associated with personnel programs within a command.

## **Personnel Support**

Units may maintain strength by piecemeal replacement of casualties during combat, particularly when lightly wounded personnel and damaged equipment can return to parent units quickly. Once casualties are sufficient to threaten total loss of combat effectiveness, the unit withdraws from contact and reconstitutes. Timely replacement of ineffective units is vital to maintaining momentum. The commander may choose to withdraw heavily attrited units and consolidate them to form a smaller number of combat-effective units.

The OSC chief of administration is responsible for all personnel actions and transactions in the command. The personnel support battalion provides the personnel to operate the personnel operations center. That center's major functions include providing personnel and administrative support, finance support, and legal support.

## **Replacement**

Replacement operations are based on unit strength reports and include the coordinated support and delivery of replacements and soldiers returning from medical facilities. The unit strength report is used to assess a unit's combat power, plan for future operations, and assign replacements on the battlefield.

## **Individual Replacements**

The OPFOR can use the system of individual replacements in both peacetime and wartime. The sources of replacement personnel are school graduates, reserve assignments, medical returnees, and normal assignments.

## **Incremental Replacements**

The OPFOR may incrementally replace entire small units such as weapons crews, squads, and platoons. Replacements can be obtained from training units or reserve forces.

## **Composite Unit Formations**

Composite units may be formed from other units reduced by combat operations. Composite units may be constituted up to OSC level.

## **Whole-Unit Replacement**

The OPFOR uses whole-unit replacement when massive losses occur as a result of a combat action. Company-level and above units are brought forward from reserve forces to replace combat forces rendered ineffective.

## Replacement Training

OPFOR planners realize that personnel replacement requirements may necessitate any of the aforementioned procedures. Individual and unit replacement exercises are held semiannually to maintain established proficiency standards for personnel units. During these and other training exercises, troops are moved by various modes of transportation such as motor vehicles, waterway, aircraft, or rail.

## Medical Support

The basic principle of combat medical support is multistage evacuation with minimum treatment by medical personnel at each unit level. They treat the lightly wounded who can return to combat and those casualties who would not survive further evacuation without immediate medical attention.

The OPFOR divides the range of medical treatment into three categories. The first category of procedures includes only mandatory lifesaving measures. The second category includes procedures to prevent severe complications of wounds or injuries. The final category of treatment includes procedures accomplished only when there is a low casualty load and reduced enemy activity.

In anticipation of an overtaxed combat medical support system, OPFOR doctrine emphasizes the importance of self-help and mutual aid among individual soldiers. This concept extends beyond the battlefield to casualty collection points and unit aid stations. Self-help and mutual aid reduces the demands made on medical personnel, particularly when there is a sudden and massive influx of casualties. Each soldier is required to attend a first-aid training session.

## Medical Logistics

The medical logistics system operates on a pull system. Personnel in the field request medical materiel (including repair parts for medical equipment) from a medical depot where it must be picked up and delivered to the field. Normally, medical supplies are transported from the support zone to the battle zone on cargo-carrying transport vehicles, water vessels, or aircraft. However, ground ambulances returning to the battle zone may assist in transporting medical supplies. A medical equipment maintenance unit at the medical depot provides all medical equipment maintenance.

Figure 12-4. Levels of Medical Care

Level	Available Care
Platoon	Platoon medic (corpsman) provides basic first aid.
Company	Company medic (paramedic) provides advanced first aid, pain relief, intravenous fluids, and treatment of most common illnesses.
Battalion	Medical assistant (physician assistant) provides limited medical intervention, minor surgery, and treatment of most common illnesses; limited inpatient capability.
Brigade, BTG, and Division	Medical officers (physicians) provide trauma stabilization and minor surgical intervention.
DTG or Higher	A field hospital provides major surgery and extended care.
OSC or Theater Support Zone	Central Military Hospital and major civilian hospitals provide definitive care in fixed facilities.

## Casualty Handling

The OPFOR has shown success in handling combat casualties. This success stems from emphasis placed on trauma training and close coordination with the civilian medical sector. Evacuation is based on a higher-to-lower method. The next-higher echelon provides transportation for casualties. Each level has specific responsibilities for the care of the sick and

wounded. (See Figure 12-4.) Besides treating the wounded, medical personnel handle virtually all of their own administration, especially at lower levels. As casualties move through the combat evacuation system, medical personnel at each level make effective use of medical facilities by repeated sorting of the wounded (triage). Helicopters are used for all military and civilian search and rescue missions, medical evacuations, and domestic disaster relief flights. During wartime situations, most casualties arrive at a hospital within 6 to 12 hours after being wounded. The evacuation time is reduced to 2 hours during peacetime.

