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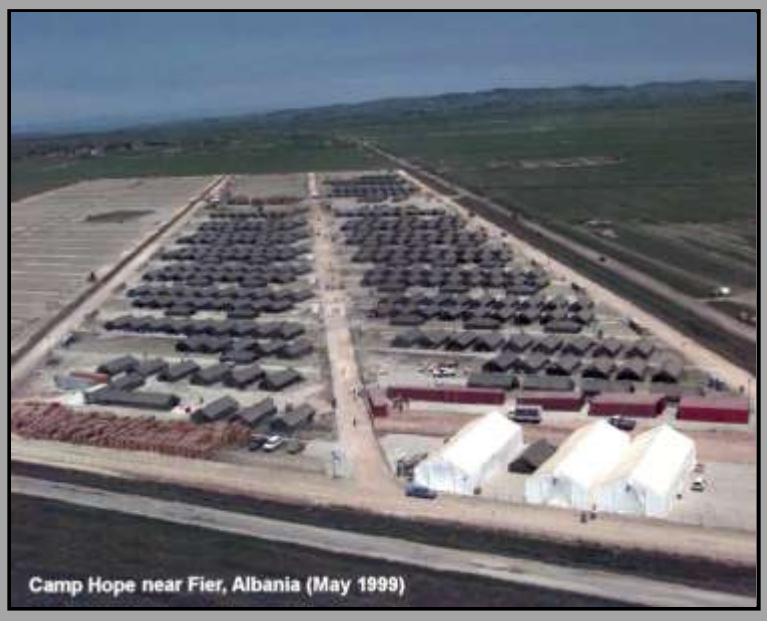
20 April 2011

Camp Planning for Displaced Persons



Camp Hope near Fier, Albania (May 1999)

DEPARTMENT OF THE AIR FORCE

BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE HANDBOOK10-222 VOLUME 22

20 April 2011

Operations

CAMP PLANNING FOR DISPLACED PERSONS

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This handbook supports Air Force Instruction (AFI) 10-210, *Prime Base Engineer Emergency Force (BEEF) Program* and AFI 10-211, *Civil Engineer Contingency Response Planning* by describing planning actions for displaced persons' camp construction activities. It provides military guidance for use by USAF civil engineer personnel in preparing their appropriate plans. It provides organizational structure for dislocated civilian support missions, interagency coordination responsibilities, camp planning, site selection criteria, camp layout, and a range of support activities. It is designed to augment Joint and Air Force Instructions, the United Nations High Commissioner for Refugees (UNHCR) *Handbook for Emergencies*, and the United States Agency for International Development (USAID) *Field Operations Guide*. Nothing in this handbook is directive or mandatory, but presents ideas and concepts to consider throughout the planning phases. This handbook applies to deployed Air Force civil engineer personnel, including Air National Guard (ANG) units and Air Force Reserve Command (AFRC), civilian and contractor personnel who may be tasked to plan and build a displaced persons camp. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using AF IMT 847, *Recommendation for Change of Publication*; route AF IMT 847s from the

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SUMMARY OF CHANGES. This document is substantially revised and must be completely reviewed. Major changes include heavier emphasis on joint guidance and formatted to comply with current AF publication development requirements found in AFI 33-360, *Publications and Forms Management*. It also combined all planning functions within Chapter 4.

Chapter 1

INTRODUCTION

1.1. Overview. Camp construction for displaced persons (DPs) falls within military Foreign Humanitarian Assistance (FHA) operations. The tactics, techniques, and procedures (TTP) associated with FHA throughout this handbook can be directly applied to displaced persons camp planning and construction. FHA consists of Department of Defense (DOD) activities, normally in support of the United States Agency for International Development (USAID) or Department of State (DOS), conducted outside the United States, its territories, and possessions to relieve or reduce human suffering, disease, hunger, or privation. FHA is conducted to relieve or reduce the results of natural or man-made disasters or endemic conditions that might present a serious threat to life or that can result in great damage to or loss of property.

Figure 1.1. Unloading USAID Relief Supplies from Aircraft.

1.1.1. FHA provided by United States (US) forces is limited in scope and duration. The foreign assistance provided is designed to supplement or complement the efforts of the host nation (HN) civil authorities or agencies that may have the primary responsibility for providing FHA. Although US military forces are primarily designed and structured to defend and protect United States national interests, they may be readily adapted to FHA requirements. Military organization, structure, and readiness enable commanders (CDRs) to rapidly and effectively respond when time is of the essence.

1.1.2. US military forces are not the primary US Government (USG) means of providing FHA. They normally supplement the activities of US and foreign government authorities and nongovernmental organizations (NGOs), and intergovernmental organizations (IGOs). USAID is the principal agency for US bilateral development and humanitarian assistance to foreign countries. The National Security Council (NSC) coordinates foreign assistance policies and programs among all USG agencies.

1.2. Roles and Responsibilities.

1.2.1. *United Nations.* Typically, the United Nations (UN) or other IGOs and NGOs will build and administer camps, if needed, and provide basic assistance and services to the dislocated civilian population. In doing so, the UN will form a UN disaster assessment and coordination (UNDAC) team, an onsite operations coordination center (OSOCC), or a humanitarian operations coordination center (HOCC). These operations centers assist the HN's local emergency management authority to coordinate international relief efforts. The UN humanitarian coordinator is responsible for establishing and maintaining comprehensive coordination mechanisms based on facilitation and consensus building among actors involved at the country level in the provision of humanitarian assistance and protection, including cluster leads.

1.2.2. *Chief of Mission* (*COM).* Immediately after a disaster strikes, the US COM may send a disaster declaration cable. With input from USAID and others, this cable outlines the extent of the damage, possible needs, and may recommend assistance in the form of funding, material or technical assistance.

1.2.3. *DOS*. Within the Executive Branch, DOS is the lead US foreign affairs agency. DOS advances US objectives and interests in the world through its primary role in developing and implementing the President's foreign policy. DOS also supports the foreign affairs activities of other USG entities (e.g., USAID, DOD, Department of Commerce). The primary purposes of DOS include protecting and assisting US citizens living or traveling abroad; promoting US foreign policy objectives to other nations and the US public; assisting US businesses in the international marketplace; and coordinating and providing support for international activities of other US agencies. DOS is organized into functional and geographic bureaus. When a disaster is declared, the geographic bureau of the affected area becomes the key participating bureau. The functional bureaus of Population, Refugees, and Migration (PRM); International Organization Affairs; Political-Military Affairs; Democracy, Human Rights, and Labor, Public Affairs; and the Office of the Coordinator for Reconstruction and Stabilization (CRS) may also be involved in operational support.

1.2.4. *USAID*. This independent agency provides economic, development, and humanitarian assistance (HA) around the world in support of the foreign policy goals of the United States. Although a separate agency from DOS, it shares certain administrative functions with DOS, and reports to and receives overall foreign policy guidance from the Secretary of State. The USAID administrator concurrently serves as the DOS Director of Foreign Assistance. USAID plays a major role in US foreign assistance policy and a principal role in interagency coordination. This agency administers and directs the US foreign economic assistance program and acts as the lead federal agency (LFA) for USG FHA.

1.2.5. *Secretary of Defense (SecDef)*. The SecDef, working under the guidance of the President, and with the concurrence of the Secretary of State, directs DOD support to USG humanitarian operations and will designate appropriate command relationships. Within DOD, the Office of the Secretary of Defense coordinates FHA policy and funding. The Under Secretary of Defense for Policy has the overall responsibility for developing military policy for FHA operations. The Assistant Secretary of Defense (Global Security Affairs) is responsible for foreign disaster relief policy and statutory pro-

grams within DOD; policy oversight is executed by the Deputy Assistant Secretary of Defense or Coalition, Peacekeeping, and Multinational Operations. Program management and funding of these programs is the responsibility of the Defense Security and Cooperation Agency (DSCA).

1.2.6. *The Joint Staff*. The Chairman of the Joint Chiefs of Staff (CJCS) is responsible for recommending military capabilities and appropriate relationships for FHA operations to the SecDef. Once these have been established, the Joint Staff coordinates detailed staff planning, under the cognizance of the CJCS. The Joint Staff Director for Operational Plans and Joint Force Development has the primary responsibility for the concept review of operation plans (OPLANs) in support of FHA. The Logistics Directorate (J-4), through the Logistics Readiness Center, oversees joint logistic support for FHA operations. The Strategic Plans and Policy Directorate coordinates policy and represents CJCS in interagency forums related to FHA. The operations directorate (J-3) will also be involved when a military force is deployed to a foreign country as part of a US FHA operation.

1.2.7. *Combatant Commander*. The geographic combatant commanders (GCC) direct military operations, including FHA, within their areas of responsibility (AOR). Ideally, this should be done with the concurrence of the COM. GCCs develop and maintain commander's estimates, base plans, concept plans (CONPLANs), or OPLANs for FHA, disaster relief, and foreign consequence management (FCM). In response to a disaster, the supported GCC structures the force necessary to conduct and sustain the FHA operation, typically forming a Joint Task Force (JTF). Advisors on the GCC's staff will be in close communications with various advisors and counterparts on the JTF staff. One notable example is the combatant commander's (CCDR) DOS foreign policy advisor, who can provide nonmilitary insights and may serve as a direct link to the DOS, enhancing communications and coordination with the affected embassy and country team. Additionally, supporting CCDRs may provide necessary support, including transportation, forces, communications capabilities as required, and special operations forces (SOF).

1.2.8. *National Geospatial-Intelligence Agency (NGA).* NGA provides direct analytical support for FHA through the lead federal agencies and combatant commands primarily through the deployment of team specialists in response to natural disasters, to include earthquakes, floods, hurricanes, and wildfires. The standard production includes imagery derived initial damage or recovery mitigation assessments, analytical reporting through NGA intelligence briefs and geospatial situational awareness products.

1.2.9. *Joint Force Commander (JFC).* A subordinate JFC normally exercises operational control (OPCON) over assigned or attached forces and is responsible for the employment of their capabilities to accomplish the assigned mission or objective. Additionally, the JFC ensures that cross-Service support is provided and that all engineering forces operate as an effective, mutually supporting team. The JFC is primarily responsible for the military operational aspects of the project, liaison functions, overall coordination between activities and units, and focus on the project objective from a support and facilitation posture. This individual is also responsible for establishing rules of engagement, based on the CJCS standing rules of engagement (ROE) and in accordance with a host nation Status of Forces Agreement (SOFA) or equivalent Memorandum of Agreement (MOA). The JFC, a senior officer with operations experience, is the primary interface between all interested parties and should possess good leadership, management and personal skills to bring the diverse groups together for a common cause. The JFC assigns engineering tasks to subordinate commanders.

1.2.10**.** *Civil Affairs (CA) or Civil Military Operations (CMO).* This group is the principal liaison between the local civilian population and deployed military units. CA activities refer to activities performed or supported by CA that (1) enhance the relationship between military forces and civil authorities in areas where military forces are present; and (2) involve the application of CA functional specialty skills, in areas normally the responsibility of civil government, to enhance conduct of CMO. Use of dedicated CA and the conduct of CA activities will enhance planned CMO by helping to ensure the indigenous population and civil authorities understand the requirement for compliance with controls, regulations, directives, or other measures taken by military commanders to accomplish their military missions and attain US

objectives. This group may augment public affairs, HN Government liaison, and coordination with the NGOs and HN/contractor relationships. This unit may also be referred to as the civil-military operations center (CMOC).

1.2.11. *Security*. Regardless of the environment, commanders at all levels will institute force protection measures that ensure the safety and security of DOD personnel. Contingency operations in foreign areas normally require force protection measures throughout the period of construction. This will be true whether the operations are conducted in a hostile zone or simply in an area remote from a significant U.S. force presence. The security issues present during camp construction include protection for U.S. forces and equipment, protection of contractor personnel and resources, and protection of DPs/refugee populations. Threat potential may range from hostile enemy action to common thievery of equipment and supplies. Security concerns may include perimeter protection, operation of traffic control points and site access control, intelligence, counter intelligence, and communications security (COMSEC) and operations security (OPSEC). In addition, CA, because of their ability to work with the populace and their overall expertise, can provide JFCs insight into force protection concerns before they become major issues. Security operations will be guided by established ROE in accordance with applicable SOFAs or MOAs.

1.2.12. *HN*. The HN is a nation that receives the forces and/or supplies of allied nations, coalition partners, and/or North Atlantic Treaty Organization (NATO) organizations to be located on, to operate in, or to transit through its territory. The HN will coordinate all relief efforts within its territory. US forces conducting FHA do so with the permission of the HN under the guidance of formal and informal agreements. JFCs should become knowledgeable of all bilateral agreements for mutual support, and exercise these agreements to the maximum extent possible. If the necessary agreements are not in place, CDRs must obtain authority to negotiate (through the Joint Staff) and then actively seek bilateral agreements to support the joint reception, staging, and onward movement of forces, equipment, and supplies. The country team will be critical to this effort. The embassy is the primary liaison with the HN government.

1.3. US Military Role in FHA. With the exception of immediate response to prevent loss of life and destruction of property, military forces normally conduct FHA only upon the request of the DOS and in coordination with the COM and USAID. The military normally plays a supporting role in FHA. Typical supporting roles include: providing prompt aid that can be used to alleviate the suffering of foreign disaster victims; making available, preparing and transporting non-lethal excess property to foreign countries; transferring on-hand DOD stocks to respond to unforeseen emergencies; providing funded and space available transportation of humanitarian and relief supplies; conducting some DOD humanitarian demining assistance activities; and conducting FCM. DOD has unique assets for effective response and can play a key role in foreign humanitarian crises; for example, the US military:

1.3.1. Possesses exceptional operational reach that can be employed to enhance an initial response.

1.3.2. Augments private sector capability and thus limits threats to regional stability.

1.3.3. Has unmatched capabilities in logistics, command and control (C2), communications, distribution, and mobility.

Figure 1.2. USAID Supplies Delivered to Pakistani Earthquake Victims.

1.3.4. Has the capacity for rapid and robust response, adaptive procedures including on-scene, C2, and the capability to respond to a dynamic and evolving situation among vastly different military, civilian, and government entities.

1.4. Dislocated Civilian Support Missions. Dislocated civilian support missions are specific humanitarian missions designed to support the assistance and protection for dislocated civilians. A "dislocated civilian" is a broad term primarily used by the DOD that includes a displaced person, an evacuee, an internally displaced person, a migrant, a refugee, or a stateless person. These persons may be victims of conflict or natural or man-made disaster. Typically, the UN or other IGOs and NGOs will build and administer camps, if needed, and provide basic assistance and services to the population. However, when the US military is requested to provide support, dislocated civilian support missions may include camp organization, basic construction, and administration; provision of care (food, supplies, medical attention, and protection); and placement (movement or relocation to other countries, camps, and locations). An important priority for the management of dislocated civilians should be to utilize the services and facilities of non-DOD agencies when coordination can be accomplished as dislocated civilian operations are often long-term and require enormous resourcing normally not immediately available through DOD sources.

1.5. Operational Contexts. US military forces participate in FHA operations that may be either unilateral or multinational coordinated responses. Multinational responses may or may not involve the UN.

1.5.1. **Unilateral.** In this type of operation, the USG provides FHA without direct involvement by other nations other than the HN. A unilateral response would normally occur when expediency is essential, such as when a humanitarian crisis or disaster demands an immediate response. A unilateral effort may transition to a multinational operation.

1.5.2. **Multinational.** Multinational operations are usually undertaken within the structure of a coalition or alliance. Other possible arrangements include supervision by an IGO such as the UN or the Organization for Security and Cooperation in Europe (OSCE). An alliance is a relationship that results

from a formal agreement (i.e., treaty) between two or more nations for broad, long-term objectives that further the common interests of the members. A coalition is an ad hoc arrangement between two or more nations for common action. Coalitions are formed by different nations with different objectives, usually for a single occasion or for longer cooperation in a narrow sector of common interest. Operations conducted with units from two or more coalition members are referred to as coalition operations. For further information on multinational operations, refer to Joint Publication (JP) 3-16, *Multinational Operations.*

1.6. Historical Examples. The US military has played a major role in providing FHA in the form of DPs/refugee camps. Two notable examples include construction and operation of camps and feeding of Kurds in Iraq (Operations PROVIDE COMFORT I and II, 1991-1996) and support during the humanitarian crisis in Kosovo and Albania (Operation SHINING HOPE, 1999).

1.6.1. In the lead up to Operation SHINING HOPE, Serbian aggression in the Balkans forced hundreds of thousands of ethnic Albanians to flee Kosovo and seek refuge in the neighboring countries of Macedonia, Montenegro and Albania. These countries were neither prepared for nor able to absorb the social and economic impact of the event. Neither could they adequately feed and shelter the constant stream of refugees. As the world focused on the plight of the fleeing Kosovar people, several nations rushed to build camps and tent cities to provide immediate shelter and security.

1.6.2. United States Air Forces in Europe (USAFE) was designated the executive agent for construction of U.S.-funded camps under JTF SHINING HOPE. Headquarters (HQ) USAFE/CE, using the Air Force Contract Augmentation Program (AFCAP), planned and built one large camp and started construction on two others before the Serbs signed a peace accord.

1.6.3. Initially, all camps were planned and designed to standards contained in USAID's *Field Operations Guide for Disaster Assessment and Response*. Significant changes in camp design were subsequently needed to accommodate the culture of camp inhabitants, various requirements of the NGOs charged with operating and maintaining the camps, as well as local condi-

tions. In addition, USAID standards dealt primarily with construction of camps in Africa and Asia, where the majority of NGO camp experience resides. Almost no standards were given for European DPs/refugees where different social and ethnic traits mandated changes in camp planning.

1.6.4. Building, securing and operating the camps was a lesson in itself. This publication captures the knowledge and lessons-learned during that project and presents the information in a form that will be useful for future DPs/refugee camp projects. While it is understood that every situation is unique, the information presented in this handbook provides a base-line of guiding principles and engineering thought.

1.7. Assumptions.

1.7.1. The United Nations High Commissioner for Refugees (UNHCR) and a number of NGOs will be involved in camp construction and follow-on management and sustainment.

1.7.2. Camp housing populations greater than 5,000 persons will probably be built in increments that allow occupation in stages prior to completion of the entire camp.

1.7.3. Camp planning, construction, and sustainment may be accomplished using military forces only, a combination of military and civilian forces, contract augmentation forces only, or any combination of military, civilian, and contractor forces.

1.8. Scope. This handbook presents planning responsibilities for DPs/refugee camp construction operations. It is not intended to be an all inclusive step-by-step manual, but rather a document that will inspire additional thought during the planning phases of a DPs/refugee contingency operation. The intent is to incorporate the issues and lessons learned during past FHA operations. By using these examples, our future engineering efforts in DPs/refugee camp design and construction can be enhanced no matter what combination of agencies are involved in the operation. This handbook supports implementation of Air Force Policy Directive (AFPD) 10-2, *Readiness*, and contains tactics, techniques, and procedures (TTPs) for use by civil engineers in supporting precepts outlined in Air Force Doctrine Document (AFDD) 4-0,

Agile Combat Support. This relationship is illustrated in the Air Force Civil Engineer (CE) hierarchy of publications (**Figure 1.3.**).

Figure 1.3. Air Force Civil Engineer Publications Hierarchy.

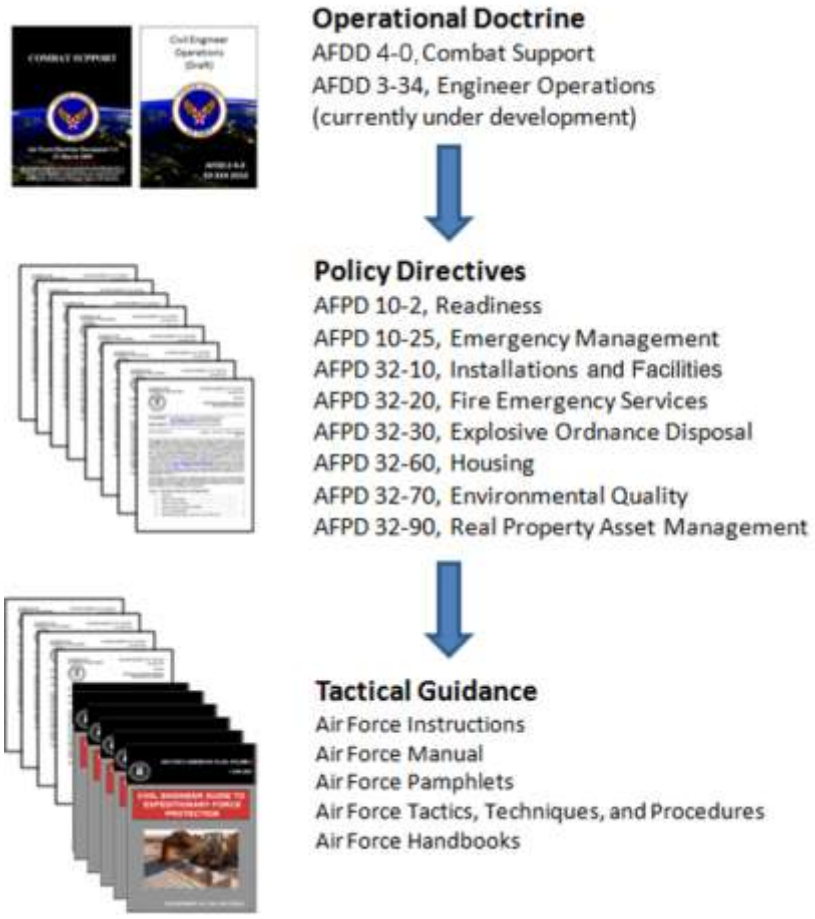


Figure 1.4. Kosovar Refugee Listens to Music in Fier, Albania.

1.9. Conclusion. The US military is often called upon to participate in FHA operations to relieve or reduce the results of natural or man-made disasters outside the continental United States and its territories and possessions. These operations require effective coordination not only within the military chain of command, but also with many other governmental and nongovernmental organizations. Regardless of the environment and command structure, the FHA force commander must fully support interagency coordination. The commander must also ensure that FHA forces are not committed to projects and tasks that go beyond the FHA mission.

Chapter 2

ORGANIZATIONAL STRUCTURE

2.1. Overview. This chapter addresses the various organizational structures applicable for FHA operations. It provides the basis in developing the staff organization and addresses special purpose organizations and sections to align the force with FHA mission demands. Simplicity and clarity of command relationships are paramount to the effective and efficient use of engineer forces due to the varied nature of engineer tasks, units, and capabilities. Engineering forces are extremely adaptable and can be tailored to any joint force organizational structure. In addition, the structure that is developed needs to be flexible enough to change as the situation warrants. The different organizational structures presented in this chapter are designed to take advantage of this flexibility.