## **Medical Facilities**

A field hospital is the first level in the evacuation system capable of conducting major surgery and giving extended care. It is mobile and capable of deployment near the battle zone. It constitutes the largest and most extensive military facility with this capability.

The best medical facility is the Central Army Hospital. During peacetime, military personnel receive treatment at this hospital, which also is designated as one of the emergency medical care facilities for foreign diplomats, their families, and tourists. The State also has designated some of its major university hospitals as such emergency medical care facilities. This ensures consistent high-quality medical staffing, care and treatment. A majority of medical facilities or clinics in the outlying areas has sufficient numbers of trained personnel, supplies, and reliable electric power and water. The facilities also contain high-quality, sophisticated, domestic and imported medical equipment. The pharmacies are stocked with high-quality, domestic, and foreign-produced pharmaceuticals. During wartime conditions, military personnel are treated at all of the major civilian hospitals in addition to field hospitals.

## **NBC Treatment**

Treating nuclear, biological, and chemical (NBC) casualties is a standard OPFOR trauma protocol. The NBC medical plan is based on three assumptions:

- Mass casualties will occur.
- Casualties will be similar to those that medical personnel have been trained to treat.
- Medical personnel are able to treat the casualties in a decontaminated environment.

The Central Army Hospital can be converted into a chemical decontamination center within 2 to 6 hours. Most of the remaining major hospitals require up to 30 days to convert to a decontamination center.

## **Blood Management**

The Ministry of Health maintains a Blood Management Office to oversee the collection, processing, storage, and distribution of blood (to include liquid blood and blood components) to alleviate the effects of a natural disaster or war. Blood management services are provided to support both civilian and military establishments. The main source of blood to support wartime casualty requirements comes from the collection and processing of blood from the civilian populace during peacetime. The blood is generally stored in pre-positioned underground structures throughout the country.

## **Support of Combat Operations**

During both offense and defense, OPFOR logistics units operate from locations that are protected, concealed, and serviced by good road networks. Commanders emphasize that logistics units make maximum use of urban areas to conduct logistics operations. The dispersion of logistics sites is consistent with support requirements, control, and local security.

Logisticians must be continuously informed of operation plans and probable changes to those plans. They coordinate logistics preparations with deception plans to avoid giving away the



element of surprise. Commanders emphasize passive security measures during the sustainment of combat operations. Logistics unit commanders anticipate that at least 50 percent or more of their work will be done in darkness or under other limited visibility conditions. Therefore, noise and light discipline is a necessity when operating under these conditions.

## Offense

The logistics objective in supporting offensive operations is to maintain the momentum of operations by supporting in the battle zone or as close to it as possible. Both the battle zone and the support zone can move as the offensive operation progresses.

Planners must consider the nature of offensive operations as it affects logistics activities. For example, high fuel consumption may dictate making provisions to position substantial quantities in or near the battle zone without signaling the OPFOR's intention to attack to the enemy. Responsive support is critical and is made more difficult by lengthening of supply lines and by critical requirements for user resupply vehicles to stay close to their respective units. Planning, coordination, communication, and above all flexibility are key factors to consider. Therefore, planners develop logistics plans flexible enough to meet the changing priorities of a fluid battlefield.

In considering the attack, materiel support units ensure that all support equipment is ready and that supplies are best located for support. They also ensure that sufficient transportation is available to support maneuver and logistics plans. Normally, ammunition and fuel are the most important supplies in the offense. However, consideration must be given to all supplies, as well as other support procedures, specifically medical and maintenance.

## Defense

The following are examples of some specific considerations for planners to use during the development of logistics plans supporting offensive operations:

- Maintenance units should pre-plan maintenance collection points along movement routes, in order to reduce recovery requirements.
- Supply points consisting of fuel and ammunition are positioned in the battle zone or as close to it as possible.
- Arrangements are made in advance for aerial resupply of critical items in order to maintain the operational tempo.
- Planners arrange to throughput obstacle-breaching and bridging material if required.
- Planners must consider potential bypassed enemy units; they must have the latest intelligence on the enemy situation.

The logistics objective in supporting defensive operations is to sustain the attrition of enemy attacking forces through support from dispersed sites located in the support zone. An OSC support zone may be dispersed within the support zones of subordinate divisions or brigades, or the OSC may have a separate support zone site of its own.