2.2. Joint Task Force. The JTF is the most common FHA organizational structure, including camp construction operations. The JTF organization for FHA is similar to traditional military organizations with a CDR, command element, and mission tailored forces. The nature of FHA usually results in combat support and combat service support forces (e.g., engineers, military police/security forces, logistics, transportation, legal, chaplain, civil affairs, public affairs [PA], and medical) often serving more significant roles than combat elements. For complete details on JTF organization, refer to JP 3-33, *Joint Task Force Headquarters*.

2.2.1. **JTF Staff.** The JFC organizes the JTF staff to provide the appropriate expertise required to carry out the specific FHA mission. Some staff functions that may require increased support and manning include legal services, security, engineers, PA, health services, psychological operations (PSYOP), civil affairs (CA), resource management, and logistics. Additional staff sections may also be established and designated by unique titles. For example, during tsunami relief efforts of Operation UNIFIED ASSISTANCE 2005, the JTF was designated Combined Support Force 536; and for the Pakistan earthquake response in 2005, the JTF was referred to as Disaster Assistance Center Pakistan. For further guidance on the organization of the JFC's staff

see JP 3-0, *Joint Operations*, and JP 3-35, *Deployment and Redeployment Operations*.

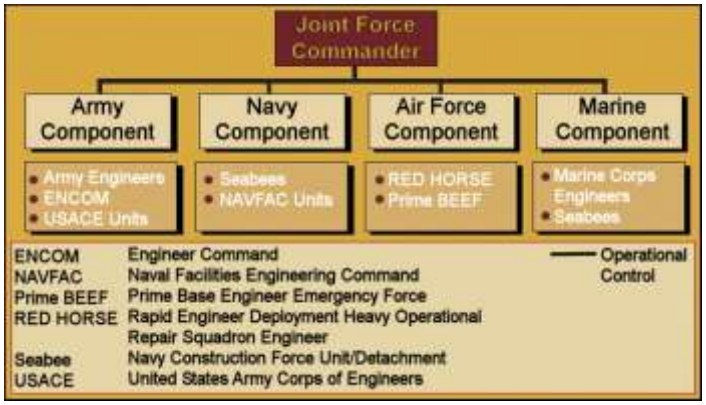
2.2.2. **Subordinate JTF.** FHA operations are extremely engineer-intensive. In such cases, the JFC may opt to establish a subordinate JTF to control extensive engineer operations and missions. Such a JTF may be formed around an existing engineer command (ENCOM) or naval construction regiment. The JFC designates the military engineer capabilities that will be made available for tasking and the appropriate command relationships. Engineer forces may be placed under OPCON, tactical control (TACON), or in a supporting role, depending on the degree of control that the JFC desires to delegate of the subordinate JTF. The engineer assets attached to the subordinate JTF will normally be made up of a mix of engineer assets drawn from the entire force's engineer resources. If the subordinate JTF is to provide a common support capability, it will require a specific delegation of directive authority from the CCDR for the common support capability that is to be provided.

2.2.3. **Force Organization.** Most often, joint forces are organized with a combination of Service and functional component commands (for additional guidance on the organization of joint engineer forces than that provided below, see JP 3-*34*, *Joint Engineer Operations*).

2.2.3.1. **Service Component Command.** Service component commanders maintain OPCON over their Service engineer forces under this organizational option (**Figure 2.1**). This structure maintains traditional command relationships and is best used when the JFC chooses to conduct operations through Service component commanders and when engineer forces are used in direct support of Service component missions. When conducting operations through the Service component commands, the JFC may establish one Service component commander as the overall supported commander with the engineer forces from other Service component commands designated as supporting forces. For example, Navy engineer forces may be established as supporting forces to the Air Force component commander for general engineering support. Under this arrangement, the Service component command-

ers retain OPCON and TACON of their own forces and respond to the operational requirements of the supported commander.

Figure 2.1. Service Component Command Structure.



2.3. Engineer Staff Organization. The JFC should establish an engineer staff for engineering matters. When a joint force employs forces from more than one Service, the engineering staff should reflect each Service represented. A notional engineer staff is depicted in **Figure 2.2** and key engineer staff functions are noted in **Figure 2.3**.

Figure 2.2. Notional Engineer Staff Structure.

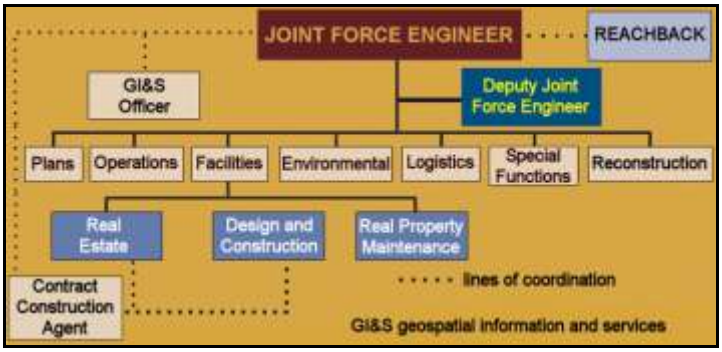


Figure 2.3. Engineer Staff Functions.

- Develops and coordinates combat engineering, general engineering, and geospatial engineering requirements for the joint force.
- Acts as intermediary, facilitator, and coordinator between joint task force elements, including nonmilitary elements, requesting engineering services. Receives guidance and reports actions to joint civil-military engineering board (JCMEB) if established.
- Develops and coordinates tasks for component engineer forces.
- Coordinates and facilitates Joint Facilities Utilization Board (JFUB), JCMEB, and Joint Environmental Management Board. Integrates actions from these boards, assigns tasking based on board recommendations, and monitors completion.
- Screens, validates, and prioritizes all engineering projects and mission assignments.
- Plans, programs, and controls facility utilitzation. Receives guidance and reports actions to JFUB if established.
- Prepares logistic reports on engineer resources using the Joint Operation Planning and Execution System.
- Develops the engineer support plan.
- Plans and coordinates the distribution of construction and barrier materials and engineer munitions based on established priorities.
- Functions as the primary interface between the joint force, host nation, and contingency contractors, and other theater construction organizations.
- Extablishes statement-of-work, development of contracts, and employment of services.
- Plans and provides guidance for environmental considerations that impact joint operations.
- Serves as program manager for all engineer related functions.

2.4. Service Engineer Considerations. Service engineering forces must be flexible to allow the JFC to organize them in the most effective manner. A CCDR may delegate authority for engineering support to the Service com-

ponent having a preponderance of forces and expertise. In addition to or coincident with component missions specified by the CCDR or subordinate JFC, each Service component may provide engineering support to the other components or multinational partners, as required or directed. While deployed, engineers from all Services may use reachback from the field to US Army Corps of Engineers (USACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineering Support Agency (AFCESA) for technical support, assistance in planning and designing infrastructure, environmental assistance, real estate acquisition, geospatial engineering, and contract construction. Prior coordination with these organizations to establish support procedures is critical.

2.5. Humanitarian Assistance Coordination Center (HACC). The supported CCDR may establish a HACC to assist with interagency coordination and planning. The HACC provides the critical link between the CCDR and other government agencies (OGAs), IGOs, and NGOs that may participate in the FHA operation at the theater strategic level. Normally, the HACC is a temporary organization that operates during the early planning and coordination stages of the operation. Once a CMOC or humanitarian operations center (HOC) has been established, the role of the HACC diminishes, and its functions are accomplished through the normal organization of the CCDR's staff and crisis action organization.

2.6. CMOC. The CMOC is a CMO organization that provides operational level coordination between the JFC and other stakeholders. The JFC may establish a CMOC to coordinate and facilitate US and multinational forces' humanitarian operations with those of international and local relief agencies and HN agencies and authorities. The CMOC, working closely with OFDA disaster assistance response team (DART), serves as the primary collaboration interface for the joint force among indigenous populations and institutions (IPI), IGOs, NGOs, multinational military forces, the private sector, and OGAs. Despite its name, the CMOC generally does not set policy or direct operations. Conceptually, the CMOC is the meeting place of stakeholders. In reality, the CMOC may be physical or virtual. The organization of the CMOC is theater- and mission-dependent — flexible in size and composition. A CDR at any echelon may establish a CMOC. In fact, more than

one CMOC may be established in an operational area, and each is task-organized based on the mission.

Figure 2.4. DART Member Arrives in Tbilisi, Georgia August 2008.

2.7. Private Contractor Support. In addition to military engineers, HN, multinational, and US civilian contractors can provide valuable capabilities. Contractors are a powerful force multiplier, allowing military engineers to concentrate on engineering missions in high-threat areas. Besides providing labor, material, infrastructure, and services, contractors may possess certain engineering capabilities specifically adapted to the local environment.

2.7.1. Commanders should be aware that private contractors are employed by a wide range of actors, inside and out of the USG. Commanders should be cognizant that contractors are often viewed by the local population as USG representatives and any negative behavior or interaction with the local population on the part of contractors can have an adverse impact on US efforts. Commanders should consider developing guidance for the contractors in the humanitarian zone, and should consider the need to develop public affairs guidance (PAG), which takes into account potential issues with private contractors should they arise.

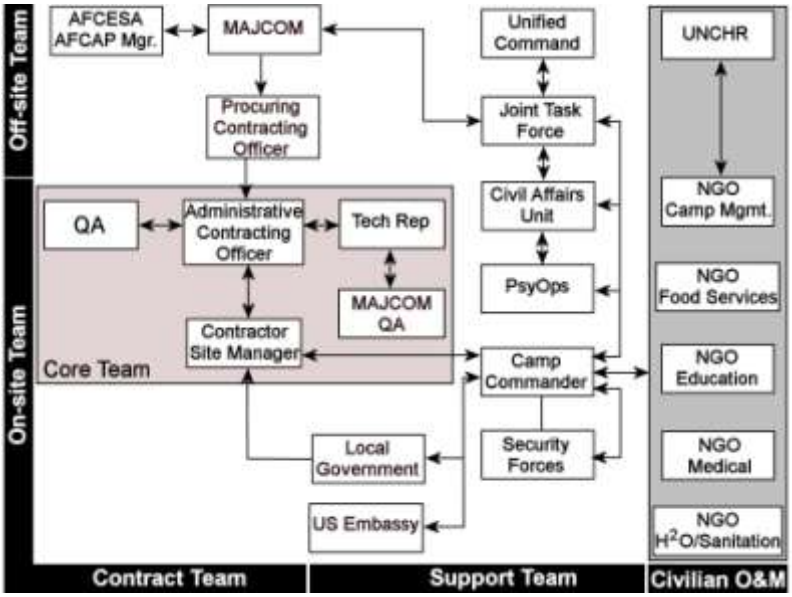
2.7.2. Unlike military members and DOD civilians, contractor personnel are not part of the direct chain-of-command. They are managed and controlled through contractor management and governmental oversight staff in accordance with terms and conditions of their contract. Commanders do not gen-

erally have legal authority to direct contractor personnel to perform tasks outside of their contract; however, in emergency situations (e.g., enemy or terrorist actions or natural disaster), the ranking area or base commander may direct contractor personnel authorized to accompany the US armed forces to take force protection or emergency response actions not specifically authorized in their contract as long as those actions do not require them to assume inherently governmental responsibilities. While the management and control aspect is unique to this category of the "total force," there are numerous additional risks and challenges that must be dealt with when utilizing contracted vice military support. See DODI 3020.41, *Contractor Personnel Authorized to Accompany the US Armed Forces*, for more information on DOD contractor personnel policy.

2.7.3. **Civilian Augmentation Programs.** Civilian augmentation programs, such as the Army's Logistics Civil Augmentation Program (LOGCAP), the Navy's Global Contingency Construction Contract (GCCC) and Global Contingency Service Contract (GCSC), and the Air Force's Contract Augmentation Program (AFCAP), are external support contracts that can provide worldwide facilities construction support and provide the JFC and joint force engineer with additional options and flexibility in facilities construction. Civilian augmentation programs are managed by a contract agent and are structured with one contractor responsible for providing support that effectively integrates construction, facility maintenance, and logistic support to the joint force. Use of civilian augmenters requires planning and operational oversight as well as quality control and assurance to ensure that costs are effectively controlled, while support is provided consistent with the JFC's concept of operations (CONOPS).

2.7.4. When contract support is used in camp construction, some organizational differences are needed to provide contract oversight and direction. **Figure 2.5** depicts a typical site organization that includes a contractor. The major difference is the addition of the contractor and contract administration functions. The role of the NGOs and the headquarters command functions are constant. The following entities provide organization and management responsibilities for AFCAP contract support.

Figure 2.5. Organizational Structure with Contract Support.



2.7.4.1. **Core Team.** The Core Team consists of the following organizational elements whose primary focus is on the site.

2.7.4.1.1. *Administrative Contracting Officer (ACO).* The ACO is the individual delegated by the Procuring Contracting Officer (PCO) to conduct on-site contract administration of the task order or contract. The ACO may be assigned from the Major Command (MAJCOM) or from the Defense Contract Management District-International (DCMD-I). ACOs must be thoroughly familiar with the task order and contract vehicles used for the project, as well as the Federal Acquisition Regulations (FAR), Defense Federal Acquisition Regulations (DFARS) and the Air Force Federal Acquisition Regulations (AFFARS). In addition, the ACO should be mentally and physically capable of working under field conditions such as those found in a DPs/refugee camp scenario. This individual directs the Quality Assurance Evaluator (QAE) and interfaces directly with the Technical Representative

(Tech Rep). The ACO is the sole individual with authority to modify the contract, approve changes and issue modifications on site.

2.7.4.1.2. *Tech Rep.* The individual appointed to serve as the Air Force's on-site technical expert. The Tech Rep will also be the contractor's point of contact and liaison for all technical matters related to the contract. The Tech Rep may have additional QAEs assigned to evaluate various technical issues. The Tech Rep is normally a qualified Air Force Civil Engineer (Air Force Specialty [AFS] 32E3G, 3E571, or sometimes a qualified 3E671) for construction contracts or a qualified Services Officer (34M3 or 3M091) for services type contracts. Tech Reps should be thoroughly familiar with the contract, statement of work and principles of performance based contracting.

2.7.4.1.3. *QAE.* An individual or individuals appointed to evaluate the contractor's compliance with the contract requirements. The QAE will document and appraise contractor performance and submit performance evaluations as required by the ACO, PCO and Program Manager (PM). The MAJCOM that is the contract owner or DCMD-I must provide QAEs. QAEs must be thoroughly familiar with construction, engineering and services contracts, FAR, DFARS, AFFARS, the contract technical specifications and task order specifications. In the selection of on-site surveillance personnel, care must be taken to ensure the personnel appointed understand the need for objective, fair, and consistent evaluations of contractor performance.

2.7.4.2. **Contract Team.** The Contract Team includes the Core Team and is made up of those agencies concerned and charged with carrying out the contract, meeting schedule and delivery of the final product. In addition to the Core Team, the members of the Contract Team are:

2.7.4.2.1. *Contractor.* A civilian contractor may be involved with specific phases of a DPs/refugee contingency operation. An AFCAP contractor can provide the following support activities (excluding those areas of decision making which are restricted as inherently governmental):

2.7.4.2.1.1. Site Survey and Site Specific Management Plan development.

2.7.4.2.1.2. Mobilization planning.

2.7.4.2.1.3. Deployment support and sustainment of facilities and equipment.

2.7.4.2.1.4. Civil Engineering functions of airfield support, infrastructure support, environmental management, emergency management, reconstitution, facility construction, maintenance and repair, and land clearing.

2.7.4.2.1.5. Services functions of feeding, troop support, lodging, laundry, fitness, recreation, and janitorial services.

2.7.4.2.1.6. Logistics functions including materiel support, transportation, communications, and mobility asset management.

2.7.4.2.1.7. Backfill of deployed base functions.

2.7.4.2.2. *PCO.* This member is the duly appointed government agent authorized to award, modify, and administer contracts. This individual can obligate the government in performance of the contract, including any subsequent changes to that contract.

2.7.4.2.3. *AFCESA.* The Program Manager for AFCAP is AFCESA. More detailed information on AFCAP can be found at the following Web site: http://www.afcesa.af.mil/library/factsheets/factsheet.asp?id=9381.

2.7.4.2.4. *USAF MAJCOM.* The role of the MAJCOM in whose area of operations the camp is to be built changes if a contractor is used. The MAJCOM provides the Air Force civil engineering oversight of the project. They provide technical representatives and may provide ACO and QAE support. When AFCAP is used, tasking and funding flows from the MAJCOM Civil Engineer to AFCESA.

2.8. Final Thoughts. Over the years, the CE organization has changed a number of times in response to functional transformations and technology integration. Engineers still have the same missions to accomplish and the same skills available. It remains a matter of assigning the right tasks to the right shop, and augmenting as needed. There are no hard rules on organizing teams. Therefore, there is no right or wrong solutions; if it works—use it.

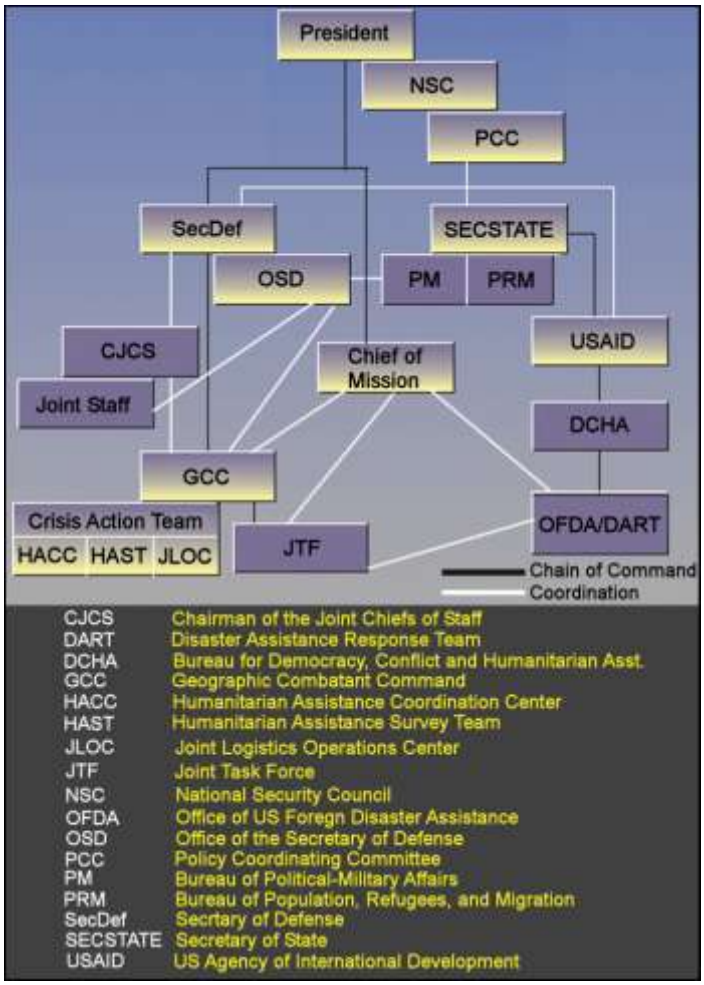
Chapter 3

COORDINATION

3.1. Introduction. In an FHA operation, interagency coordination is essential for effective policy development and implementation. This coordination is often highly complex. Within the context of DOD involvement, interagency coordination occurs between elements of DOD and engaged USG agencies for the purpose of achieving an objective. In addition, difficulties arise from the fact that many USG agencies, civil and military authorities, foreign governments, the UN, NGOs, and IGOs may be conducting assistance activities within the operational area. US military FHA planners must remain cognizant that these various agencies usually fall outside the military command and control system. Coordination and collaboration are essential in dealing with these organizations. The strategic goals or operating procedures of all concerned may not be identical, or even compatible; however, thorough collaboration and planning with all concerned entities can contribute to successful operations in this complex and challenging environment. The information in this chapter will assist JFCs and their staffs to understand these organizations and their relationships in FHA operations.

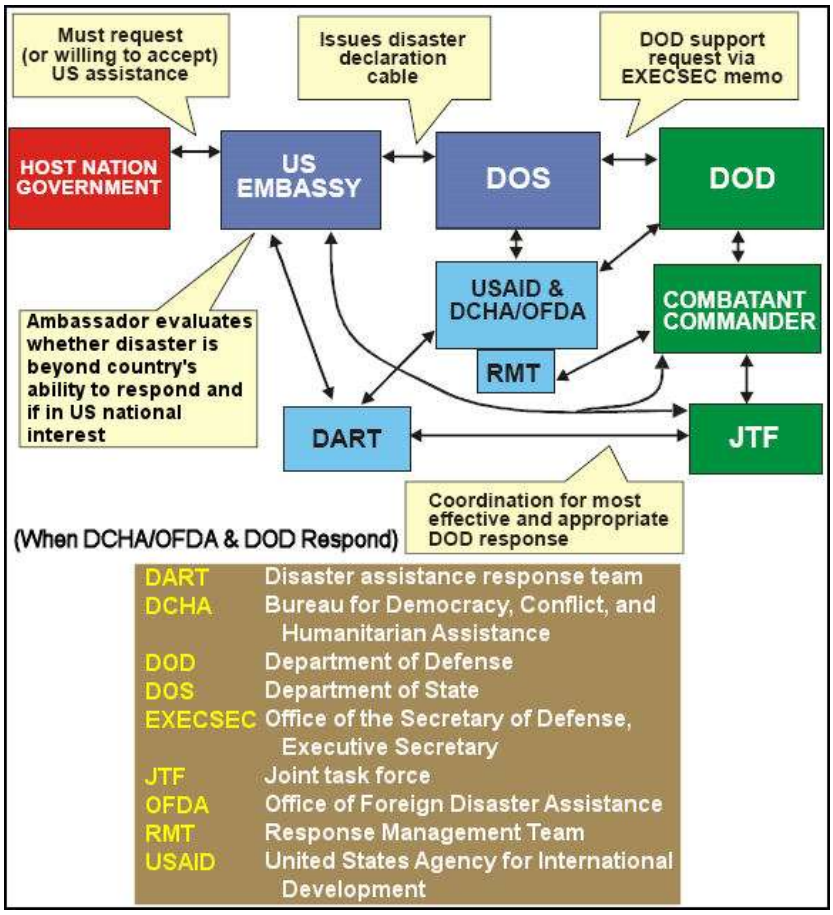
3.2. Unified Action. US military forces will rarely undertake an FHA operation without coordination and collaboration with many other agencies, both governmental and nongovernmental. The term "unified action" in military usage is a broad term referring to the synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve coordination and cooperation toward common objectives (unity of effort), even if the participants are not necessarily part of the same command or organization. Unity of effort in an operation ensures all means are directed to a common purpose. During FHA operations, which involve significant multinational and interagency coordination and collaboration, unity of command may not be possible, but the requirement for unity of effort becomes paramount. Successful interagency coordination continues throughout the mission and requires effective interaction among all organizational and functional elements (**Figures 3.1** and **3.2**).

Figure 3.1. Interagency Coordination.



(See JP 3-29, Foreign Humanitarian Assistance, *for an explanation of all agencies in this figure.)*

Figure 3.2. Interagency Coordination Flow.



(See JP 3-29 for an explanation of all agencies in this figure.)

3.2.1. Because DOD will be in a supporting role during FHA, the JFC may not be responsible for determining the mission or specifying the participating agencies. Obstacles to unified action include discord, inadequate structure

and procedures, incompatible communications, cultural differences, and bureaucratic and personnel limitations. Appropriate organization, C2, and most importantly an understanding of the objectives of the organizations involved are all means to build consensus and achieve unity of effort, regardless of role. The reciprocal exchange of information, including the establishment of liaison officers (LNOs), is also a critical enabler in ensuring unity of effort.

3.2.2. The joint force will work not only with interagency partners during FHA operations, but also with multinational organizations including the HN, IGOs, NGOs, and partner nations. The tenets of multinational unity of effort (i.e., respect, rapport, knowledge of partners, patience, and coordination) applied during an FHA mission cannot guarantee success; however, ignoring them may lead to mission failure. Depending on the extent of military operations and degree of interagency involvement, the focal point for operational and tactical level coordination with civilian agencies may occur at the JTF HQ, the CMOC, or the HOC. For further details on unified action, refer to JP 1, *Doctrine for the Armed Forces of the United States*, and JP 3-08, *Interagency, Intergovernmental Organization, and Nongovernmental Organization Coordination during Joint Operations*.

3.3. HACC. The HACC plays an important role in interagency coordination. As discussed in **Chapter 2**, the supported CCDR may establish a HACC to assist with interagency coordination and planning during the early planning and coordination stages of the operation. The HACC provides the critical link between the CCDR and OGAs, IGOs, and NGOs that may participate in the FHA operation at the theater strategic level. Once a CMOC or HOC has been established, the role of the HACC diminishes, and its functions are accomplished through the normal organization of the CCDR's staff and crisis action organization.

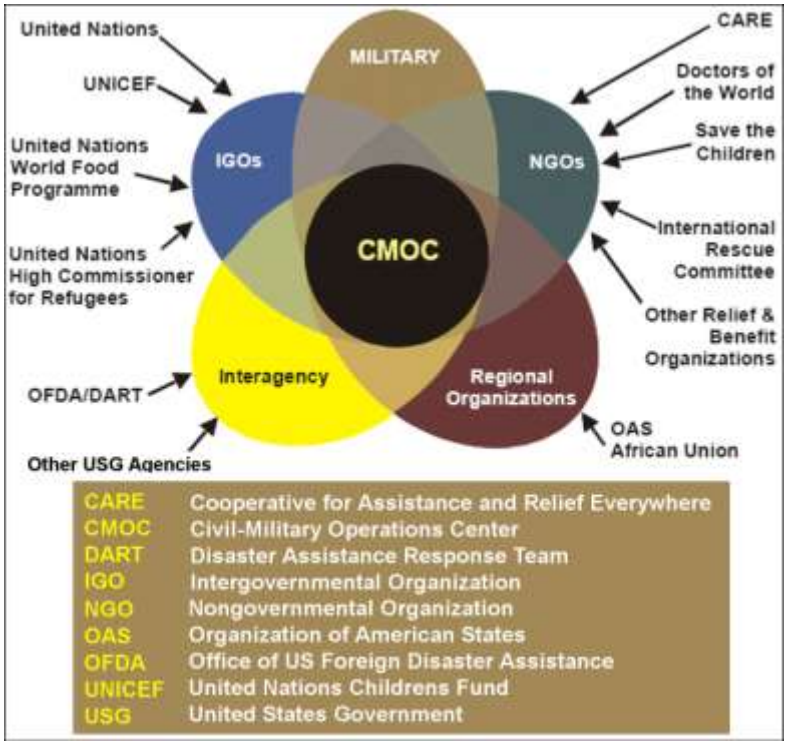
3.4. CMOC. As discussed in **Chapter 2**, the CMOC serves as the primary collaboration interface for the joint force among IPI, IGOs, NGOs, multinational military forces, the private sector, and OGAs.

3.4.1. The CMOC monitors military support throughout the operational area and screens UN, NGO, and IGO logistic, security, medical and technical

support requests. The CMOC identifies JTF component support capabilities and resources and forwards validated requests to the operations directorate or appropriate component or multinational force for action. Requests for support are normally prioritized by the HN representatives or the lead US agency for the operation. Only in rare instances will the US military prioritize distribution of requested resources. **Figure 3.3** summarizes CMOC functions while **Figure 3.4** depicts a notional CMOC organization.

Figure 3.3. CMOC Functions.

Figure 3.4. Notional Composition of a CMOC.



(See JP 3-29 for an explanation of all agencies in this figure.)

3.4.2. The following tasks may fall under CMOC auspices:

3.4.2.1. Screen, validate, and prioritize (based on DART or HN advice) NGO, UN, and IGO military support requests;

3.4.2.2. Coordinate NGO, UN, and IGO military support requests with military components;

3.4.2.3. Act as an intermediary, facilitator, and coordinator between JTF elements and NGOs, UN, and IGOs;

3.4.2.4. Explain JTF (military) policies, capabilities, skills, and resources to NGOs, UN, and IGOs and, conversely, explain NGO, UN, and IGO policies to the JTF;

3.4.2.5. Respond to NGO, UN, and IGO emergency requests;

3.4.2.6. Screen and validate NGO, UN, and IGO requests for space available passenger airlift (see Joint Travel Regulations for restrictions);

3.4.2.7. Administer and issue NGO, UN, and IGO identification cards (for access into military controlled areas);

3.4.2.8. Convene ad hoc mission planning groups when complex military support or numerous military units and NGOs, UN, and IGOs are involved;

3.4.2.9. Exchange JTF operations and general security information with NGOs, UN, and IGOs as required;

3.4.2.10. Chair port and airfield committee meetings involving space and access related issues;

3.4.2.11. Assist in the creation and organization of food logistic systems, when requested;

3.4.2.12. Provide liaison between the JTF and HOC; and

3.4.2.13. Explain overall interagency policies and guidelines to the JFC and NGOs.

3.4.3. For further CMOC details, refer to JP 3-57, *Civil-Military Operations.*

3.5. HOC. The HOC is a senior level international and interagency coordinating body that coordinates the overall relief strategy and unity of effort among all participants in a large FHA operation. It normally is established under the direction of the government of the affected country or the UN, or a USG agency during a US unilateral operation. Because the HOC operates at the national level, it will normally consist of senior representatives from the affected country, assisting countries, the UN, NGOs, IGOs, and other major organizations in the operation. US participation should include the US COM (leading the US representation), USAID representatives, and representatives

from the joint force. The humanitarian operations center is horizontally structured with no C2 authority and all members are ultimately responsible to their own organizations or countries.

3.5.1. There is a significant difference between the HOC and CMOC (**Figure 3.5**). The CMOC is established by and works for the JFC. The HOC is normally established under the direction of the HN government or the UN, or possibly OFDA during a US unilateral operation. Additionally, the HOC operates at senior, national level to coordinate strategic and operational unity of effort, while the CMOC works at the local level coordinating US actions to achieve operational and tactical unity of effort.

Figure 3.5. Comparison between HOC, HACC, and CMOC.

	ESTABLISHING AUTHORITY	FUNCTION	COMPOSITION	AUTHORITY
HOC	Designated Individaul of Affected Country, UN, or USG Agency	Coordinates overall relief strategy at the national (country) level	Representatives from: Affected country, UN, US embassy or consulate, JTF, other nonmilitary agencies, concerned parties (private sector)	Coordination
HACC	Combatant Commander	Assists with inter-agency coordination & strategic planning. Normally disestab-lished once HOC or CMOC is established.	Representatives from: Combatant command, NGOs, IGOs, regional organizations, & con-cerned parties (private sector)	Coordination
CMOC	Joint Task Force or Component Commander	Assists in operational level collaboration with military forces, USG agencies, NGOs, IGOs, & regional org's	Representatives from: JTF, NGOs, IGOs, reg-ional org's, USG agencies, local government (HN), multinational forces, & other concerned parties (private sector)	Coordination

CMOC	Civil-Military Operations Center	JTF	Joint Task Force
HACC	Humanitarian Assistance Coordination Center	NGO	Nongovernmental Organizations
HN	Host Nation	org's	organizations
HOC	Humanitarian Operations Center	UN	United Nations
IGO	Intergovernmental Organizations	USG	United States Government

3.5.2. Close JTF collaboration with the affected country, UN, and other key members of the humanitarian relief community forms the core of FHA oper-

ations. Effective collaboration is the key to successful turnover of FHA responsibilities to the affected country or IGOs. The HOC coordinates the overall relief strategy; identifies logistic requirements for NGOs, UN, and IGOs; and identifies, prioritizes, and submits requests for military support to the JTF. For further details on the HOC, refer to JP 3-29.

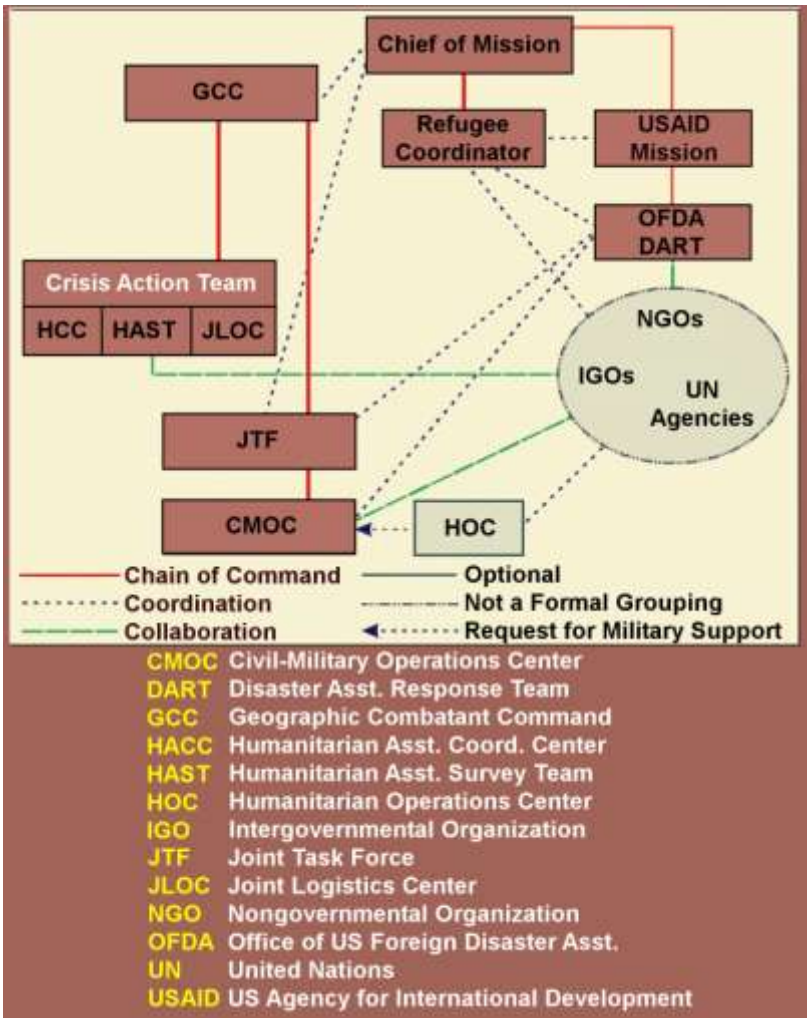
3.6. Cross-functional Collaboration. Effective joint operations require close coordination, synchronization, and information sharing across the staff directorates. The most common technique for promoting this cross-functional collaboration is the formation of centers, groups, bureaus, cells, offices, elements, boards, working groups, and planning teams and other enduring or temporary organizations that manage specific processes and accomplish tasks in support of mission accomplishment. They facilitate planning by the staff, decision-making by the CDR, and execution by the HQ. They mostly fall under the principal oversight of the staff directorates. This arrangement strengthens the staff effort in ways that benefit the JTF and its CDR in mission execution. Coordination at the JTF level is illustrated in **Figure 3.6**. The following are typical organizations formed during FHA operations and their unique considerations:

3.6.1. **Joint Facilities Utilization Board (JFUB).** The JFUB is formed under JTF engineer supervision. When large numbers of US and multinational forces operate within the same geographic area, facility allocation to accommodate requirements is necessary. The JFUB serves as the lead agent to deconflict issues arising from multiple-user demands on limited facilities and recommended COAs to resolve issues. The JFUB addresses multinational force accommodation, ammunition storage points, joint visitors' bureau, postal facilities, transit facilities, and other related areas. JFCs can establish a joint civil-military engineer board to execute JFUB decisions and collaborations as required. For further details on the JFUB, refer to JP 3-34.

3.6.2. **Coalition Forces Support Team (CFST)**. The CFST is organized to coordinate activities between participating multinational forces. The CFST focuses on controlling all support and coordination tasks. The following duties are performed by CFST:

3.6.2.1. Welcome and orient newly arrived FHA forces;

Figure 3.6. Coordination at the JTF Level.



(See JP 3-29 for an explanation of all agencies in this figure.)

3.6.2.2. Designate initial staging areas; provide water, rations, and other support;

3.6.2.3. Identify sensitivities (historic animosity or religious differences) among multinational forces and the affected populace;

3.6.2.4. Receive, process, and provide situation update to arriving multinational forces, including a briefing on the legal limits of US support

3.6.2.5. Brief ROEs to arriving multinational forces; and

3.6.2.6. Brief C2 and relief agency relationships.

3.6.3. **Joint Information Bureau (JIB).** The JIB is the focal point for the interface between the JTF and the media covering the operation. The JIB provides the news media with timely and accurate information about military support to FHA and facilitates media coverage of operations. When operated in support of multinational operations, a JIB may be called a "combined information bureau" or an "allied press information center." For longer-term FHA operations, the JIB may also conduct a command information program, but priority goes to supporting public information activities in the event of limited resources. For further details on the JIB, refer to JP 3-61, *Public Affairs.*

3.6.4. **Joint Movement Center (JMC)**. The JMC coordinates the employment of all means of transportation (including that provided by allies or HNs) to support the CONOPS. This coordination is accomplished through establishment of transportation policies within the assigned operational areas, consistent with relative urgency of need, port and terminal capabilities, transportation asset availability, and priorities set by the commander, JTF (CJTF). When required, the JMC coordinates with the UN Joint Logistic Center (UNJLC), which is the logistic hub for the UN and many NGOs and IGOs. For detailed information on movement control, see JP 4-09, *Global Distribution*.

3.7. NGOs and IGOs. Although NGOs and IGOs may enter the unified action hierarchy throughout its many levels, the primary impact is at the JTF level. Relationships with NGOs and IGOs need to be based on mutual under-

standing of lines of communications (LOCs), support requirements, procedures, information sharing, capabilities and, most importantly, missions. Necessary coordination can be facilitated by several organizations. The American Council for Voluntary International Action (InterAction), though not field based, is the largest coalition of US based NGOs with more than 165 members. The UN Office for Coordination of Humanitarian Affairs (UNOCHA) is another valuable resource for coordination efforts. OFDA, due to its regular interaction with NGOs and IGOs, will be a critical source of help in establishing relationships with these organizations. The following may assist in building unity of effort among these various organizations and the joint force commands.

3.7.1. Increase awareness and encourage contact between the military and NGOs and IGOs through meetings, briefings, and joint planning sessions.

3.7.2. Incorporate selected NGO and IGO training into Service and joint training and exercise programs; and conversely, incorporate interaction with military units and personnel into NGO and IGO training.

3.7.3. Review lessons learned as recorded in both the joint and Services' lessons learned databases.

3.7.4. Clearly articulate the role of the military to the NGOs and IGOs. It is imperative that these organizations understand the military mission, the level of support it can provide, and the process to receive support. Explain what NGOs and IGOs are entitled to from DOD forces (e.g., medical care, force protection, transportation). Explain who determines what priority NGO personnel and equipment will be moved. NGOs desire transparency; which implies openness, communication, and accountability; when dealing with the military. Assets such as the crisis action team, HOC, HACC, CMOC, and LNOs can be used to provide such information.

3.7.5. Ensure the joint force understands their support role. While UN and NGO guidelines provide that requesting assistance from the military is a last resort, some NGOs and IGOs may assume the military has an inexhaustible resource reservoir, and inundate the FHA force with requests for various types of support. Members of the FHA force must have a clear understand-

ing of the nature and amount of support they will be authorized to provide. Normally, requests from IGOs and NGOs should come to DOD through the DOS at the Executive Secretary level. When the JFC has been delegated authority to fill certain types of requests from these organizations, the granting of that authority, and guidance on its use, should be included in the execute order (or a modification thereto). Keep in mind that equivocal responses, such as "we'll try," can be interpreted as an affirmative response, and establish unrealistic expectations. Failure to meet expectations (real or not) can adversely affect relationships in both current and future operations.

3.7.6. Be aware that not all NGOs and IGOs appreciate military assistance or intervention into FHA operations. Some NGO and IGO charters do not allow them to collaborate with armed forces based on political mandate, neutrality, religious, or impartiality concerns. FHA CDRs need to honor this fact, while still striving for unity of effort.

3.7.6.1. NGOs follow humanitarian principles when giving aid; all aid is based on need alone. Military aid may not follow the principles of humanitarian aid (impartiality, independence, humanitarianism, and neutrality), but may be politically motivated, and conditional. Therefore, NGOs do not see military aid – even aid in the form of humanitarian assistance - as "humanitarian aid."

3.7.6.2. The USG, NGOs, and IGOs may not share common objectives.

3.7.6.3. CDRs may find it beneficial to use a third party to establish liaison with NGOs and IGOs reluctant to establish direct contact with military organizations. USAID is critical to this effort.

3.7.7. Be cognizant of legal requirements and regulations that apply to relationships between the military and NGOs and IGOs.

3.7.8. Ensure that agreements and memorandums of understanding fully address funding considerations, delineate authority, and define negotiation channels. Agreements may include air and surface transportation, petroleum products, telecommunications, labor, security, facilities, contracting, engineer support, supplies, services, and medical support.

3.7.9. Exchange NGO, IGO, and military operating procedures/capabilities.

3.7.10. Exercise due diligence in dealing with NGOs that do not adhere to accepted professional standards. Most NGOs follow the UN principles of humanitarian assistance and the *Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*. Disaster-affected communities have a right to expect those who seek to assist them to measure up to these standards. In maintaining these standards, it is important for CMOC officers to not be perceived as favoring a particular relief organization, particularly at the expense of other organizations

3.7.11. Share information with NGOs and IGOs to the greatest extent possible, especially regarding the security environment. Using information and communications technology will allow IGOs and NGOs to plan their response with up to date and accurate information and to integrate into the overall response more efficiently.

3.7.12. When working with NGOs in an uncertain or hostile operational environment, the guidelines found in the United States Institute of Peace *Guidelines for Relations between U.S. Armed Forces and Non-Governmental Humanitarian Organizations in Hostile or Potentially Hostile Environments*, will help mitigate friction between military and NGO personnel

3.7.13. Identify and collaborate with the first responders to a disaster. While the US military may be the largest organization on the ground in a disaster area, it is critical to understand that the US military will not be the first one on the ground. The NGOs and IGOs that normally operate in the disaster region will typically respond to a disaster prior to arrival of the US military.

3.7.14. For further details and points of contact on coordination and relationships with NGOs and IGOs, refer to JP 3-08, Vol I.

Chapter 4

PLANNING

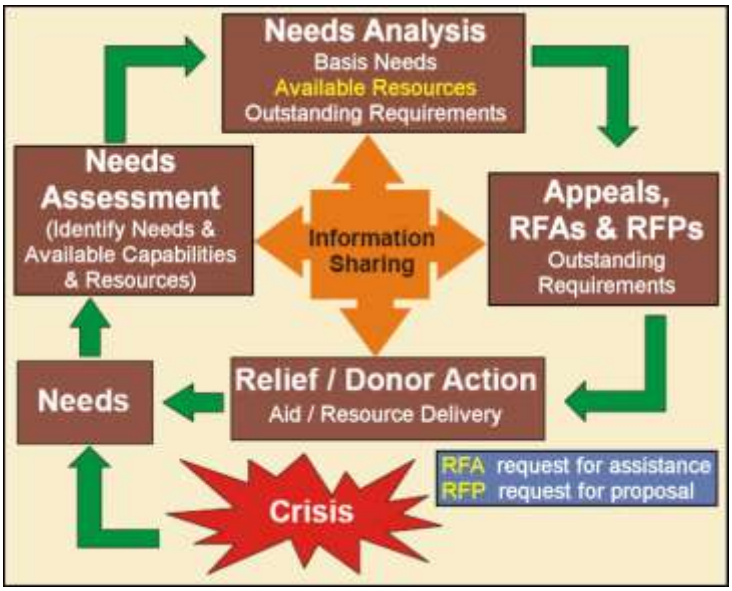
4.1. Introduction. This chapter highlights aspects of planning related to FHA operations, including camp construction. Although much of the information presented is applicable for deliberate planning, crisis action considerations are emphasized. **NOTE:** Complete procedures for both contingency planning and crisis action planning (CAP) are described in Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3122.01A, *Joint Operation Planning and Execution System (JOPES) Volume I Planning Policies and Procedures* and the joint operation planning process (JOPP) is described in JP 5-0, *Joint Operation Planning*.

4.2. Contingency Planning. Contingency planning involves making assumptions and developing scenarios from an unknown point in the future upon which the response to an emergency is based. Both NGOs and military organizations develop contingency plans for areas where emergency assistance may be required in the future. In areas where natural disasters are prevalent, CCDRs should have a commander's estimate, base plan, CONPLAN, or OPLAN for the affected FHA mission. Multinational planning or exercise results may also be available. Although an existing Joint Operation Planning and Execution System (JOPES) product almost never completely aligns with an emerging crisis, it can be used to facilitate rapid COA development.

4.3. Crisis action planning (CAP). CAP is the JOPES process involving the time-sensitive development of joint operation plans and operation orders for the deployment, employment, and sustainment of assigned and allocated forces and resources in response to an imminent crisis. CAP is based on the actual circumstances that exist at the time planning occurs and the starting point is known and the planning builds on known needs and resources based on actual field assessment. The time available to plan responses to real-time events is short, particularly in the case of disasters requiring an FHA response. In as little as a few days, the supported CCDR and the JFCs and their staffs must develop and approve a feasible COA, publish the plan or order, prepare forces, ensure sufficient support, and arrange sustainment for the

employment of US military forces. Accordingly, considerations for CAP are emphasized throughout this chapter, although much of the information is also applicable during contingency planning. The CDRs should understand the relief process used by the HN and IGOs, as depicted in **Figure 4.1**.

Figure 4.1. Over Arching Relief Process.



4.3.1. **CAP Initiation.** The supported CCDR begins CAP when the CJCS planning order, alert order, or warning order is received. In urgent situations, CAP may begin even before an order is formally issued.

4.3.2. **Needs Assessments.**

4.3.2.1. Non-military Teams. Host nation, affected state agencies, and various HN organizations conduct needs assessments on the extent of the disaster/emergency and the needs/requirements. Assessments also include determining the capabilities and resources of various relief organizations, including military, if they are part of the FHA effort.