During defensive operations, supply activity is greatest in the preparation stage. Supplies generally are stockpiled or pre-positioned in initial and subsequent defensive positions. Critical supplies such as ammunition and barrier material should be as mobile as possible to ensure continuous support as combat power is shifted in response to enemy attacks.

To support stay-behind operations, supply stockage levels may be two to three times higher than normal amounts. This ensures a redundancy of caches and needed equipment that cannot be readily resupplied. Stay-behind forces may require unique maintenance support arrangements to ensure that equipment remains operational.

Logistics units position themselves in relatively secure positions far enough from maneuver and fire support units to be out of the flow of the battle. However, they should not be so far removed



as to render the logistics effort less effective.

The following are examples of some specific considerations for planners to use during the development of logistics plans supporting defensive operations:

- Maintenance units should position maintenance teams in the battle zone to return the maximum number of weapons systems to the battle as soon as possible.
- Emphasis is on keeping supply and evacuation routes open.
- Nonessential logistics units and operations move into the depth of the support zone as early as possible.
- In a maneuver defense, supply points consisting of fuel and ammunition are positioned as far forward as possible and in successive battle positions.

## Support Zone Security

The OPFOR expects any enemy to make an effort to conduct reconnaissance, espionage, and diversionary action in its operational support zone. These enemy actions can be particularly effective in areas where the local population is not sympathetic to the OPFOR's cause. In addition to these threats, the OPFOR anticipates attacks on its support zone by airborne and heliborne forces as well as larger-scale attacks by enemy operational maneuver forces.

The OPFOR uses a security force to counter any threats in its support zone. Each OSC deploys a considerable counterintelligence effort. It can assign up to an entire division for security tasks. The security force is equipped and trained for conventional as well as unconventional warfare. As airborne and amphibious threats grow, there is increasing stress on deploying antilanding reserves, including, or even based on, heliborne units to provide a rapid reaction.

## Mission Support Sites

A mission support site (MSS) is a temporary base used by units that are operating at a considerable distance from their support zone, during an extended mission. The MSS may provide food, shelter, medical support, ammunition, or demolitions. The use of an MSS eliminates unnecessary movement of supplies and allows a force to move more rapidly. When selecting an MSS, consideration is given to cover and concealment, proximity to the objective, proximity to supply routes, and the presence of enemy security forces in the area. Security dictates that drop zones or landing zones be a considerable distance from an MSS, cache, or support zone, although this may increase transportation problems.

## Post-Combat Support

Strategic and operational logisticians are not only focused on supporting units in combat. They are also focused on other post-combat support requirements such as personnel replacement, weapon systems replacement, reconstitution, and receiving and preparing reinforcements. (For information on personnel replacement, see the Personnel Support section of this chapter.)

## Weapon Systems Replacement

Weapon systems replacement is simply a procedure for providing a weapon system to a combat unit. It involves processing the vehicle or equipment from a storage or transportation configuration to a ready-to-fight condition. It also involves the integration of a completely trained crew with the weapon system.

## Reconstitution

Reconstitution is performed in support of all combat operations. Although it is mainly a command and operations function, the actual refitting, supply, personnel fill, and medical actions are conducted by logistics units. There are two methods for conducting reconstitution:

reorganization and regeneration.

## Reorganization

Reorganization is action taken to shift resources internally within a degraded unit to increase its level of combat effectiveness. Reorganization is normally done at unit level and requires only limited external support such as supply replenishment, maintenance assistance, and limited personnel replacement. When continuity of the mission is of paramount importance, composite units may be formed from other units reduced by combat operations.

## Regeneration

Regeneration is action taken to rebuild a unit through large-scale replacement of personnel, equipment, and supplies. Additionally, it is action taken to restore C2 and conduct mission-essential training. Overall, the effort is directed at restoring the unit's cohesion, discipline, and fighting effectiveness.

## Preparing Reinforcements

OPFOR strategic and operational logisticians prepare contingency plans for the mobilization and reception of reserve forces. Once the unit personnel and equipment are mobilized, they are sustained, configured, and transported to their respective OSC. Normally, strategic-level logistics units provide this type of support. Once units arrive at the OSC level, the OSC assumes responsibility for their further sustainment and transport.

## References

1. Unless otherwise specified, references to OSC in this chapter could also apply to a field group.
2. Throughout this chapter, references to division- and brigade-level logistics support may also apply to a division tactical group (DTG) and brigade tactical group (BTG), unless specifically stated otherwise.