4.3.2.2. Humanitarian Assistance Survey Team (HAST). The supported CCDR may also organize and deploy a HAST to acquire information required for planning. This information may include an assessment of existing conditions and requirements for FHA force structure. Before deploying, the HAST should be provided the current threat assessment; current relevant intelligence; geospatial information and services support; and embassy, DOS, and USAID points of contact. Due to the possibly dangerous nature of the environment at the site of a disaster, the HAST should include medical personnel who can conduct both a pre-deployment vulnerability assessment and an occupational and environmental health site assessment, documenting conditions in the operational area. The DART and USAID mission can provide a great deal of this information to the HAST. Once deployed, the HAST can assess the relationship with and authority of the government of the affected country; identify primary points of contact for coordination and collaboration; determine the threat environment and survey facilities that may be used for force protection purposes; and coordinate specific support arrangements for the delivery of food and medical supplies. The HAST works closely with the DART to prevent duplication of effort. The HAST can assist with the following tasks.

4.3.2.2.1. Assess the nature and extent of:

4.3.2.2.1.1. Available food, water, sanitation, and shelter;

4.3.2.2.1.2. Casualties and loss of life;

4.3.2.2.1.3. Injury, illness, outbreak of disease, and access to health services;

4.3.2.2.1.4. Dislocated civilian population and location (to include security requirements of the population);

4.3.2.2.1.5. Status of the government of the affected country, to include HN medical facilities and/or assets still available;

4.3.2.2.1.6. Degree of destruction to property and infrastructure;

4.3.2.2.1.7. Available logistic facilities for air- and sealift, roads, rail, and bridges;

4.3.2.2.1.8. Significant actors, the span and depth of their control over territory, resources, and individuals, and their objectives.

Figure 4.2. HAST Member Hands Out Candy at Khunay, Afghanistan.

4.3.2.2.2. Formulate recommendations for provision of DOD funding, equipment, supplies, and personnel.

4.3.2.2.3. Establish liaison, identify information sharing procedures, and coordinate assessment with agencies of the affected country; supported CDRs or their representatives; US diplomatic personnel and USAID, especially the DART; and other relief agencies operating within the crisis area.

4.3.2.2.4. In conjunction with US Transportation Command (USTRANSCOM), arrange for the reception of US personnel, supplies, and equipment.

4.3.2.2.5. Be prepared to begin coordinating FHA to relieve suffering and avoid further loss of life as directed by the GCC.

4.3.2.2.6. Determine the threat environment and survey facilities that may be required for self-defense of forces.

4.3.2.2.7. Determine the HN government's desires and capacity to support the media in FHA operations and the JTF's role in media support.

4.3.2.3. For more detailed information on site survey teams, see **Chapter 5**.

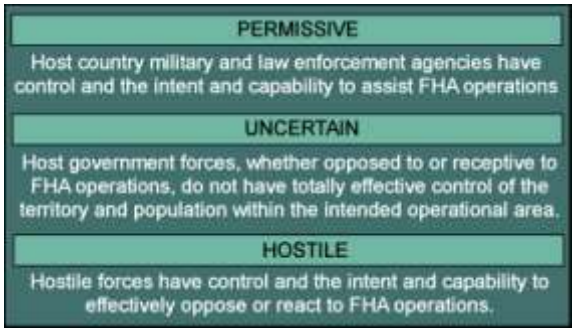
4.3.3. **Needs Analysis.** Analysis is an essential component of the relief process. Needs assessments and capabilities are analyzed to update and re-

solve differences, determine outstanding needs/requirements and reasonably anticipated future needs. Outstanding needs/requirements are then converted into appeals to the international community and donors, and to specific requests for assistance (RFAs). The military may receive RFAs to provide immediate life saving supplies, transportation, or security and are subject to the policies of the US Government.

4.3.4. **Relief/Donor Action.** Humanitarian agencies, donors, and foreign military provide relief based on their ability to respond to appeals and RFAs. Foreign government, regional organizations and the UN may make available immediate funds and other resources very early in the relief cycle. UN Office for the Coordination of Humanitarian Affairs (OCHA) administers a Central Emergency Revolving Fund (CERF) to provide immediate assistance.

4.4. Operational Environment. The process of joint intelligence preparation of the operational environment (JIPOE) will assist the JFC in developing an understanding of the operational environment and applying it to planning and execution. The operational environment has an impact on the conduct of FHA operations, to include selection of forces, the CONOPS, protection plans, and possible changes to the ROE for the mission (**Figure 4.3**). Important elements of the operational environment for the FHA JFC include the type of disaster involved (including underlying causes), the prevailing security environment, and the system of international relief at work. See JP 3-29 for complete details about understanding the operational environment.

Figure 4.3. FHA Operational Environments.



4.5. Mission Analysis. The joint force's mission is the task or set of tasks, together with the purpose, that clearly indicates the action to be taken and the reason for doing so. The primary purpose of mission analysis is to understand the problem and purpose of the operation and issue appropriate guidance to drive the rest of the planning process. Although some steps occur before others, mission analysis typically involves substantial parallel processing of information by the CDR and staff, particularly in a CAP situation. For further details on mission analysis, refer to JP 5-0.

4.5.1. **Military Role.** The relief community requests the use of US military and civil defense assets for international disaster relief operations through UNOCHA. Military assets should be requested only where there is no comparable civilian alternative and only when the use of military assets can meet a critical humanitarian need. The military asset, therefore, must be unique in capability and availability. Any use of military assets should be, at its onset, clearly limited in time and scale and present an exit strategy that defines clearly how the function it undertakes could, in the future, be undertaken by civilian personnel. For more information on this subject, see JP 3-29.

4.5.2. **Military End State.** Based on a set of national strategic objectives, the CCDR will determine the military end state and strategic military objectives, which define the role of military forces.

4.5.3. **UN Mandate.** The UN normally conducts FHA under the provisions of a resolution or mandate from the Security Council or the General Assembly. The CDRs should be cognizant of the provisions of the mandate or resolution; however, as with all military operations, UN mandates are implemented by US forces through orders issued by the SecDef through the CJCS. During such implementation, the political mandates are converted to workable military orders.

4.5.4. **Risk Assessment.** CDRs must identify the specific hazards that the joint force may encounter during the mission and determine the probability and severity of loss linked to those hazards. After assessing these hazards, the staff must develop risk mitigation measures. To assist in risk management, CDRs and their staffs may develop or institute a risk management process tailored to their particular mission or operational area.

4.5.5. **Mission Statement.** A critical task for the CCDR is developing the FHA military mission statement. The mission statement must provide specific direction for achieving the desired end state via clear and attainable military objectives. The CCDR normally coordinates the mission statement with OGAs. CCDRs consider several factors in developing the mission statement, to include the military force's role in assisting relief agencies, the operational environment, and security considerations. The mission statement for the USPACOM Operation UNIFIED ASSISTANCE (2004-2005) provides an example: "USPACOM provides assistance to the governments of Indonesia, Sri Lanka, Thailand and other affected nations to mitigate the effects of the recent earthquake and tsunami in the Indian Ocean. Conduct of operation is in support of USG lead agency, and in coordination with intergovernmental organizations, nongovernmental organizations, and partner nations."

4.6. CONOPS. The CONOPS is a verbal or graphic statement that clearly and concisely expresses what the JFC intends to accomplish and how it will be done using available resources. It describes how the actions of the joint force components and supporting organizations will be integrated, synchronized, and phased to accomplish the mission, including potential branches and sequels. For further details on CONOPS development, refer to JP 3-29 and JP 5-0.

4.7. Force Planning. The primary purposes of force planning are to: influence COA development and selection based on force allocations, availability, and readiness; identify all forces needed to accomplish the supported CCDRs' CONOPS with some rigor; and, effectively phase the forces into the operational area. JFCs may have plans or predesignated joint forces, or both, for the conduct of FHA missions. The JFC has a number of available options, including use of a pre-designated joint force or an ad hoc joint force, task organized and tailored specifically to conduct FHA missions. In FHA operations, the joint force structure must provide for the means to coordinate and communicate with the numerous organizations that are involved in the overall FHA effort, both military and civilian, US and foreign. Effective liaison among these organizations will help reduce organizational conflicts and redundant relief efforts. Personnel trained in political-military skills are valuable in establishing necessary liaison with policymakers and the diplomatic

community. Additionally, personnel skilled in multifunctional logistics and security assistance operations should be part of the joint force organization, since FHA operations tend to be logistic intensive. There is a high probability that the joint force will be a multinational force, and that some of the multinational forces may require and have received USG approval to be supported with US equipment and sustained by US forces throughout the duration of the operation. This support may include the activation and deployment of Reserve Component (RC) personnel or units to support specific mission requirements, such as CA. A Presidential Reserve Call-up may be required to augment the limited number of Active Component CA personnel. Deployment times for members of the RC may be considerably longer than those of the main body of the FHA force. Joint force organization will follow established standing operating procedures and joint doctrine.

4.7.1. **Defining Capabilities Requirements.** The supported CDR identifies force requirements as operational capabilities in the form of force packages to facilitate sourcing by the Services, US Joint Forces Command (USJFCOM), US Special Operations Command (USSOCOM), USTRANSCOM), and other force providers' supporting commands. A force package is a list (group of force capabilities) of the various forces (force requirements) that the supported CDR requires to conduct the operation described in the CONOPS. The supported CDR typically describes required force requirements in the form of broad capability descriptions or unit type codes, depending on the circumstances.

4.7.2. **Force Sourcing.**

4.7.2.1. **Request for Forces and Capabilities**. The supported CDR submits the required force packages through the Joint Staff to the force providers for sourcing. Force providers review the readiness and deployability posture of their available units before deciding which units to allocate to the supported CDR's force requirements. Services and their component commands also determine mobilization requirements and plan for the provision of non-unit sustainment.

4.7.2.2. **Global Force Management (GFM)**. The supported CDR will review the sourcing recommendations through the GFM process to ensure

compatibility with capability requirements and CONOPS. GFM allows USJFCOM to identify full range support capabilities and forces, identify the right mix, and bring that mix in to a streamlined and integrated process designed to support combatant command requirements. GFM allows a global view of the requirements and a global view of the availability of the forces to meet those requirements and in a collaborative and open environment. The process allows planners to shift their focus of preparation to the most important areas.

4.8. Predeployment Planning. Supported and supporting GCCs are responsible for coordinating with US embassies within their AORs to ensure that necessary over-flight and transit en route agreements/arrangements are negotiated to permit forces necessary to conduct and sustain FHA operations to reach their operational areas. DOS coordinates over-flight and landing rights, diplomatic clearances, and visa and passport requirements for all deployment operations. Supporting GCCs are responsible to ensure appropriate over-flight, transit, and staging agreements/arrangements are in place to support operations in other AORs when appropriate. For more information on current over-flight/transit requirements, see the *DOD Electronic Foreign Clearance Guide;* and for guidance on negotiating agreements, see DODD 5530.3, *International Agreements.*

4.9. Deployment Planning. Deployment planning and execution considerations for FHA missions and other military operations are fundamentally the same. Joint force deployment is predicated on the severity of the humanitarian situation and the perception of US interests. It is important to remember that, at every level, political factors drive military decisions and planning. Based on mission analysis, the JFC determines what packages are required to deploy to the humanitarian crisis area as a first priority, to perform assessments and to establish required lodgment for the remainder of the joint force. Initial deployment for an FHA operation generally requires only critical C2, communications and computer systems; security; CMOC(s); PA, and logistic capabilities (e.g., initial theater opening capability). Follow-on forces deploy as capabilities expand and requirements are better defined. For more information see JP 3-35.

4.10. Functional Planning. Most FHA engineering activities are planned and executed by a joint force's Service or functional components. Therefore, each engineer function has unique planning considerations that must be addressed in a functional plan. The functional plan is a vital management tool which should be based on a problems, needs and resources assessment. The plan should determine mission priorities, set objectives, and specify actions that must be taken by the actors responsible for the various sectors of an operation. Specific tasks and the parties responsible for the implementation of these tasks need to be clearly identified and a plan formulated in a clear and concrete way. The most effective functional plans are those developed by or with people who will implement them.

4.10.1. The more critical the situation, the more important it is for the senior service engineer commander to find the time to take stock, determine priorities and develop a plan for what needs to be done, when, by whom and how.

4.10.2. Ideally, the functional plan should make use of the contingency planning process, partners identified, and resources prepared, as well as the plan itself. As the same principles of planning apply, the structure of the functional plan can be based on the contingency plan. There are a range of additional considerations beyond what is included in the contingency planning format. In functional planning, as in CAP, the starting point is known and assessments of the situation replace the contingency planning scenarios and many of the assumptions.

4.10.3. The functional plan must be comprehensive, identifying all problems, needs and resources whether these are met through the military, UNHCR, or by other organizations and sources of funds. Drawing up the functional plan should be a multi-functional team effort. Clear direction must, however, come from the government and/or UNHCR.

4.10.4. Although the plan should be comprehensive, this should be balanced by the need to produce the plan quickly, so that in rapidly evolving emergencies the plan will not become outdated before it is finished. In addition, lengthy plans can be difficult to update.

4.10.5. A plan, as a document, represents the outcome of the process. It should be kept updated in light of the evolving situation: implementation of the plan should be monitored and corrective action taken, and the plan should then be adjusted and revised. The functional plan must be made available to all who need it.

Figure 4.4. Update Plans to Meet Changing Conditions.

4.10.6. It is incumbent on the senior command element to define the mission objective in attainable terms and effectively communicate it to all parties concerned. The single most important concept to grasp at the planning stage and carry throughout construction is mission focus, or unity of effort toward the objective. Everyone involved with the mission must understand and agree to work toward the objective to accomplish the mission successfully. Unlike combat operations where unity of command impacts military units only, a humanitarian effort will involve disparate civilian organizations. Many of these groups will possess nothing more than a general focus, unique organizational goals, and agendas. Some of these organizations (though well established with humanitarian aid experience) may not understand nor grasp the fundamentals and importance of streamlined organizational traits and teamwork. At the planning stage, establishing open communications can foster the critical unity of effort necessary for all organizations to be successful. This also sets the stage for clarity of mission and focus during the construction phase. Dynamic military leadership at the tactical level, particularly

on the part of the camp commander, can promote the needed unity between military units and appropriate civilian organizations.

4.10.7. **Time Constraints.** DPs/refugee camp planning and construction will likely be performed under intense time constraints to meet very aggressive construction schedules. It is safe to assume that normal military mobilization processes and schedules will be of little use during a DPs/refugee crisis. This is due in part to the onset speed and unpredictability of situations such as regional war, natural disaster, and other health endangering situations that can lead to the displacement of whole populations and in part to the amount of involvement by governments and NGOs. Preplanning is critical to avoiding crisis; however, planners should expect very little preplanning time.

4.10.8. **Flexibility.** During a DPs/refugee crisis, firm requirements will likely change very often. Like any contingency operation, critical planning factors that are unknown during the planning stage can have significant impacts as the operation progresses. For example, during camp construction in Albania, it became apparent that the site chosen for the camp was part of an artificially flooded former collective farm. The Albanian Government had been opening floodgates on a specified date for 50 years and it had become a habit. The imposed flooding negated the effectiveness of the drainage systems that had been carefully engineered to deal with storm water runoff. The solution was relatively simple – negotiate with the local authorities to reduce the irrigation water inflow and increase discharge pumping cycles which route the water out to sea. It is necessary to recognize and act early on problems such as this since negotiations may take some time. This example also illustrates the importance of conducting a thorough site survey early on in the planning process. This particular camp's site survey was conducted in less than a day and did not include engineering expertise among the participating team members. Surprises will happen and the resilient planner will learn to expect change and deal with it appropriately. The same is true at the camp site; additional planning takes place at the site and is driven by a wide range of variables that were probably unknown when initial planning was conducted. Camps, as part of contingency operations, require flexibility for mission success. During the process of camp construction, several elements may change, including key personnel (both military and civilian), assigned agency re-

sponsibilities, and even entire governments. As a result, design requirements, schedules, material availability, logistics, site access, and other factors may be affected.

4.10.9. **Operations and Maintenance (O&M).** The Air Force may be required to assume total responsibility for O&M of the camp, as was the case in Guantanamo Bay, Cuba, in support of the Haitian and Cuban refugee support operations of Operation SEA SIGNAL between August 1994 and January 1996. In that type of event, all normal support activities associated with running a large tent city must be provided. Considerations such as security, feeding, sanitation, water supply, distribution and wastewater management, electric power production and distribution, facilities maintenance, and fire prevention become of paramount importance and must be figured into continuing planning. Conversely, the Air Force may not be involved in sustained operations and maintenance of camps. In this case, NGOs under the general management of the UNHCR will probably assume these responsibilities. Responsibility for O&M should be included in the initial orders and procedures developed simultaneously with camp buildup.

4.10.10. **Preliminary Planning Considerations.** As early as possible during the pre-planning stages, it will be beneficial to find out as much as possible about the destination country and local site. Review contingency plans and initial assessments performed by the OFDA DART. As mentioned earlier, a great deal of information may be gained from the JIPOE. Be sure to request geospatial support for the OA from the J-2 if not included in the JIPOE. In addition, the internet provides the fastest means to access general information – from official USG sites to host nation sites. Active inquiries to host nation websites or individuals could telegraph details of the impending mission; therefore, consideration should be given to OPSEC.

4.10.11. **Planning Process.** Planning for DPs/refugee contingency operations is a non-linear process. New concepts, requirements and ideas will constantly be introduced and planners should be prepared to adjust accordingly. MAJCOM authorities should carefully consider the level of autonomy granted to planners. In contingency operations, plan approval must be obtained quickly. A planning cell that is overburdened with reporting and sub-

mission of plans for approval through several layers cannot be responsive or effective. As the number of "interested parties" grows, the potential to cripple the planning process grows. Even as plans and designs are approved and the construction phase begins, planners will continue to address new problems and changes that arise during the operation. Hence, flexibility and "outside the box" thinking should be guiding principles.

4.10.12. **Key Participants in Planning Functions**. Camp planning may involve allied participants. NGOs should be involved as early as possible. Early involvement with specific decision-making groups may also preclude problems and limit the number of changes as planning moves forward. These groups must make their interests and requirements known to planners early so that their requirements will be more appropriately addressed during plan development. In particular, the NGO designated to operate the camp should be involved in planning, as design issues are addressed.

4.10.12.1. **NGOs.** Working as part of a multifaceted group comprised of government agencies, military units, NGOs, local businesses and subcontractors, and the USG's prime contractor can be a challenging environment. NGOs will likely bring their own independent goals and agendas to the situation. But it is critical that the U.S. military address NGO concerns and incorporate their requirements into the plan for subsequent "buy-in." This must be accomplished while at the same time ensuring military objectives are met. This can be challenging since NGOs do not fall under one chain-of-command and may not be organized as well as the military. Military personnel must use finesse when communicating with NGOs to achieve mission objectives. While challenging, it is paramount to form a cohesive and effective team as quickly as possible. The planning effort will be formidable and require that plans be completed on time and presented for comment and approval by all interested parties. Everyone reviewing the plans must know and meet the strict milestones for review and approval that have been established. Once plans receive final approval, everyone involved must put their full support behind successfully executing the approved plans. When changes are necessary, change orders must be documented, reviewed, and approved before procurement and construction can take place. The planning cell should also be aware that the designated NGOs may change during

planning and that if a number of NGOs are involved, conflicting requirements may be presented for camp design, security issues, fire prevention, access, and layout. The project manager, site manager and the chief planner need to remain vigilant to include the right mix of people and stay attentive to the planning schedule. Identification of and contact with all interested parties would be time well spent during the early planning cycle. Most NGOs will not have any knowledge or experience dealing with the military. Resolving questions and conflicts early in the planning process, educating the participants and clarifying legal requirements are critical to ensuring a successful and smooth-running contingency operation.

4.10.12.2. **Multinational Forces**. Joint forces should be prepared for operations with forces from other nations within the framework of an alliance or coalition under US or multinational leadership. Planning for multinational operations is accomplished in multinational and national channels. Multinational CDRs develop their strategies and plans in multinational channels. JFCs perform supporting JOPP for multinational operations in US national channels. Coordination of these separate planning channels occurs at the national level by established multinational bodies or coalition member nations and at the theater-strategic and operational levels by JFCs, who are responsible within both channels for operation planning matters. US doctrine and procedures for JOPP also are conceptually applicable to multinational problems. The fundamental issues are much the same for both situations.

4.10.13. **Other Planning Considerations.**

4.10.13.1. **Local Workers.** Work habits and rest days vary in every part of the world. Many work habits have been developed from religious influences. Prayer times, religious holidays and government regulations are major factors. Planners and schedulers should be aware of local customs and any special food requirements and react by scheduling in these factors. Since camps are usually located in remote areas, the national workers will adhere to their old ways unless the contractor can influence them, usually monetarily, to change. In most cases, even monetary incentives eventually lose effectiveness over traditions and customs.

4.10.13.2. **DPs/Refugee Workers.** If DPs/refugee workers are to be used, planning must consider UNHCR and host nation laws regarding wage rates and the legalities of hiring DPs/refugees. Such items as wage taxes, the destabilization of local labor markets, local inflationary pressures, and the impact of the construction effort on the local population should be considered.

4.10.14. **Transition Planning.** The transition of humanitarian efforts to HN authorities will not occur by default. Planning must involve extensive international and interagency coordination from the very beginning in order to ensure a successful transition. Military FHA efforts should focus on the capacity of the HN, as well as OGAs and IGOs; the goal is to transition all efforts to HN, OGA, IGO, or NGO ownership to allow rapid redeployment of the military force. Measures of effectiveness, end state, transition, and termination planning should all reflect this goal.

4.10.15. **Scheduling.** Accurate planning of material and equipment, time required for procurement and transportation, and construction requirements in terms of site preparation and the magnitude of the construction effort must be considered in the scheduling process. Early definition of facility construction requirements and agreement by the parties involved will contribute to accurate construction scheduling. An automated tool may provide scheduling and tracking capability and provide for electronic transfer of schedule information.

4.10.16. **Other Factors.** Negotiating with local governments for various concessions such as water and power supplies; managing ancillary projects to repair roads or other infrastructure damaged by the construction effort or merely in need of repair to make them useable; planning and executing improvement projects to ease feelings due to camp intrusion on the local populace are all issues that may arise during camp construction and must be factored into all planning and staffing requirements.

4.10.16.1. **Transportation.** Reliance on local transportation resources and contractors may prove to be frustrating and require extensive planning and coordination. Transportation infrastructure such as roads and bridges may be substandard for heavily loaded trucks and construction equipment. Alternate routes may not be available.

4.10.16.2. **Communications.** Understanding local communications capability limitations is paramount to ensuring adequate communications planning. Lack of commercial telephone lines, poor satellite coverage and the coordination of hand-held radio frequencies may all present challenges.

4.10.16.3. **Documentation.** Include a plan for collecting and recording information concerning the camp project from start to finish. Consider such things as keeping a running log of significant events and lessons learned. Also include provisions for filing, storing and protecting key documents.

4.10.16.4. **Global Area Reference System (GARS).** GARS is an area referencing system which reaches all areas of the globe and can be used as a tool in synchronizing operations across multiple applications. Establishing a common reference system early in planning will enhance operational execution by mitigating confusion in geographic coordination. For further information on GARS, refer to JP 2-03, *Geospatial Information*.

4.11. Hints for Plan Development. This section offers some hints for preparing engineering plans.

4.11.1. **The Process.** The planning process is as important as the product. While gathering information and developing solutions for the plans, much is learned about the unit's mission, capabilities, and shortfalls. The knowledge gained from gathering information about the unit's mission, capabilities and shortfalls, and developing solutions for the plans, makes the unit better able to respond to crises. The more individuals in the process, the more knowledge expands throughout the unit and builds depth into the CE "team." Plans and checklists only document the results of the process.

4.11.2. **Keep Plans Simple.** Good plans do not have to be elaborate, but they do have to be easy to understand. Generally, simple plans are better and are easier to follow and more likely to be successful. No plan can cover every conceivable contingency, and experience shows that no crisis goes according to plan. Rely on the common sense and good judgment of the personnel to adapt to the situation. The planning will be adequate if personnel are organized to respond to the crises, know what to do, and have the resources to do it.

4.11.3. **Answer Key Questions.** The planning process is essentially an effort to answer a few key questions. There are many ways to phrase the "who, what, when, where, why and how" questions.

4.11.3.1. What does the plan's OPR want from me? Know the purpose of the plan, what inputs the OPR expects, and what format to use. The OPR should be able to provide the basic plan or at least an outline with information on the situation, mission, execution, administration and logistics, command and signals.

4.11.3.2. What is the threat? What contingencies do engineers need to be prepared for? Identify all the likely natural and man-made threats to the camp and its missions. Ideally, that information should be presented in the situation section of the basic plan. If not available from the OPR, review chapter one of the basic plan. It is a good place to start, but contact the wing intelligence office for terrorist and wartime threats. Threats change over time, so keep up to date. The base weather office can provide useful data on weather related emergencies. This should include the frequency and magnitude of the natural threats. Provide the commander several proposals on what threats should be included. The commander can often offer valuable insights here.

4.11.3.3. For each threat, what is likely to be targeted/damaged and how important is that function/facility to the mission? Identify the most probable targets and the most vulnerable functions and facilities for each threat. Anticipate the impact on the mission if those functions or facilities are damaged.

4.11.3.4. What permanent or temporary solutions can be employed to reduce the vulnerability of the mission-critical functions and facilities? There will never be enough money to properly protect the key facilities. Efforts should be made to get the most protection for the available dollars.

4.11.3.5. What CE capabilities are required to respond to each disaster?

4.11.3.7. What resources are needed for each response capability: personnel, equipment, vehicles, supplies, etc? What is available? Determine resource shortfalls and decide how to satisfy those shortfalls.

4.11.3.8. Who in the unit will be responsible for what tasks and what support? Establish who is to do what, with what resources and, if possible, when they are to do it.

4.11.4. **Set Up A Planning Team.** Many plans are the result of a few smart personnel thinking about a problem and developing common sense solutions. Certainly, one person can prepare CE plans, but that is not a formula for success; major advantages are gained by setting up a planning team. As stated earlier, getting more personnel involved in the planning process yields a better-informed unit. The additional brainpower tends to yield more suggestions and better solutions—and a better plan. In addition, when individuals feel they are part of the solution, they are more willing and better able to execute the plan or provide support for it. A part-time ad hoc team works best. Team membership can change with each plan. The team does not have to meet often. In fact the team members can meet with the leader and each other only as needed to get guidance, coordinate efforts, and turn in their work.

4.11.5. **Take Advantage of the Experienced.** Seek out personnel who have been at the base or in the area for a long time and ask for their help. Some will freely share their thoughts and others may ask a lot of questions. They will usually have a wealth of information and invariably reveal overlooked, but important, facts.

4.11.6. **The Planning Leader's Job.** The planning leader guides plan development, assigns tasks, consolidates inputs, resolves conflicting requirements, and usually drafts the plan. The leader has an obligation to improve and streamline the effort so the team does not waste time, individually or collectively. Here are some thoughts on what the leader must do.

4.11.6.1. Learn all about the plan before meeting with the team. Get and read the reference materials. Have a copy of the plan to be updated. Know it thoroughly. Find out what the OPR wants—in both details and format.

4.11.6.2. Outline the objectives for the effort. Put them on paper to explain them clearly to the team. Ask a friend to review them; if they are not clear, rewrite them until they are.

4.11.6.3. Identify the required planning tasks and designate the person responsible for each task. Specify the level of detail and format expected from them. Encourage team members to identify any additional required tasks to make the plan more complete.

4.11.6.4. Set deadlines when the tasks are to be complete. Make progress checks on the long lead-time tasks.

4.11.6.5. Encourage imagination and ingenuity. If team members develop a good idea, give them time and flexibility to verify the idea.

4.11.7. **Do Not Plan In A Vacuum.** Civil engineers are just part of the team. Good planning can happen only when all organizations and agencies contribute. This is the only way to identify support requirements and develop agreements to provide or get that support. Be sure to coordinate unit plans with organizations outside CE whenever the plans call for or modify support requirements.

Chapter 5

SITE SELECTION CRITERIA

5.1. Introduction. The location of a DPs camp may range from a spontaneous settlement over a wide area, to an organized rural settlement, to a concentration in a very limited area; generally, the smaller the camps the better. The security of camps should be a major consideration during the initial stages of site selection. A solution that maintains and fosters self-reliance among the displaced population is always preferable.

5.1.1. The space provided should enable separation and privacy between the sexes, between different age groups and between separate families within a given household, as needed. Further, the space provided should accommodate new or pre-disaster/crisis livelihood activities within the shelter.

5.1.2. The social and cultural backgrounds of DPs/refugees are important determinants in site selection. In many circumstances, however, options will be limited and land that meets even minimum standards may be scarce. If the site does not meet the basic characteristics as mentioned in this chapter and is clearly unsuitable, it is wise to put on record the shortcomings of the site and the rationale for its selection. However, every effort must be made to convince the host Government regarding another location. The problems associated with an unsuitable site would be enormous in terms of protection and financial implications, which would escalate over time.

5.1.3. With the contingency plan and information already available as discussed in **Chapter 4**, the site selection team should have the tools necessary to select a suitable camp site. Decisions must be made as part of an integrated approach taking into account advice from experts, views of displaced people, and results from a comprehensive site selection survey.

5.2. Site Survey Team Composition. As described in **Chapter 4**, the CCDR may organize and deploy a survey team to acquire information required for site selection and planning in addition to, or in place of, the USAID DART. Effective support of a camp construction mission is dependent on putting the right people on the ground early in the operation. A successful

project requires planning, engineering design, scheduling, procurement of materials, construction implementation and client acceptance. As a result, the survey team must have complete representation from all aspects of the camp construction and operation. It is important to send services and support personnel as well as engineers and construction managers to the prospective site. On the site survey, each team member will be able to look at those things important to their portion of the mission. If only engineers and construction managers are on the ground initially, they may not adequately address other support, logistic, communication, and maintenance requirements. The members of the survey team must be adjusted to the situation, but should generally include the military camp commander, NGO representatives from involved agencies, and the teams included in **Table 5.1**.

Table 5.1. Site Survey Team Members.

Engineering Team	*Construction Team*	*Support Team*
- Engineers -- Civil -- Mechanical -- Electrical -- Water/Wastewater -- Environmental - Hydrologist - Land Surveyor - Computer Aided Drawing Design (CADD) Operators	- Construction Superintendent - Contracting Officer - Scheduler - Safety	- Security - Transportation - Logistics - Legal - Medical - Services & Life Support - Communications - Civil Affairs

5.3. Description of Key Site Survey Team Members.

5.3.1. **Military Camp Commander.** The camp commander is the senior military representative with primary responsibility for security. This individual works directly with the civil engineer/engineering manager or designated site survey team leader to coordinate and integrate security into the camp design and layout. The military camp commander will be responsible for

reporting status to higher military command authorities, command posts and planning cells.

5.3.2. **Civil Engineer.** The civil engineer will serve as the engineering manager and be responsible for coordinating the engineering team. All engineering matters of planning, studies, surveying, design, and construction will be under this individual's direct control to provide the engineering support to the overall mission. The civil engineer/engineering manager will be the direct interface with the overall site project manager. This person should have experience in rapid and mobile facility or emergency facility design layout and construction.

5.3.3. **Mechanical Engineer.** The mechanical engineer should be a part of the team if there is a potential to design pumping systems and other mechanical systems related to fuel depot supplies, fuel storage facilities, mechanical piping, heating units and elements. The mechanical engineer will also assist the water/wastewater engineer in design of water/wastewater pumps, valves and filters.

5.3.4. **Electrical Engineer.** The role of the electrical engineer will be design and oversight of all electrical power lines, power supplies, lighting and generator power.

5.3.5. **Surveyors.** At a minimum, a topographic land survey must be completed with a basic layout of the site before a construction schedule can be completed. The purpose of this requirement is to define possible topographic and hydrographic features that would present problems during construction and placement of facilities.

5.3.6. **Water/Wastewater Engineer.** Sources of water are critical in site selection. The water/wastewater engineer will play a key role in the location of water supply sources for a camp. Samples of water supplies must be collected, laboratory tested and expedited to determine the design parameters for water treatment facilities. If a major stream is not available, then ground water will have to be located by drilling and testing for the potable water supply. The water/wastewater engineer will be part of the well drilling team when activated. This individual will evaluate drilling logs, obtain water sam-

ples for laboratory evaluation, and will evaluate the well logs to determine if the well or well field can supply the required demand for the camp. Disposal of wastewater is also critical for the health of the individuals housed in the camps. The water/wastewater engineer must identify a system to dispose of wastewater from latrines, shower facilities, laundry, and kitchens. Potential contract disposal companies should be identified. If applicable, storm water flow from the camp should also be evaluated.

5.3.7. **Environmental Engineer.** An environmental assessment must be completed prior to construction, so that an environmental baseline can be established. In addition, the environmental engineer will also be able to assess any immediate environmental hazards.

5.3.8. **Computer-Aided Drafting and Design (CADD) Operators.** These personnel should be part of the initial team to provide the design layouts, final plans and specifications for the construction effort. Their presence with CADD equipment and plotters at the forward elements quickly provide drawings for the mission.

5.3.9. **Hydrologist.** When drilling of wells for a potable water supply is required, the site survey team should include a hydrologist. This individual will assist the water/wastewater engineer in identification of suitable locations for wells and well design requirements. Additionally, this individual will work with the construction superintendent to identify the local labor and equipment available for well drilling.

5.3.10. **Construction Superintendent.** The construction superintendent manages all construction activities. This individual leads the construction team and identifies critical events in material acquisition, project scheduling and construction as it relates to the specific site. The construction superintendent initiates the identification and contracting of local labor.

5.3.11. **Contracting Officers.** The contracting officers identify and begin the process to source materials, equipment and related appurtenances for the construction project.

5.3.12. **Project Scheduler.** The project scheduler develops the construction time line as it pertains to the specific site. It reflects material delivery times,

construction time, manpower requirements, equipment requirements and their expected variation on a daily basis.

5.3.13. **Safety.** The safety representative identifies hazards and risks to the site survey team and the general population. This individual oversees the adherence to safe practices and standards and reports directly to the civil engineer/engineering manager or designated site survey team leader.

5.3.14. **Non-Government Organizations.** The NGO representatives that will be responsible for operating the completed camp need to become involved in the initial camp design. Ideally, a single organization will have been identified prior to the site survey. The senior representative from that organization should attend the site survey and provide guidance to other NGO organizations.

5.3.15. **Military Support Staff.** Military representatives designated by the senior military commander required to support military operations at and around the camp.

5.3.16. **Security.** The security representative is responsible to the camp commander for addressing any security issues identified with the potential site location, avenues of approach and evacuation, and local military and civilian threats. The security representative should work directly with the civil engineer, engineering manager, or site survey team leader to coordinate and integrate security into the camp design and layout.

5.3.17. **Transportation.** The transportation representative begins coordination for the transport of equipment, tools and supplies. This individual obtains transportation systems maps and works with the communications representative for communications between transportation assets.

5.3.18. **Logistics.** The logistics representative identifies sources of supply and materials in the local area and assists the transportation planner with customs issues.

5.3.19. **Medical.** The medical technician evaluates the probability and types of disease and the availability of local medical facilities and personnel.

Figure 5.1. Refugee Child Receives Medical Aid.

5.3.20. **Legal.** The legal representative assists with issues such as land use, labor laws and coordination with local law enforcement authorities.

5.3.21. **Services and Life Support.** Quality of life functions include feeding; billeting; laundry, morale, welfare and recreation (MWR) facilities; local supplies; and local labor markets. This individual should work with the construction superintendent to coordinate local labor requirements.

5.3.22. **Communications.** A communication engineer or technician will be needed on the initial site survey team to identify obstacles that would prevent reliable communications for the voice, data, radio, satellites, and line-of-site (LOS) radio networks. They will also help in the camp layout to ensure a proper and reliable local area network within the camp, if required.

5.4. Minimum Site Visit Requirements. Time and economics may not allow all team members to visit each site requiring analysis and evaluation. At a minimum, lead members from each functional area should visit each site and conduct internal meetings with their team members to assess options.

5.5. Site Selection Criteria. If no immediate solutions arise to resolving the causes of displacement, planning for the DPs' needs should assume a long-term outlook. This includes planning for all seasons (winter and summer) as well as for rain and drought. Determination of the weather extremes must be a primary design factor. Temporary arrangements can be very difficult and costly to change once established. Site selection, planning, and the types of shelter available all have a direct bearing on the level of assistance. They are

important considerations in the overall assessment of needs and the planning of emergency response.

5.5.1. **Social Needs.** If possible, the social and cultural backgrounds of the displaced population should be considered when determining a camp location. In most circumstances, however, the choice will be limited, and any land that meets even minimum standards may be scarce. Once a site is located, determine why the site was not already in use and examine whether the reason (e.g., no water or because it floods in the monsoon period) would exclude use by DPs.

5.5.2. **Water**. The single most important site-selection criterion is the availability of an adequate amount of potable or treatable water on a year-round basis. This most important factor is also commonly the most problematic. A professional assessment of water availability should be a prerequisite in selecting a site.

5.5.2.1. A site should not be selected on the assumption that water can be acquired merely by drilling, digging, or hauling. For example, wells were very difficult to drill at Camp Hope in Albania, resulting in a series of failed attempts. In addition, no site should be selected where the hauling of water will be required over a long period.

5.5.2.2. The design criteria for water consumption will vary greatly among NGO organizations. In general, it should be expected that the camp population will use more water than any minimum value in any operations guide or handbook. Also, a planning factor must be included for the aid workers conducting the disbursement of food and supplies. Water demand for firefighting must also be considered. Either use potable water or collect brine or gray water runoff for firefighting purposes.

5.5.2.4. Where water is readily available, drainage is a key criterion. For effective drainage, the entire site should be located above flood level and at least 3m (~10ft) above the water table, preferably on a gently sloping area. Flat sites can present serious problems for drainage of waste and storm water. Areas likely to become marshy or soggy during the rainy season should be avoided. Conditions within the watershed may be a consideration.

5.5.3. **Open Space.** While there are recommended minimum area requirements for DPs/refugee sites, these should be applied cautiously and with flexibility. They are a rule of thumb for an initial calculation rather than precise standards. The USAID *Field Operations Guide* suggests that planned temporary settlements or self-settled camps should feature a minimum surface area of $45m^2$ ($54yd^2$) per person. However, according to the UNHCR *Handbook for Emergencies*, the actual surface area per person (excluding garden space) should not be less than $30m^2$ ($36yd^2$) per person.

5.5.3.1. The required surface area includes household plots and space for roads, foot paths, educational facilities, sanitation, firebreaks, administration, water storage, distribution areas, markets and storage, plus limited gardens for individual households. The minimum figure of $30m^2$ ($36yd^2$) does not include any land for significant agricultural activities or livestock. Although agricultural activities are not usually a priority during emergencies, small vegetable gardens (kitchen gardening) attached to the family plot should be included in the site plan from the outset. This requires a minimum increase of $15m^2$ ($18yd^2$) per person; hence, a minimum of $45m^2$ ($54yd^2$) overall land allocation per person would be needed. If the minimum surface area cannot be provided, consideration should be given to mitigating the consequences of the higher density to ensure adequate separation between individual households and space for required facilities.

5.5.3.2. Although camp planning should be based on a known design capacity (e.g., shelter and other facilities sufficient for, say, 20,000 people), the possibility always exists that more people may arrive. Large camps of over 20,000 people should generally be avoided. To the extent possible, the site should be planned to accommodate a major influx of additional people. If the population has been displaced because of civil strife, the site should be removed from areas of potential conflict.

5.5.3.3. When multiple camps are required, there should be a substantial distance between each camp if possible. Avoid sites close to environmentally protected areas; at least a day's walk.

5.5.4. **Accessibility.** The site must be accessible by vehicles and close to communication links and sources of supplies and services such as food, cooking fuel, shelter material, and national community services.

5.5.5. **Environmental Considerations.** It is in the earlier stages of an emergency where the greatest environmental damage can occur and habits are formed. Environmental damage has health, social and economic consequences for the camp and local population, and can have political repercussions. The costs of environmental damage can be substantially reduced by implementing environmental protocol early in an emergency. The following steps can safeguard the welfare of the camp and local population through protection of their environment.

5.5.5.1. Avoid sites close to environmentally protected areas. A site should be located at least a day's walk from protected areas or reserves.

5.5.5.2. Site Preparation. Discriminately preserve existing vegetation and top-soil.

5.5.5.3. Generally, the smaller the camp size and density the better.

5.5.5.4. The area should be free of major environmental health hazards such as malaria, onchocerciasis (river blindness), schistosomiasis (bilharzia), tsetse fly, or other vectors. DPs/refugee camps usually have a high percentage of small children. Many residents may only have minimal clothing and may not have shoes. They will probably be in constant contact with the soil and any pollution that is present in the soil. A detailed land history is important to determine potential environmental and health risks.

5.5.6. **Climatic Conditions.** Climatic conditions should be suitable for habitation throughout the year. For instance, a suitable site in the dry season may be unusable during the rainy season. While a daily breeze is an advantage, strong winds may damage emergency and temporary housing, especially tents. When possible, displaced people should not be settled in an area where the climate differs greatly from that to which they are accustomed.

5.5.7. **Soil and Ground Cover.** The soil should allow for water absorption and the retention of human waste. Rocky or impermeable sites should be

avoided. If possible, land suitable for vegetable gardens and small-scale agriculture should be selected for the site. If possible, the site should have a good groundcover of grass, or bushes, or trees, as covering vegetation provides shade and reduces erosion and dust. During construction of the camp, care should be taken to cause as little damage as possible to the vegetation and topsoil. Bulldozers, if used, should avoid scrapping topsoil off the site, as often occurs. If wood must be used for domestic cooking fuel, it should not be taken from vegetation on the site. Alternative sources of fuel must be found as soon as possible to avoid irreplaceable loss of surrounding wood.

Figure 5.2. Scarce Wood Collected for Cooking.

5.5.8. **Land Rights.** The land should be exempt from ownership, grazing, and other uses by local populations. Using such land can be a major cause of local resentment. Authorities proposing the site may be unaware of customary rights exercised by local populations. Sites are often provided on public land by the government. Any use of the land must be based on formal legal arrangements in accordance with the laws of the country.

5.5.9. **Security and Protection.** In principle, the granting of asylum is not an unfriendly act by the host country towards the country of origin. However, to ensure the security and protection of the DPs/refugees, it is recommended

that they be settled at a reasonable distance from international borders as well as other potentially sensitive areas such as military installations. Exceptions should only be made to this rule where the interests of the DPs/refugees would be better served (e.g., if there are good prospects for early voluntary repatriation and security and protection considerations are favorable.

5.6. Site Selection Methodology. In order to have a concise review of a site, which has been pre-identified, the following general steps are recommended.

5.6.1. Use the UNHCR *Sites Criteria* checklist in **Attachment 2** and coordinate results with the entire survey team.

5.6.2. Ensure the team includes local authorities and those who are knowledgeable of the site and its surroundings (including seasonal implications).

5.6.3. Obtain suitable maps and other information showing topography, road networks, and water sources, as well as issues related to land use and land rights.

5.6.4. Determine site characteristics during site visits and use the checklist to record observations; highlight pros and cons of the site and its surrounding area.

5.6.5. Make simple estimates of the surface area of each potential site(s), through use of Global Positioning System (GPS); if unavailable, use vehicle trip-meter to estimate distances.

5.6.6. Assess the implications of characteristics that have been recorded in coordination with team members while avoiding weighted average methods that could become misleading.

5.6.7. Final decisions should be made on implications for each criterion as recorded by the team and in consultation with next higher authority.

Chapter 6

CAMP LAYOUT

6.1. Introduction. Suitable, well-selected sites and soundly planned settlements with adequate shelter and integrated, appropriate infrastructure are essential from the early stages of a DPs/refugee emergency as they save lives and alleviate hardship. Just as initial decisions on the location of the camp should involve the host government as well as local authorities and communities; likewise, layout should involve the camp's future inhabitants.

6.1.1. Most DPs/refugee operations last much longer than initially anticipated, therefore, camp planning and provision of assistance should take this into consideration as well as bearing in mind the exit strategy from the start. Ideally, the needs and human rights of the camp's future inhabitants should determine the size and layout of the site. In practice, a compromise has to be made when considering all of the relevant elements.

6.1.2. The physical organization of the settlement will markedly affect the protection, health and well-being of a community. Good site layout will also facilitate an equitable and efficient delivery of goods and services. It is imperative that all of the related standards are taken into consideration during the physical organization of the camp.

6.2. Camp Layout. The physical organization of the settlement will markedly affect the protection, health and well-being of a community. Good site planning will also facilitate an equitable and efficient delivery of goods and services. It is imperative that all of the related standards are taken into consideration during the physical organization of the camp.

6.2.1. **Master plan.** A "master plan" or overall site plan should show the overall configuration of the site, its surroundings and characteristics, and its proximity to natural and existing features including settlements. The plan should take into account the social organization of the inhabitants and principles of module planning. **Table 6.1.** lists physical features to include in the master plan. A topographical and planimetric survey is crucial as the basis for site planning. The plan or map should have a metric scale between

1:1,000 and 1:5,000 and in case of large camps a scale of at least 1:10,000. A topographical survey describes the physical features of a landscape (rivers, valleys, mountains). A planimetric survey describes locations within an area (e.g. the camp site).

Table 6.1. Physical Features Included in the Master Plan.

Natural and Existing Features	
1. Contour lines (i.e., lines joining points of identical elevation)	
2. Rivers, forests, hills, flood plains, and swamps	
3. Rocky patches and sandy soils	
4. Existing buildings, roads and bridges	
5. Farm land, electrical power grids and water pipelines	
Planned Features	
1. Shelter areas	10. Distribution centers
2. Roads and footpaths	11. Feeding centers
3. Drainage system and terracing	12. Community center
4. Environmental sanitation plan	13. Playground/sports center
5. Water distribution plan	14. Area for religious activities
6. Utilities, camp lighting, etc.	15. Markets & recreation areas
7. Administration areas	16. Fire prevention breaks
8. Educational and health facilities	17. Agricultural plots
9. Warehousing facilities	18. Potential expansion areas

6.2.2. **Services and Infrastructure.** **Table 6.2.** lists UNHCR standards for services and infrastructure and should be referred to when preparing the master plan.

6.2.3. **Modular Layout.** Start layout planning from the perspective of the individual inhabitant household. Begin by considering the needs of the individual family, such as distance to water and latrines; the relationship to other members of the community (other relatives, clan, or ethnic groups); traditional housing and living arrangements. Developing the community layout, and then considering the larger issues of overall site layout is likely to yield markedly better results than beginning with a preconception of the complete

site layout and breaking it down into smaller entities. Thus, planning and physical organization of the site should start from the smallest module, the family, and then building up larger units as listed in **Table 6.3.** These figures are indicative and should be adjusted according to actual conditions.

Table 6.2. UNHCR Standards for Services and Infrastructure.

Service/Infrastructure	*Per*
1 water tap	1 community (80 – 100 persons)
1 latrine	1 family (6 – 10 persons)
1 health center	1 site (20,000 persons)
1 referral hospital	10 sites (200,000 persons)
1 school block	1 sector (5,000 persons)
4 distribution points	1 site (20,000 persons)
1 market	1 site (20,000 persons)
1 feeding center	1 site (20,000 persons)
2 refuse drums	1 community (80 – 100 persons)

Table 6.3. Planning and Layout Order of Site Modules.

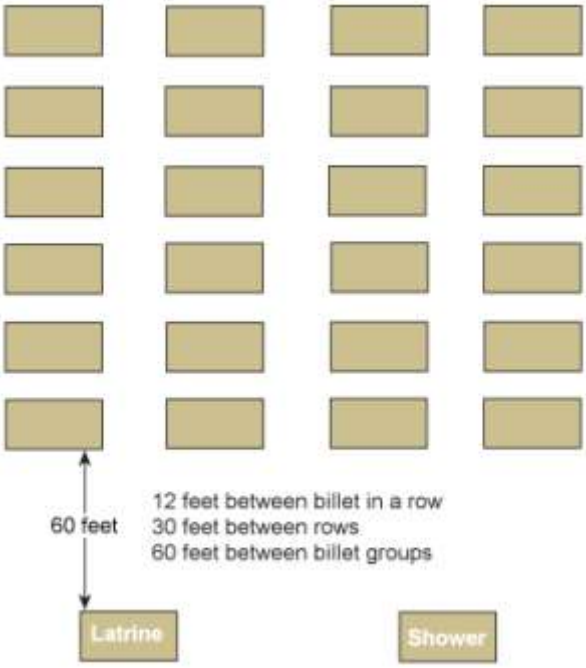
Module	*Consisting of*	*Approx. No. of Persons*
Family	1 family	4 – 6 persons
1 community	16 families	80 persons
1 block	16 communities	1,250 persons
1 sector	4 blocks	5,000 persons
1 camp module	4 sectors	20,000 persons

NOTE: All quantities and distances in this chapter are per UNHCR requirements unless stated otherwise.

6.2.3.1. Modular planning does not necessarily mean using a grid layout for the site. The linear, or grid layout, with square or rectangular areas separated by parallel streets (Figure 6.1.), has often been used for its simplicity of design and speed of implementation. However, every effort should be made to avoid a rigid grid design which does not account for community layout and interaction and presents difficulties in identifying proper community-based locations for services such as latrines, water points, showers etc. Grid design

does not promote ownership of services, which is crucial for proper usage, cleaning and maintenance. Furthermore, it undermines the protection concerns such as the long distances that inhabitants have to walk for services and susceptibility to violations. Whatever design is used should take into account the natural features of the site and the identity of the inhabitant's community.

Figure 6.1. Avoid this Linear/Grid Layout.



6.2.3.2. The social organization, cultural background and family structure are some of the main factors that influence the physical layout of a site and should be part of the initial needs and resource assessment. This information should be gathered through review of existing documents, observations and discussions with the future inhabitants, and others knowledgeable about this

society. A full socio-economic survey of the DPs/refugee population should be conducted, usually by UNHCR, when/if resources allow, and will be important in subsequent planning, particularly for self-reliance and durable solutions.

6.3. Environmental Considerations. Environmental considerations should be integrated into physical layout and shelter from the very start of an emergency. Location and layout of camps, provisions made for emergency shelter, and the use of local resources for construction and fuel can have a major negative environmental impact.

6.3.1. The layout (particularly roads) should follow contour lines. This will reduce erosion, preserve topsoil, and avoid the creation of dangerous gullies. A site layout that encourages community living arrangements (which can also promote security) safeguards the environment within that community.

6.3.2. Shelter Design (energy-saving through insulation). In cold climates, with extended winter seasons where continuous heating is needed, passive energy saving measures (e.g. sufficient insulation of roof, walls, and floors) can save significant fuel and prove cost-effective over time.

6.3.3. Shelter and Fuel. Materials for these often come from the immediate surroundings of the camp. It is crucial at the outset to initiate a system to manage and control the use of local natural resources including wood for construction and fuel. Meeting the initial need for shelter materials from the local resources can be particularly destructive, so collection of such materials should be carefully managed, and/or provided from an alternate source.

6.4. Gender Considerations. In emergencies, there may be a loss of normal community structure and the changes in demographic proportions may have altered DPs'/refugees' daily routines. This could also have a negative effect on traditional mechanisms for the protection and assistance of persons with specific needs. As a result of a conflict, the change of social composition in refugee communities may also include 1) increased numbers of female-headed households; 2) large numbers of unaccompanied children; 3) reduced number of able-bodied men; and 4) disruption of the extended family, with

its role as social caretaker. All the above requires attention when planning to accommodate such persons.

6.4.1. It is important that the specific needs of persons are taken into account in site planning. It may be difficult to reach these people if they do not traditionally form part of the leadership structure of the community. In such cases, the needs and resource assessment should obtain views of all concerned through age, gender and diversity mainstreaming.

6.4.2. Specific actions should be taken to ensure that DPs/refugee communities are organized to assist groups with specific needs with their shelter construction. Specific attention should be given to persons unable to complete their own shelter construction.

6.5. General Site Planning Considerations and Recommendations.

6.5.1. The overall physical layout of a site should reflect a decentralized community-based approach, focusing on family, community or other social groups.

6.5.2. Site planning should use the "bottom-up" approach starting from the characteristics and needs of the individual families, and reflect the wishes of the community as much as possible through participatory assessment.

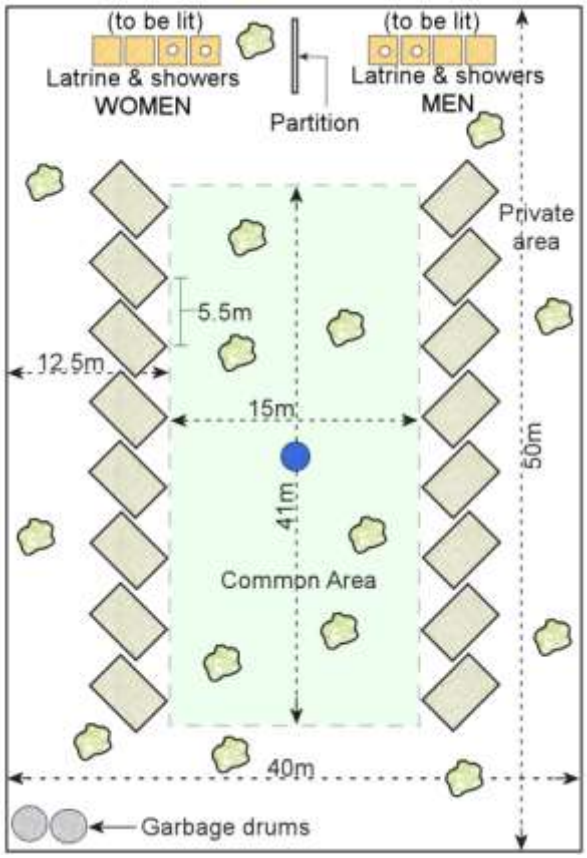
6.5.3. Each community should be planned to include its own immediate services, such as latrines, showers, water-points, garbage collection and cloth washing facilities. This is to promote ownership, which will lead to better maintenance of facilities by the community.

6.5.4. Ensure communities are not a closed form, e.g. square-shaped, but resembling more of an H-shape (Figure 6.2.), where both sides are open for better interaction with other communities.

6.6. Specific Infrastructure. Underestimation of surface area required for social infrastructure and communal services, including a playground for children, is an issue which will adversely affect the creation of a humane environment for DPs/refugees, and should be avoided. At the start of an emergency, it may be difficult to construct all the administrative and com-

munal services anticipated. Therefore, free areas should be allocated for inclusion or future expansion of these services.

Figure 6.2. Modular Design Concept—Self-contained Community.



6.6.1. **Sanitation.** Environmental sanitation is a very important consideration in campsite layout, and its organization and operation must be integrated with other community services. The overall system and its services should be

able to operate effectively with a minimum of outside involvement. Therefore, selected DPs must be trained to run the sanitation and environmental programs. Expert advice should be sought from a public health engineer or environmental health specialist familiar with the habits of displaced people and the local population, and experienced with DP emergencies.

6.6.1.1. High population density coupled with poor sanitation is a severe threat to the health and safety of the population. This is often the case in spontaneous camps. Some organization of basic sanitation should be planned before reorganizing the site or transferring the population (and thus, the problem) to a new site. This should include prohibiting uncontrolled defecation and the establishment of public latrines. Another measure to help control vectors is to eliminate ponds.

6.6.1.2. Drainage can very quickly become a problem and corrective measures are difficult once shelters and other infrastructure have been built. For example, people often wash next to water sources, causing problems which could be avoided if separate washing areas are constructed with duckboards or stones and proper drainage.

Figure 6.3. Spontaneous Camps often have Poor Sanitary Conditions.

6.6.1.3. Drainage prevents water from stagnating around water distribution points and drains the rainfall as well as domestic wastewater originating from various sources (toilets, showers, kitchens, etc.).

6.6.1.4. Good drainage should be a priority at: 1) water points (standpipes, taps, hand pumps); 2) sanitary facilities such as showers, toilets and washing areas (wastewater from these places should either be used to irrigate vegetable gardens and fruit trees or drained into absorption trenches or soak-away pits); 3) shelters: household members usually manage to protect their shelters from runoff waters by means of perimeter drains; it is nevertheless important to ensure that such water is collected and disposed of through main drains; and 4) markets and slaughter areas where water will be used to clean slaughter slabs.

6.6.1.5. **Gray Water.** A certain amount of wastewater from bathing, kitchen, and laundry activities will be generated in the community, both at the individual and community level. This "gray water" can pose a danger to public health if not properly disposed of in a soakage pit, or allowed to drain away from the settlement. In some cases and with certain precautions, gray water may be reused for vegetable gardens or to flush latrines.

6.6.1.6. **Human Excreta.** An acceptable and practical system for the disposal of human excreta is the key to reducing health hazards. The system must be developed in cooperation with the DPs and be culturally appropriate, even if circumstances necessitate a departure from traditional practices. The provision of special public health or hygiene education may be required to ensure that the system will be used by the displaced population.

6.6.1.6.1. In an emergency time is the critical factor; provide systems to meet immediate needs, which can be improved or replaced later. Emergency conditions may dictate the initial use of trench latrines. **Table 6.4.** lists the desirable standards for pit latrines.

6.6.1.6.2. Once a temporary system has been established, more time and care should be expended to establish the most appropriate waste disposal system. Two main factors will affect the choice of an excreta disposal system: the traditional sanitation practices of the displaced people and the physical characteristics of the area, including the geology, availability of water, rainfall, and drainage. Failure to take proper account of any of these factors can cause the system to rapidly become a health hazard. Above all, cleanliness of latrines and their ease of access will determine whether or not they are used.

Table 6.4. Trench Latrine Standards.

Facility	***Standard***
Family latrines	Not more than four families per latrine without organized, paid maintenance. Latrines should be located at least 6m from dwellings, 10m from feeding and health centers, and at least 30m (and preferably farther) from wells or other drinking-water sources, but no more than 50m from users.
Trench latrines, shallow (for a few days)	30cm wide by 1m to 1.5m deep by 3.5m long per 100 persons.
Trench latrines, deep (for a few months)	70cm to 100cm wide by 2m to 2.75m deep by 3.75m long per 100 persons

(cm x 0.4 = inches; m x 3.3 = feet)

6.6.1.6.3. Again, seek expert advice from a public health engineer or environmental health specialist familiar with DP emergencies when determining the long term options for excreta disposal.

6.6.1.6.4. **Latrines.** For all sites, new or reorganized, the goal should be one latrine per family. Only if the latrine remains under the control and maintenance of a family group is safety and hygiene assured in the long run. The ideal location of the family latrine is on the family plot, as far as possible from the shelter. If this is not possible, the next best option would be latrines for identified groups of families, not exceeding 20 persons per latrine (drop hole) facility. They should be located no less than 6m from dwellings (10m from feeding and health centers), but no further than 50m from users. If latrines are too far away, they will not be used. Sufficient space must be provided for replacement latrines.

6.6.1.6.4.1. Latrines should be located at a minimum distance of 30m from water sources to avoid contamination.

6.6.1.6.4.2. Latrines should have an effective drainage system that is easy to repair, both for rainwater and wastewater.

Figure 6.4. An Example of Latrines at a Displaced Persons Camp.

6.6.1.6.4.3. A system of cleaning and maintaining latrines by the community should be discussed prior to construction.

6.6.1.6.4.4. The design of the latrine is a very important item for cultural reasons and may determine whether they are used by DPs. Eastern-style latrines are used squatting and western-style latrines are used sitting. The proper type(s) to be used must be determined during initial planning.

6.6.1.6.4.5. The availability of water and sewage facilities will probably determine whether flush toilets or dry toilets requiring pumping will be used. All latrines, sewage collection systems, and pumping stations should be designed to prevent rainwater flooding. Normally, pumps are mounted on medium to heavy load type vehicles with large turning radii and access roads should be designed for these trucks.

6.6.2. **Water Source, Storage, and Distribution.** A continuous and reliable source of water is essential for the camp. Potable water is required for drinking and cooking and preferred for all camp operations. If the supply of potable water is not sufficient for all requirements, non-potable water can be used for non-food service cleaning and bathing.

6.6.2.1. Where possible, the maximum distance between any shelter and a water distribution point should be not more than 100m, no more than a few minutes' walk. The layout of the site should contain the water distribution grid as an integral part of the service plan and the pipes should be under-

ground. Water pipes should be kept at 40 to 60 cm (16 to 24 in) to prevent damage from traffic or other surface activities. In countries with very low temperatures, the pipes must be positioned at frost free depth, 60 to 90 cm (24 to 36 in).

Figure 6.5. Collecting Water from Water Tap.

6.6.2.2. Experience shows that water distribution to small, socially cohesive groups of 80 to 100 persons considerably reduces water wastage and destruction of taps, stand-posts and concrete aprons. To aid hygiene, effluent and used water from water supply points should be well-drained and eventually absorbed in soakage pits or used to irrigate gardens.

6.6.2.3. Within the camp, it is most desirable to have a gravity fed water distribution system. The system must be able to provide at least 20 liters (15 liters per USAID) of water per person per day to the population. Absolute minimum survival allocation is 7 liters per day—community building needs will require extra water. **Table 6.5.** lists the potential basic water requirements for DP camps.

Table 6.5. Desirable Water Requirements.

Demand	*Qty Per Day*
Survival needs–water intake/bathing	20 liters per person*
Health centers	40-60 liters per patient
Feeding centers	20-30 liters per person
Schools	3 liters per pupil
Mosque	2-5 liters per person
Hand washing at community latrines	1-2 liters per person
Cleaning communal latrines	2-8 liters per cubicle (20 persons)
Cattle	20-40 liters per animal
Donkeys, mules, & horses	10-40 liters per animal
Camels	15-50 liters
Small animal stock	5 liters per animal
1 tap stand	per 250 persons**
*Depends on climate, indv. physiology, social/cultural norms, and food type **Not greater than 100m (330ft) from users	

6.6.2.4. **Water Sources.** If there is no public water source available, an area within a 16km (10 mile) radius of the camp should be canvassed for other potential sources of raw water suitable to produce potable water. A map of the area showing watercourses such as rivers, streams, lakes, springs, and irrigation canals should be obtained. This map should also indicate public roads that can be used to install water pipelines to transmit the water from the raw water source to the camp.

6.6.2.4.1. The raw water should be as free of pollutants as possible since invariably the raw water will require treatment to render it potable. The more pollutants in the raw water the greater the degree of treatment required. The potential raw water source should be tested for physical, chemical and bacteriological properties, especially turbidity, total dissolved solids, conductivity, acidity/alkalinity (pH), and coli forms. Factors which should be examined to select the desirable water source are listed in **Table 6.6.**

Table 6.6. Water Source Selection Factors.

Selection Factors
1. Distance from the camp
2. Topographical elevation differences between source and camp
3. Easement requirements
4. Power requirements
5. Speed with which the source can be made operational
6. Volume of supply
7. Reliability of supply (taking into account seasonal variations and, if necessary, logistics)
8. Water quality, risk of contamination, security of the pipeline, and ease of treatment if necessary
9. Rights and welfare of local population
10. Simplicity of technology and ease of maintenance
11. Relative cost comparison considering capital outlay and operation and maintenance expenditure

6.6.2.4.2. **Groundwater.** Groundwater can be used as an additional source of water for the camp. An advantage of using groundwater from a deep-well drilled on site is security. A well within the confines of the campsite is less likely to be tampered with and contaminated than a source of water outside the camp. Also, groundwater is usually of good quality, which usually means that only disinfecting is required to treat the water to ensure potability. Groundwater should be analyzed for chemical properties. It can be saline, especially if it is located close to the seashore. Also, it may have a high mineral content such as excessive hardness, iron, or hydrogen sulfide which imparts a rotten egg odor and taste. These are all conditions that will probably require treatment for removal of pollutants. To quickly screen for these conditions, the area around the campsite should be canvassed to locate any producing wells, publicly or individually owned. Querying the owners of adjacent wells about the size of the well, the depth, the volumetric production, and the quality of the water from each well could indicate whether groundwater is a likely candidate for a water supply. Other sources of information

about groundwater below the campsite are local institutions such as universities or hydraulic institutes. If groundwater appears to be a potential source of water, then a local well drilling company should be contacted to drill test wells on site. Information obtained from the test well will determine whether a fully developed deep well is feasible.

6.6.2.5. **Conveying Water to the Site**. Once a raw water source is selected and land rights are secured, the means of conveying the water to the site must be provided. Most likely the water will have to be pumped through a pipeline to the campsite. The pump station site must be secured and protected for the duration of the camp operation. If the area is remote, permanent access must be established, and a power generator and fuel must be brought in to operate the pumping equipment. Hydraulic considerations will dictate the diameter of the transmission pipe. Selection of the appropriate piping material must be made based on local conditions and availability. Smooth walled pipe is generally a good selection since it will reduce the pipe friction factor and minimize power costs. Using plastic pipe with long run sections will minimize piping joints and will save installation labor and procurement costs.

6.6.2.6**. Water Treatment.** Once raw water is conveyed to the site, the raw water must be treated to remove any pollutants that render the water nonpotable. Water must be treated to meet the quality standards for potable water of the host nation or the World Health Organization. Conventional treatment for raw surface water is coagulation, flocculation, filtration, and disinfection. The need for water treatment and equipment required for the process must be considered. Important factors are the local availability of equipment, time of delivery, chemicals and reliable supplier for the chosen process requirements. Typical chemicals required are aluminum sulfate, polymer, lime, and calcium or sodium hypochlorite. Also the duration of the camp operation should be considered in selecting the appropriate and most economic process. For an expected short-duration camp, water processing equipment that is portable and easily set up would be preferable to permanently installed equipment that requires extensive foundation and structural work.

6.6.2.7. **Water Storage.** Treated water should be pumped to portable, temporary storage tanks located in the central region of the camp site. Storage tanks should be sized to provide a minimum of four hours storage of potable water.

Figure 6.6. Elevated Water Storage Tanks.

6.6.2.8. **Water Distribution**. Tanks elevated by placing them on a mound of soil or on a constructed structure can be used without requiring additional pumping. Elevating the tanks 4.5 to 6m (15 to 20ft) above the normal grade elevation of the camp will usually provide sufficient hydraulic head to gravity feed the water to spigots located at the end of the service laterals. If properly sized, the distribution system should be able to supply a flow of 3.8 to 11.4L (1 to 3gl) of water per minute to the spigots with an adequate end-of-the line operating pressure. If a gravity fed system is not feasible an alternate dual pump system should be designed. Peak usage and instantaneous demands are very high in camps due to the centralized schedules for food distribution. Additionally, if lighting is limited, bathing and washing will most likely occur during daylight hours.

6.6.2.9. **Washing/Laundry Facilities.** The need to include appropriate washing/laundry facilities as a standard infrastructure component of a camp is often overlooked. Washing cooking dishes and clothes is a basic need and, as such, should be appropriately covered by the camp infrastructure. If not, more wasteful, and perhaps less sanitary alternatives, will be developed by

the inhabitants themselves. It is not possible to give general rules or guidelines for the design or construction of appropriate laundry or bathing facilities, as they should respond to the individual needs, as well as to cultural and religious practices of the users. Therefore, their design should be entrusted to qualified engineers who should take into account cultural habits, sanitation requirements as well as the need to minimize the waste of water.

6.6.3. **Roads.** A site should have access and internal roads and pathways connecting the various areas and facilities. Access roads should be all-weather roads above flood levels and have adequate drainage. If there must be a significant amount of vehicle traffic on the site, it should be separated from pedestrian traffic. All structures, including family plot fences, should be set back approximately 5 to 7m (16.5 to 23ft) from roads to provide adequate visibility for pedestrians and vehicles.

6.6.4. **Electrical Supply and Distribution.** If local commercial electrical power is available, a centralized camp electrical supply source is desirable, but not essential. Diesel engine driven electrical generators can be used and positioned as necessary around the camp. Priority for electrical power should go to security lighting, access lighting and operating water pumps around the camp. If time and funds permit, electrical power can then be provided to individual living shelters.

6.6.5. **Garbage.** Garbage control must be considered during layout of the camp. Because all communities generate garbage, established routines for the control, storage, collection, and disposal of solid wastes will be required. These needs must be reflected in initial site planning. If uncontrolled, the accumulation of garbage is both unpleasant and unhealthy. The potential for diseases transmission by rodent and insect vectors increases with improper garbage disposal. Free-range chickens, goats, and pigs will help control garbage; dogs will spread it. The following suggestions for garbage storage, collection, and disposal are of particular concern for high-density camps, where the problem and dangers are greatest.

Figure 6.7. Goats Can Help Control Garbage.

6.6.5.1. **Storage.** To store garbage, containers made of metal or plastic with a minimum capacity of 50-L (13gl) should be provided. A 209-L (55gl) oil drum cut in half is often used. Storage containers should have lids and drainage holes in the bottom. A ratio of 1 container per 10 families has proven to be effective. Containers should be placed throughout the camp so that no dwelling is located more than 15m (~50ft) from a garbage container.

6.6.5.2. **Collection.** The collection of garbage from containers should take place on a regular, daily basis, if possible. Daily collection arrangements must be made to collect medical waste and wastes from feeding centers.

6.6.5.3. **Disposal.** Garbage may be disposed of by burying it at designated locations on the site or removing it from the site. Avoid open dumping of garbage on site. The safe disposal of medical waste requires particular attention—needles and scalpels are especially dangerous. Medical waste must be tightly controlled. It should be collected, transported, and disposed of separately. Medical waste should always be burned without delay. This disposal should be done in an incinerator to ensure high temperature and complete burning. Designated areas where medical waste and/or ashes are to be handled should be located far from dwellings and fenced to restrict access.

6.6.6. **Shelter.** Shelter sizes will play a role in determinate camp layout. Shelter is likely to be one of the most important determinants of general liv-

ing conditions and is often one of the significant items of non-recurring expenditure. While the basic need for shelter is similar in most emergencies, such considerations as the kind of housing needed, what materials and design to be used, who constructs the housing and how long it must last will differ significantly in each situation.

6.6.6.1. Particularly in cold climates or where there are daily extremes of temperature, lack of adequate shelter and clothing can have a major adverse effect on protection and well-being of the population, including health and nutritional status.

6.6.6.2. Fire prevention measures should be established when providing heaters and it is thus necessary to deal with the procurement, storage, and/or distribution of fuel.

6.6.6.3. Adequacy of emergency shelter is encouraged to be assessed at any time, including arrangements already made by inhabitants. If materials for a complete shelter cannot be located, provision of adequate roofing material will be the priority, as walls can usually be made of earth or other materials found on site or available locally. The key to an adequate shelter is the provision of roofing material in line with climatic conditions and living habits of the population.

6.6.6.4. Wherever possible, inhabitants should build or assist in building their own shelter, with the necessary technical, organizational and material support. This will help to ensure that the shelter will meet their particular needs, promote a sense of ownership and self-reliance, and reduces costs and construction time considerably.

6.6.6.5. **Types of Shelter.** Individual family shelter should always be preferred to communal accommodation as it provides the necessary privacy, psychological comfort, and emotional safety. It also provides safety and security for people and possessions and helps to preserve or rebuild family unity.

6.6.6.5.1. Military RFAs typically involve erecting camps utilizing tentage provided either by an NGO or the military. However, in the event that tents will not be used, emergency shelter needs are best met by using the same

materials or shelter as would be normally used by the DPs/refugees or the local population. Only if adequate quantities cannot be quickly obtained locally should emergency shelter material be brought into the country.

Figure 6.8. Typical Emergency Relief Shelter.

6.6.6.5.2. The simplest structures and the least labor-intensive building methods are preferred. Materials should be environmentally friendly and obtained in a sustainable manner.

6.6.6.6. **Standards.** At the beginning of an emergency, the aim should be to provide sufficient material to the DPs/refugees to allow them to construct their own shelter while meeting at least the minimum standards for floor space as follows: 1) minimum of $3.5m^2$ ($4.2yd^2$) per person in tropical, warm climates, excluding cooking facilities or kitchen—it is assumed that cooking will take place outside; and 2) between $4.5m^2$ ($5.4yd^2$) and $5.5m^2$ ($6.6yd^2$) per person in cold climates or urban situations, including the kitchen and bathing facilities. The design of shelter should, if possible, provide for modification by its occupants to suit their individual needs. In cold climates, for example, it is very likely that persons with specific needs will remain inside their shelter throughout the day, thus more space will be required.

6.7. Fire Breaks. In general, a firebreak (area with no buildings) 30m (99ft) wide is recommended for approximately every 300m (990ft) of built-up area. In modular camps, firebreaks should be situated between blocks. This area would be an ideal for growing vegetables or recreation. If space allows, the

distance between individual buildings should be adequate to prevent burning structures from contacting adjacent structures if they collapse. The distance between structures should therefore be a minimum of twice the overall height of any structure. If building materials are highly flammable (straw, thatch, etc.) the distance should be increased to 3 to 4 times the overall height. The direction of any prevailing wind will also be an important consideration.

6.8. Administrative and Communal Services. Buildings for administrative and community services should be traditional structures, and if possible, of a multi-purpose design to facilitate alternative uses. For example, buildings for initial emergency services could later be used as schools or other community facilities.

6.8.1. **Table 6.7.** includes administrative and community services most often needed. The division is indicative only – the importance of maximum decentralization has already been stressed. Whether centralized or decentralized, administrative and other facilities should be located and designed so that they are accessible to all.

Table 6.7. Administrative and Community Services.

Centralized Services and Facilities (depending on camp size)	*Decentralized Services and Facilities*
1. Site administrative office	1. Water points
2. Services coordination offices (health care, feeding programs, etc.)	2. Supplementary feeding centers (if required)
3. Warehousing and storage	3. Bathing and washing areas
4. Initial registration/health screening area	4. Institutional centers (such as for disabled or unaccompanied children)
5. Tracing service	5. Latrines
6. Therapeutic feeding center (if required)	6. Education facilities
7. Market place	7. Commodity distribution centers
8. Community center	8. Garbage collection

6.8.2. The location of the centralized services will depend on the specific situation and, in particular, on the space available. With sufficient space, there may be clear advantages in having the centralized services in the center of the camp. Where space is scarce, it may be better to have the centralized services located near the entrance of the camp. In particular, this will avoid supply trucks having to drive through a densely populated site, with the attendant problems of dust, noise and danger to pedestrians.

6.8.3. If some form of closed camp is unavoidable, the centralized administrative services will probably be located near the entrance.

6.8.4. Warehouses should always be located near the administrative office for security reasons.

6.8.5. Underestimation of the space required for future communal needs is a common problem in camps of limited area. Therefore, where adequate space is available, free areas must be allocated for future expansion of these services.

Chapter 7

SAFETY

7.1. Purpose. DPs/refugee camp operations will involve fast paced activities and crowded events. People and material are at greater risk while supporting contingencies. It is everyone's responsibility to minimize the hazards, but safety personnel should take a leading role in identifying methods, techniques, and procedures that are or could be effective in protecting personnel from controllable hazards. The goal of any safety program is simple – keep people from getting injured or killed. Achieving that goal in this type of operation will be challenging and requires a professional approach and the continuous attention of everyone.

7.1.1. In most contingency operations you will have time to prepare your safety strategy, but in a DPs/refugee support operation, time is in short supply. When time is available, pull together a team of risk assessment specialists from the safety, fire, health services, and functional managers participating in the contingency. This team will help identify the risks associated with deployed operations and then allow the safest possible decisions to be made to achieve mission objectives.

7.1.2. Contingency manpower is often comprised of multiple sources, including local workers and even some camp inhabitants. Although they should be trained in the skills they perform, they may lack proficiency in diverse mission scenarios.

7.1.3. See AFPAM91-216, *USAF Safety Deployment and Contingency Pamphlet*, for more deployment and contingency safety information on the following topics.

7.2. Integrating Operational Risk Management (ORM) into Contingency Operations. During initial planning stages, perform a risk analysis. Contact personnel from participating functional communities to assist with the identification of and solutions to contingency hazards. Site surveys that identify and ensure abatement of potential hazards before a full-scale deployment may have already been performed at the deployment location. Contact the

AOR CCDR to determine if any surveys are already available and obtain copies as appropriate. In addition, inspect all areas and roadways to be used. If possible, abatement of identified hazards should begin prior to initiation of actual deployment.

7.2.1. Implement a hazard reporting and hazard abatement program. Ensure all personnel know how to report hazards immediately to permit timely correction or mitigation.

7.2.2. No local safety regulations exist in many countries or enforcement by host nation authorities may be lacking. The local work force will be largely unfamiliar and uneducated regarding safety. In third world countries, child labor may be common and safety totally ignored.

7.2.3. The local equipment standards will probably be very poor. Most equipment available will be old and will have little or no regular maintenance accomplished. Weight handling equipment and material handling equipment will not be tested or certified in most third world countries.

7.2.4. There will be a lack of specific basic safety equipment and a lack of desire to use it once issued. Safety concepts may be completely foreign to the local work force and safety concerns seen as an impediment to work progress. Work-arounds may be common and dangerous. Lack of available personal protective equipment (PPE) is a common problem at deployed locations. Plans should include PPE not only for industrial workers, but augmenters and the local workforce as well. Many people will also find it difficult and cumbersome working in clothing and other gear that they may be unaccustomed to wearing. For example, goggles to protect against blowing sand or heavy cold weather footwear can make operation of equipment or vehicles difficult. Make sure personnel understand their new environment and take extra precautions when needed.

7.2.5. Be alert that many people may want to deviate from established and proven safety practices. This is only acceptable after all risks are considered and appropriate measures are implemented to reduce the risk to an acceptable level. Responsible decision-makers must weigh the risks and take appropriate measures to prevent unnecessary sacrifices of their people and equip-

ment. The possibility of a language, cultural, or military service policy difference may exist due to multi-DOD components and foreign national involvement.

7.2.6. Establish positive communications within the organizational structure; include other services counterparts, and the next higher echelon—this is invaluable to good ORM. This is particularly useful during joint operations with other US services or with armed forces of other countries.

7.2.7. The legal liability that the Air Force will assume for injuries/deaths in foreign countries during the project may be significant. Check local laws and customs through the combatant command's legal services.

7.2.8. Unauthorized observers will be nearly impossible to keep out of the construction area. Danger will come from the operation of heavy equipment supporting a robust construction schedule. There will be around-the-clock heavy equipment operations throughout the project area. Appropriate fences, flagmen and sufficient safety observers will need to be addressed and provided. Do not depend on the equipment operator to be in charge of safety because he/she will be concentrating on the operation and not the surroundings. Around-the-clock operations can be safely implemented if proper planning is accomplished. Provision of proper lighting, worker security and procedures for nighttime heavy equipment and vehicle operations can prevent accidents.

7.3. Watch for Stress. All contingency operations have proven stressful—people under stress often make mishap-causing mistakes. Family separation and unfamiliar working and living environments can increase stress. These factors are part of military life, but during contingency operations they may become insurmountable for some individuals.

7.3.1. Symptoms of stress might include:

7.3.1.1. Fatigue not explained by physical activity, i.e., feelings of hopelessness or helplessness.

7.3.1.2. If available, increased alcohol consumption.

7.3.1.3. Health-related problems including multiple complaints of minor aches and pains and sickness.

7.3.1.4. Suicidal thoughts or attempts at self harm.

7.3.1.5. Irritability—people getting angry easily or being overly sensitive to any sort of feedback.

7.3.1.6. Withdrawal—people pulling inside themselves and not seeming to pay any attention to what you are saying.

7.3.1.7. Forgetfulness—short-term memory loss.

7.3.1.8. Projecting blame—when a person in essence says, "I only did it because you told me to do it, so it's your fault."

7.3.2. To reduce stress to an acceptable level:

7.3.2.1. Exercise (non-competitive).

7.3.2.2. Allow people time to walk away when they are upset. This may allow them to gain a better perspective upon their return.

7.3.2.3. Encourage early, open discussion concerning operational problems within the supervisory chain; early detection and solution precludes larger problems later.

7.3.2.4. Encourage discussion regarding any problems.

7.3.2.5. Promote moderation in all that is done.

7.4. Notification and Warning System. The communications unit must provide a rapid and effective notification and warning system to disseminate emergency information quickly. This includes signals and messaging appropriate to force protection conditions, watches, warnings, evacuation routes, and other alerting information.

7.5. Electrical Services. Trained technicians must accomplish the design, operation, and maintenance of electrical systems. Only trained personnel should work with energized systems, and then only when required by applicable technical data or directives and approved by the Base Civil Engineer.

7.5.1. Proper grounding of an electrical system is essential to the safe operation of the system and will be accomplished by a qualified electrical technician. The design and application of grounding to an electrical system should be inherent in the system installation and not something that can be added at a later date.

7.5.2. Portable power generators could be required to provide some or all of the camp power requirements. These units require specific grounding procedures, regular refueling, temporary wiring and extension cords and unattended operation. Many generators are self-starting units and can be dangerous to uninformed or improperly trained personnel. Power distribution and lighting systems must be controlled, including the proper use of lockout/tag out procedures. Generators should be located to shield noise from living areas.

7.6. Water Distribution. It is absolutely essential that a water source, which can be made potable, is available for contingency operations. There are many sources, uses, treatment, and distribution considerations for water. Civil engineers ensure potable water is available. Bioenvironmental engineering or Preventative Aerospace Medicine (PAM) team approves water for consumption and potability for deployed personnel. See **Chapter 6** for more information on water safety.

7.7. Tent Heaters. Improper fueling of tent heaters often results in fires. Deployed personnel must know necessary precautions to avoid starting a tent fire when refueling heating devices. On one deployment contractor personnel attempted to refuel a hot kerosene heater with motor gasoline (MOGAS) inside a laundry tent, the tent caught fire and was completely destroyed. Personnel that will operate tent heaters must be trained on their use—including inhabitants, civilian, and contracted personnel. Mark fuel cans by type of fuel and store different types of fuel in separate locations. In some situations it may be necessary to refuel heaters outside of tents and not refuel heaters when they are hot.

7.8. Office and Billeting Tents. The following checks should be taken to ensure office and billeting tent safety:

7.8.1. Is there a fire extinguisher and serviceable smoke detector in every tent (carbon monoxide detectors should also be considered)?

7.8.2. Are wooden floors constructed so that they are well supported, level, and free of large cracks?

7.8.3. Are tents well-staked in case of high winds?

7.8.4. If installed, do wooden tent doors swing outward so as not to impede emergency egress from the tent?

7.8.5. Electrical installation considerations:

7.8.5.1. Are electrical line installations to the tent constructed to prevent a tripping hazard?

7.8.5.2. Are waterproof electrical boxes used in exterior areas where required?

7.8.5.3. Are waterproof exterior fixtures used for exterior lighting?

7.8.5.4. Are fixtures suitably protected from the elements to prevent shocking or arcing?

7.8.6. Occupant Responsibilities:

7.8.6.1. Tent Leader. Do senior ranking members of each occupied tent or module understand they will be the tent leaders and will ensure rules are understood and followed?

7.8.6.2. All occupants will:

7.8.6.2.1. Comply with absolutely no open-flame or hot plate cooking.

7.8.6.2.2. Use only approved microwaves and coffee makers, if unsure contact engineering or fire prevention personnel.

7.8.6.2.3. Keep food in sealed containers or refrigerators and stored off the floor.

7.8.6.2.4. Not leave open food containers and garbage inside the tent.

7.8.6.2.5. Not smoke in any facility (dispose tobacco products only in approved receptacles, such as self-closing butt cans).

7.8.6.2.6. Keep an exit-way from front to back door clear of obstructions? (The exit-way must remain clear for each occupant to exit the facility.)

7.8.6.2.7. Not do self-help electrical work unless the work is accomplished by qualified personnel and authorized by CE.

7.8.6.2.8. Not have open bonfires, pit fires, or standing barrel fires unless authorized by the installation Fire Marshal. Open flames must be in approved containers and never left unattended.

7.8.6.2.9. Not store combustible material in tents or modules.

7.8.6.2.10. Keep garbage cans emptied and free of overflow. Keep lids on cans. Residents are responsible for emptying contents into dumpsters daily in order to reduce health risks and pest infestation.

7.8.6.2.11. Keep outdoor barbeque grills at least 15 feet from any structure. Dispose of coals and ashes into specially marked and designated trashcans, douse with water, and allow 8 hours to cool before placing into dumpsters. Do not dump ashes or coals on the ground, burning coals that have been barely covered with sand or soil and left unattended, have caused injury to people.

7.9. Fire Prevention.

7.9.1. Do camps have adequate fire prevention strategies and fire fighting capacity in place, and are camp residents educated about fire hazards and has first aid training been provided to camp population volunteers?

7.9.2. Is a nighttime fire watch program established and coordinated with fire department personnel for tent areas?

7.9.3. Is a daily walk-through of tent areas accomplished by the Fire Marshal and safety officials?

7.9.4. A firebreak (area with no buildings) 30m wide is recommended for approximately every 300m of built up area. In modular camps, firebreaks

should be situated between blocks. This area would be an ideal for growing vegetables or recreation. If space allows, the distance between individual buildings should be adequate to prevent collapsing, burning buildings from touching adjacent buildings. The distance between structures should therefore be a minimum of twice the overall height of any structure. If building materials are highly inflammable (straw, thatch, etc.) the distance should be increased to 3 to 4 times the overall height. The direction of any prevailing wind will also be an important consideration.

Figure 7.1. Tents are Extremely Flammable.

7.9.3. Smoking Areas:

7.9.3.1. Are smoking areas properly identified and approved by the Fire Marshal?

7.9.3.2. Are suitable receptacles available for discarding smoking materials?

7.9.3.3. Is a serviceable fire extinguisher available?

7.10. Vehicle Safety. Vehicle and equipment operations, because of the hazards involved, should be closely supervised.

7.10.1. Mishap experience shows local drivers, especially in some overseas locations, to be very unpredictable, often showing complete disregard of

traffic signs, signals, and other forms of traffic control. Local weather conditions can also affect driving.

Figure 7.2. Children Pose a Danger Around Military Convoys.

7.10.2. Vehicle operations and military convoys can present unique hazards for deployed personnel and local populations. Children especially, are invariably curious about military convoys. This curiosity is amplified when military convoy members pass food or trinkets to children. Children can be killed or seriously injured while trying to retrieve handouts from passing convoys. Although military personnel find it difficult to ignore needy children, for their safety, this impulse must be restrained.

7.11. Handling Material and Material Handling Equipment (MHE). All MHE operators should be thoroughly trained and licensed before they operate the equipment. Supervisors should monitor safe lifting techniques, MHE speed limits, and load limits during all operations.

7.12. Communications. Working near, installing, and repairing communications and electrical equipment present potential hazards to personnel. Pay particular attention to safety procedures when erecting antennas and working around power lines.

7.13. Electrical Storms. If possible, do not operate radios, telephones, or switchboards during electrical storms. If the situation permits, disconnect

electrical equipment from power sources and antennas. If communication equipment must be used, converse as little as possible. Return the call after the storm.

7.14. Climate and Weather. Unfamiliar environmental conditions can severely affect deployment and contingency operations. Environmental extremes usually require specialized techniques, procedures, and equipment. Every effort should be made to determine the appropriate measures and equipment that may be needed at the deployed location to protect workers and minimize the impact of the environment.

7.14.1. **Heat Effects on Tools and Materials.** Ensure gloves are worn when working with metal tools and materials exposed to the sun in hot climates. Remind personnel to:

7.14.1.1. Take into account expansion and contraction of metal tools and materials. (Metal contracts during cool nights and expands during hot days).

7.14.1.2. Check wire rope and bolt torque specifications to minimize varying heat stress and strain effects.

7.14.1.3. Keep sawdust cleaned up in carpentry areas. Sawdust fires occur frequently in hot, dry climates.

7.14.1.4. Frequently inspect wooden items such as shovel, ax, and hammer handles for shrinkage from extreme heat and low humidity. Check and tighten as needed.

7.14.2. See AFPAM91-216 for specific information on adverse weather conditions, general lightning safety, cold weather-related injuries, and heat stress disorders and prevention.

7.15. Fatigue. Fatigue can cause mishaps. After 48 to 72 hours without sleep, personnel become ineffective. The best measure against fatigue is sleep. Water consumption, diet, physical conditioning, and personal hygiene all have an impact on fatigue. Ensure the impact is positive.

7.16. Dangers to Children. DPs/refugees may be present at the camp while building roads, digging borrow pits, operating heavy equipment, and per-

forming other potentially dangerous operations. DPs/refugee populations include large numbers of children who are naturally curious and have no inherent safety sense. The operation of heavy machinery around children presents an attraction that draws attention and must be constantly controlled.

7.17. Lifting. Significant attention must be paid to safety considerations during all lifting operations. During the planning phase provision of safe and appropriate rigging and lifting gear must be addressed. The condition of cranes and lifting equipment will very likely be poor so provisions should be made. Safety practices of the local work force will probably not comply with standard industry practices. Adequate qualified safety personnel should be planned to ensure safe practices are maintained. Riding loads, walking under loads, improper slinging procedures and uncertified equipment will be common. Heavy lifts may require tandem or triple lifts using the available undersized equipment–a difficult and dangerous procedure under the best of circumstances. Where unavoidable, operations need to be totally controlled.

7.18. Unexploded Ordnance (UXO). Plans must be developed and put into place to deal with the discovery and proper handling of UXO discovered during construction. Ordnance is a real potential during operations in third world countries that may have been involved in civil war or border wars. The local work force or camp population will be totally ignorant about UXO procedures. Develop a workable plan to deal with UXO.

7.19. HAZMAT Storage. There will be a need for hazardous and controlled materials to be brought into the camp. Persons who come into contact with items such as liquid fuels, bottled natural gas and propane, cleaning supplies and other items must be prepared to work with them safely. Understand the risks and provide training, safety devices, proper storage and treatment facilities, such as eyewash stands, showers and fire extinguishers.

7.20. Fuel Storage. Safe handling procedures for bulk fuel storage must be developed for the construction camp. Bottled gas is commonly used for cooking in DPs/refugee camps. Attention must be paid to proper storage of bulk supplies – away from and downwind of populations.

7.21. Vector Control. Because camps will most likely be constructed in remote, open areas, there may be a danger from animals, insects, snakes and plants. Proper knowledge of the dangers of the local area must be obtained during the site visit and provided for during the planning phase. Unique medical remedies required to address local dangers should be provided. Camps will attract rodents, dogs and wild animals with a potential for disease and injury. Consider disposal methods carefully, monitor pest populations and develop eradication plans. Medical units may have to be equipped with anti-venom if local hospitals are incapable of treating bite injuries.

Figure 7.3. Airman Spraying Pesticide for Vector Control.

7.22. Evacuation. Because of the potential for hostilities coincident with a refugee crisis, it is prudent to plan for the emergency evacuation of all contractors, military and non-government personnel that are assisting with the construction project. Contractors should be charged with developing their own plans for evacuation both with and without military assistance.

7.23. Personnel Checklist:

7.23.1. Are people actively involved in the buddy system on- and off-duty, on- and off-base?

7.23.2. Are people briefed to continuously scan to identify potential unsafe acts and conditions in order to prevent mishaps?

7.23.3. Do supervisors give periodic safety briefings?

7.23.4. Do people use team work for hazard identification and elimination?

7.23.5. Do people know how to use fire extinguishers?

7.23.6. Are people aware of carbon monoxide poisoning symptoms: headache, dizziness, nausea, vomiting, fainting, chest pain, rapid breathing, shortness of breath, confusion, reddish skin, unconsciousness, and convulsions. Are people aware carbon monoxide poisoning can lead to death?

7.23.7. Are people aware of first aid for carbon monoxide poisoning: removal from exposure area to fresh air, loosen clothing, give cardiopulmonary resuscitation (CPR) if not breathing, and keep warm?

7.23.8. Are people billeted off-base in foreign countries aware that non-US construction and safety standards are often considerably less stringent than those in the US? For example, it is not an uncommon practice, for hotels in third-world countries, to chain or lock doors leading outside that are intended for emergency egress in the event of fire or other unsafe condition. This can be a deadly practice!

7.23.9. Are people aware off-base establishments may be heated with kerosene or charcoal in an under-the-floor heating system? Ventilate rooms to reduce possibility of carbon monoxide poisoning.

7.23.10. Are personnel briefed on the increased number of personnel and vehicles on and off the base?

7.23.11. Do people exercise extreme caution and wear reflective material when walking or jogging on the base at night? People should avoid jogging on the open roadway?

7.23.12. When personnel are jogging or walking, do they wear headphones only on running tracks, not when crossing streets or on the open highway?

7.23.13. Do people walk, jog, and run facing traffic?

7.23.14. Are people aware there may be minimal outside lighting?

7.23.15. Do people carry a flashlight after dusk and before dawn and remain on established paths or walkways?

7.23.16. Do supervisors ensure gas is not used as a cleaning solvent or place flame-producing devices in the presence of flammable materials?

7.23.17. Do people avoid sleeping in areas where vehicles might be moving off road?

7.23.18. Do people wear personal protective equipment when required or when it reduces the chance of injury?

Chapter 8

SECURITY

8.1. Security Issues. Security of US forces, assets and information is a high priority and no less important during FHA operations than during sustained conflict. Even in a permissive environment, the force can expect to encounter banditry, vandalism, and various levels of violent activities from criminals or unruly crowds. It is imperative that the force be trained and equipped to mitigate threats to US personnel, resources, facilities, and critical information. All deploying members should be provided with threat and force protection briefings prior to and throughout the duration of the operation.

8.1.1. During a humanitarian mission, however, there is the need to balance a military security posture with the camp populations' right not to live in an armed camp. Populations that are displaced because of internal military struggle, civil war or revolution may welcome enhanced security; but in other situations, the appearance and use of stringent security tactics may be overwhelming and operate to the detriment of the political objectives of the mission.

8.1.2. NGOs may be particularly sensitive to overt security tactics. During the mission planning stage, there is always an opportunity to educate NGOs to the need for security, negotiate the level and gain their "buy-in." Notwithstanding NGO sensitivity, the U.S. government has the obligation to protect U.S. forces, civilians and assets.

8.2. Joint Intelligence Support Element (JISE). The JTF will usually be augmented with theater intelligence production resources, which are organized into a JISE under the supervision of the JTF intelligence directorate. The JISE integrates intelligence operations with operational and planning functions and performs common intelligence functions. For further details on the JISE, refer to JP 2-01, *Joint and National Intelligence Support to Military Operations* and JP 3-33.

8.3. Rules of Engagement. ROE are the directives issued by competent military authority that delineate the circumstances and limitations under

which US forces will initiate and/or continue combat engagement with other forces encountered. ROE define when and how force may be used. CJCSI 3121.01B, *Standing Rules of Engagement/Standing Rules for the Use of Force for US Forces* (classified document), provides ROE that apply to US forces during all military operations, unless directed otherwise by the SecDef. For each specific operation the JFC, in conjunction with the J-3 and the Staff Judge Advocate (SJA), develops ROE (as soon as possible after notification of the deployment) within the framework of the standing rules of engagement (SROE). The ROE should specifically address nonlethal force options and employment considerations. The proposed JTF ROE must be forwarded to the Joint Staff for SecDef review and approval prior to promulgation. In many situations, the mission may require specific ROE measures in addition to the basic SROE. Supplemental measures in the SROE enable the CDR to obtain or grant those additional authorities or restraints necessary to accomplish the mission. The JFC must submit the changes through the appropriate approving official. When multinational forces and contractor personnel are under US control, US CDRs need to ensure that those forces interpret the ROE in the same manner as US forces. When multinational forces and contractor support are involved in the operation, but not under US control, US CDRs should request that those forces adopt or agree to ROE similar to or compatible with those in effect for US forces. As a minimum, US CDRs must understand the differences in the various participating countries' ROE and the impact on operations.

8.3.1. **Restraint.** Apply appropriate military capability prudently. A single act could cause significant military and political consequences; therefore, judicious use of force is necessary. Restraint requires the careful balancing of the need for security, the conduct of operations, and the political objective. Excessive force antagonizes those parties involved, thereby damaging the legitimacy of the organization that uses it while possibly enhancing the legitimacy of the opposing party.

8.3.2. **ROE Compliance.** Commanders at all levels must take proactive steps to ensure their personnel know and understand the ROE and are quickly informed of changes. Failure to understand and comply with established ROE can result in fratricide, mission failure, and national embarrassment.

ROE in FHA are generally more restrictive, detailed, and sensitive to political concerns than in war; consistent always with the right of self-defense. Restraint is best achieved when ROE issued at the beginning of an operation address most anticipated situations that may arise. ROE should be consistently reviewed and revised as necessary. Additionally, ROE should be carefully scrutinized to ensure the health and lives of military personnel involved in FHA are not needlessly endangered.

8.3.3. **Contingency Contractor Personnel.** Ensure contracts clearly and accurately specify the terms and conditions under which support contractors are to perform, describe the specific support relationship between the contractor and the DOD, and contain standardized clauses to ensure efficient deployment, visibility, protection, authorized levels of health service and other support, sustainment, and redeployment of contingency contractor personnel. The contract shall also specify the appropriate flow-down of these provisions and clauses to subcontracts. Generally, defense contractors are responsible for providing for their own logistical support and logistical support for their employees. Logistical support shall be provided by the Department of Defense only when the commander or the contracting officer determines provision of such support is needed to ensure continuation of essential contractor services and adequate support cannot be obtained by the contractor from other sources.

8.3.3.1. Develop a security plan for protection of contingency contractor personnel in locations where there is not sufficient or legitimate civil authority and the commander decides it is in the interests of the Government to provide security because the contractor cannot obtain effective security services, such services are unavailable at a reasonable cost, or threat conditions necessitate security through military means. The contracting officer shall include the level of protection to be provided to contingency contractor personnel in the contract. In appropriate cases, the GCC may provide security through military means, commensurate with the level of security provided DOD civilians. Specific security measures shall be mission and situation dependent as determined by the GCC.

8.3.3.2. Subject to the approval of the geographic Combatant Commander, contingency contractor personnel may be armed for individual self-defense.

8.3.3.3. Contracts for security services shall be used cautiously in contingency operations where major combat operations are ongoing or imminent. Authority and armament of contractors providing private security services will be set forth in their contracts.

8.3.3.4. Always coordinate with the judge advocate and contracting office about ROE for contingency contract personnel when utilized.

8.4. Access Control. Access to the camp must be controlled. Perimeter fencing and adequate lighting should be used to channel all traffic through points where control can be exercised. Guarded gates should be used to control entry to the base and construction camps with guarded traffic control points controlling entry to the site as a whole while also providing a method of controlling materials, supplies and people entering and leaving the site.

8.5. Identification Badges. All persons authorized access to the camp should be issued distinctive photo identification badges. Easily visible and understood schemes should be developed to control access to certain areas or to services such as dining. A local procedure such as numbering should be used to control the badges. Depending on length of the deployment, periodic reissue may be required.

8.6. Local Authorities. In most FHA operations, host nation national and local authorities will normally retain jurisdiction in the region. It will benefit the entire operation if early negotiations are undertaken to resolve jurisdictional issues. Where local police or military units may represent a threat to camp populations, agreement at the national level may be appropriate and where time allows, planners should consider involving the State Department or U.S. Embassy in any agreement. It is foreseeable that time constraints could preclude a negotiated agreement and the Air Force would have to act unilaterally to establish appropriate security. In such cases, the camp commander should still ensure that local police or military units understand the U.S. position at the earliest possible time.

8.6.1. **Use of Local Police Authority.** US forces personnel will not normally have jurisdiction over host nation civilians even inside the boundaries of a U.S.-built camp. Local civilian police or local military, if appropriate, can be used effectively at traffic control points and inside the camp for law enforcement matters. In some cases, particularly where local police may represent part of the threat to the camp population, it may be necessary to limit their authority. Air Force Security Forces and other camp security forces should contact local police authorities as early in the operation as possible. Exchange of radio frequencies, patrol routes and boundaries should be coordinated daily.

8.7. Personnel Security. Depending on the situation, personnel movement may be dangerous, particularly for those who may be carrying money. In some instances all movement will require armed escort. Accurate determination of the local situation, coordination with local authorities and adherence to proper OPSEC and COMSEC procedures will reduce the threat to personnel. In many third world countries, local purchases will have to be made with cash – a fact that will become quickly known. Air Force or contractor personnel will be at risk from local populations and perhaps local authorities seeking their shares. This threat should be assessed early and appropriate measures taken to provide the necessary security, such as armed escort, bodyguards, local banking arrangements for cash payment, payroll services through a broker, etc.

8.8. Property Security. In most cases where a DPs/refugee situation exists, everything has value and nothing is immune to theft. All property, both government and personal, must be controlled and secured. Property control systems should be designed to safeguard property and provide an accurate record of its cost, use and disposition.

8.9. Additional Security Concerns. In addition to force protection, the joint force may also be tasked to provide security for other personnel and assets. If not clearly stated in the mission, the extent of this security should be addressed in the ROE, to include protection of:

8.9.1. Forces of other nations working jointly with US forces in a multinational force;

8.9.2. USG, NGO, and IGO personnel and equipment;

8.9.3. HA recipients;

8.9.4. Affected country personnel and assets;

8.9.5. Humanitarian relief convoys, supplies, and main supply routes;

8.9.6. Relief distribution centers;

8.9.7. Stocks of HA supplies;

8.9.8. Ports and airfields;

8.9.9. Hospitals and medical clinics;

Chapter 9

LOGISTICS

9.1. Introduction. Engineering tasks often require significant logistic support with long lead times to obtain and deliver supplies. General engineering often requires very large amounts and many varieties of construction materials. These supplies may not be readily available in the operational area and this can be a significant factor which limits engineer capabilities and the options available to the JFC.

9.1.1. The J-4, through the Logistics Readiness Center, oversees joint logistic support for FHA operations. The JFC's concept of logistics helps synchronize joint operations. The engineering support planning effort focuses on facilities that will support the mobilization, deployment, employment, sustainment, and redeployment of the joint force. Since engineering requirements are often unique and situation-specific, logistics and engineering support planning should be conducted in concert with each other to accurately forecast requirements.

9.1.2. The Engineer Staff's Logistics Section monitors Class IV materials and Class V ammunition, hazardous material, waste management, and the coordination of service support via LOGCAP, GCC, and AFCAP. Oversight of operational needs statements and distribution of engineer equipment also is executed by the log section.

9.2. Joint Logistics Operations Center (JLOC). The JLOC supports the CCDR's JOC and the operations planning teams. The CCDR reviews requirements of the joint forces and establishes priorities to use supplies, facilities, mobility assets, and personnel effectively. The CCDR may also be responsible for provision of supplies for certain interagency personnel. Formed at the discretion of the CCDR and operated by the CCDR's J-4 current operations division, a JLOC functions as the single point of contact for coordinating timely and flexible logistic response into the AOR, relieving the JTF, if formed, of as much of this burden as possible. Other actions that the JLOC may perform or coordinate include continuous coordination with strategic-level providers such as the Defense Logistics Agency (DLA) and US-

TRANSCOM, the Services, and the CCDR's staff to ensure the required flow of support to the JTF. Engineers are represented a JLOC to respond to information received from supporting command, Service components, and external sources for presentation to the CCDR.

9.3. Procurement of Construction Materials. Engineer planners must understand the commander's intent and CONOPS, including expected duration of operations, to ensure appropriate material selection. Sustaining military operations usually requires large amounts of construction materials. Obtaining materials on time and in the quantity and quality needed must occur in order to bring other resources (time, personnel, and equipment) together to complete the project. The Engineer Support Plan (ESP) is used to establish the initial requirements during initial planning. Materials can be procured through military supply channels, local procurement, or can be produced locally. Each method has inherent costs and benefits.

9.3.1. **Military Supply Channels.** Obtaining materials through the normal military supply channels is often less efficient and thus, less desirable than local procurement, but will often be necessary if materials are not locally available. To support these shipments, adequate port or airfield facilities must be available for early reception of required equipment and materials. If adequate facilities are not available or existing facilities cannot be adapted or modified, it may be necessary to establish sites for joint logistics over-the-shore (JLOTS) operations (for additional information on JLOTS operations, refer to JP 4-01.6, *Joint Logistics Over-the-Shore*). Many Class IV materials are bulky, require handling and transportation over long distances, and are in high demand. Due to long lead-time, it may take several months for certain materials to arrive. For these reasons, initial construction material forecasts based on the ESP are usually submitted by the Service components.

9.3.2. **Contract Support.** For the FHA operation to succeed, the commander must be able to fulfill priorities through adequate resource control. Critical support contracting should be considered. Contracting support may be obtained from within or outside the affected country. When contracting for supplies, transportation, and services is possible, it can aid the economy of

the affected country and facilitate responsibility transfer back to the affected country or NGOs or IOs.

9.3.2.1. Military forces should not compete for scarce civilian resources. To avoid competition for similar support and to promote economy of contracting effort, contracts for logistic support must be coordinated through the designated joint force J-4 or lead agent for logistics.

9.3.2.2. Logisticians should be thoroughly familiar with the Services' standing contingency contracts. Civil augmentation programs, such as the Army's LOGCAP, the Navy's GCCC contract program and the Air Force AFCAP, also play a significant role in mission accomplishment by providing the JFC and joint force engineer with additional options and flexibility in general engineering and logistic support.

9.3.2.2.1. AFCAP is a cost plus award fee contract established to augment engineer and services capabilities to support worldwide contingency planning and deployment operations. HQ AFCESA at Tyndall Air Force Base, Florida, manages AFCAP. AFCAP may augment a base sustaining force at any Air Force base where engineer and services forces have been deployed. Furthermore, AFCAP can provide construction support at existing overseas locations and can support base recovery operations as a result of natural disasters, accidents, or terrorist attacks. Major capabilities include the full scope of engineer capabilities and logistics, with the exception of EOD and flight line fire and emergency services including aerospace rescue firefighting, to include the following:

9.3.2.2.1.1. Professional engineering services and infrastructure support, including architectural and engineering design, maintenance, repair, and construction.

9.3.2.2.1.2. Emergency incident management, fire fighting, technical rescue, emergency medical care, hazardous materials response, WMD/terrorism response, emergency management capabilities, facility hardening, dispersal, obstacles, redundancy measures, reconstitution of assets, and non-environmental site restoration.

9.3.2.2.1.3. Environmental management services including permits and HAZMATs and/or waste management and disposal.

9.3.2.2.1.4. Services capabilities and logistics to include food service, troop support, lodging, laundry, fitness, and recreation (excludes mortuary affairs and field exchange).

9.3.2.3. LOGCAP is an Army umbrella support contract that can be utilized to provide broad based logistic and selected engineering support in contingency operations. Currently, LOGCAP is a cost-plus award fee contract managed by the US Army Materiel Command (USAMC). An important aspect is that, in peacetime, the LOGCAP contractor maintains an on-call, preplanned, ready capability. The contractor demonstrates readiness through the development of a worldwide plan, supporting plans to OPLANs, specific regional plans, and participation in exercises.

9.3.2.4. The Navy's GCCC contract is a cost plus award fee contract administered by the NAVFAC Atlantic. The contract offers responsive, rapid engineering and construction capabilities for a wide range of engineer missions. This construction-oriented contract may be used worldwide, including in the United States. Major capabilities include, but are not limited to, planning, design, and construction.

9.3.3. **Local Procurement.** Procuring construction materials locally from countries within or near the AOR is often the most advantageous. To maximize its benefits, local procurement should occur as close as possible to the actual construction site in order to minimize transportation requirements. Use of local building materials and techniques minimizes shipping of materials and produces structures that are best suited to the local environment. Items not available in country should be purchased from neighboring countries in an "expanding ring" around the affected country. Heavy construction equipment and other vehicles should be leased whenever possible.

9.3.4. **Quality of Materials.** The quality of locally available materials often varies widely and may differ significantly from those used in standard designs. This can have a significant effect on a structure's safety and constructability.

9.3.5. **Quantity of Materials.** The ESP gives an order of magnitude for the quantities of materials required to support the operation. Because operational requirements may change after the materials have been ordered and shipped, engineer planners should consider materials and building systems that can be adapted for other uses.

9.3.6. **Production of Construction Materials.** Certain materials required in large quantities make it advantageous to be produced locally. Engineers may operate borrow pits and quarries or contract with suppliers. Significant environmental restrictions may be placed on joint forces when creating or operating these sites.

9.3.7. **Cost.** The cost of construction materials is highly visible to the JFC. Whether built by military engineering forces or contractors, procurement of materials is funded by the Service components for support to joint operations. The engineer planner must consider the impact of limited funding on the overall priority of projects to meet essential facility requirements of the joint force.

9.4. Property Control. All goods must be received with a signed receipt at time of arrival and entered into the appropriate property control system to ensure proper use and disposition of Government property. Property control must also include procedures for tracking and controlling issue of materials and tools during construction and for periodic inventory.

9.5. Transportation. Prior to movement of equipment, supplies and materials, mobilize and assign qualified logistics expediters to every port, airport and staging area where materials will be handled. Ensure these individuals have fully coordinated in advance with local customs and immigration officials and have a complete understanding of all documentation and fee requirements. Equip transportation personnel with all necessary means for effective communication and status reporting as required.

9.5.1. **General Considerations.** Except in the case of fast onset disasters, DPs/refugee operations generally take place in less developed countries and areas of the world. The host nation's infrastructure and transportation capabilities may be par with developed nations or they may have been severely

damaged. Therefore, special attention must be paid to a thorough survey of the host nation's infrastructure and transportation capabilities. It will also be critical to determine if other missions tasked within the area of responsibility, such as military transportation operations, will compete for the resources available in the host nation or surrounding countries. Clearly understand the priorities that have been established for use and consumption of resources. Be prepared to develop and implement alternate means for supporting the camp construction requirements. Confirm equipment and supplies that have been procured, when they are required, and establish their shipping priority. The priority assigned will determine the method of transportation to be used. Time requirements and construction schedules may dictate transportation modes that are not normally used for some items such as heavy equipment and construction materials. Determine transportation resources in those countries supplying materials and equipment and coordinate movement of materials to meet the established priorities. All goods and materials should be marked with purchase order information, inventory and lot numbers, national stock numbers (NSN) if applicable, final destination and any other identifying marks to facilitate in transit visibility at all times while en route.

9.5.2. **Documentation.** Communicate information provided by Customs and Immigration officials regarding details and any specific language that must be included in shipping documents that will accompany shipments. Generally, paperwork must state if goods will remain in the host nation or will be removed at the end of the emergency. Stress to all organizations that will participate in shipments that the highest level of accuracy is necessary to preclude border crossing and import delays at ports and airports.

9.5.3. **Security.** High value shipments may require special handling to include security while in storage and escorts during movements. Safety of border crossings and overland routes and theft at ports and airports may require armed escorts to ensure security during transportation. Arrangements for increased security should be coordinated with US military and local police forces. In some instances, armed convoys will be needed to safely transport materials and equipment to the campsite. These requirements must be fully coordinated. Identify warehousing facilities available at all ports of entry, to

include military facilities. Confirm the level of security available for each facility that will be used.

9.5.4. **Political Considerations.** Senior project and site management staff and logistics expeditors must pay attention to political situations of all countries along the route supplies, equipment, and personnel will travel in route to the construction site. Political postures held by countries involved can conflict and result in significant delays. Less expedient methods and routes of travel may be required to avoid problem countries.

9.5.6. **Currency requirements.** Ensure currency requirements for customs and immigration fees are fully understood for all ports of entry into the host nation. Logistics expediters mobilized to ports of entry must have immediate availability of all funds necessary to maintain an unrestricted flow of supplies, equipment and personnel.

9.5.7. **Airfreight Movements.** Moving resources by air will most likely be necessary to meet the rapid flow of required supplies, equipment and people to the campsite. Because this mode of transportation is costly, it is critical that all shipments have the proper customs documentation and that all required material handling equipment and trucks needed for onward movement are secured for each port of entry. Determine if any transportation support is available from military sources. Identify all airports available in the host nation and airports in neighboring countries. For each airport, determine handling capabilities, hours of operation, and scheduled commercial aircraft services available. Determine who controls and assigns landing slots at each airport considered for use as a port of entry. Identify warehousing facilities available at and near the airport in case goods must be held for any reason before shipment to site. Determine security of all storage facilities and whether goods can be held for transport at military secured areas if no secure commercial storage space can be found.

9.5.8. **Waterborne Movements.** Waterborne movement may require the use of container ships, bulk transport vessels, roll on/roll off (RO/RO) vessels and ferries to transport materials. Moving resources by water will not be as fast as air shipments, but far less expensive. Use water shipments whenever the construction schedule will allow. Government funded materials originat-

ing in the United States generally require U.S.-flagged vessels for transportation whenever possible. The United States Maritime Administration (MARAD) maintains a list of all U.S.-flagged commercial cargo vessels. Identify all ports located in the host nation as well as all ports in neighboring countries. For each port, confirm capacity, onward transport capabilities, customs and immigration information and travel time to the campsite. If adequate cargo handling equipment is unavailable at the port, attempt to source locally first, then in nearby countries. Confirm all regularly scheduled ferries, commercial ships and barges for each port. Obtain information regarding who controls berthing assignments, unloading crews and equipment and warehouse space. Identify scheduled commercial liner services and ferry services and determine port capability to receive charter vessels. Identify warehousing facilities available at the airport and off site for temporary storage if required. Determine security of all storage facilities and whether goods can be held for transport at military secured areas if no secure commercial storage space can be found. Identify commercial container haulage, trucking companies and personnel and equipment availability.

9.5.9. **Ground Transportation.** Ground transportation includes all shipments made by truck and rail. Ground transportation movements by rail allows for moving a very high volume and wide variety of resources in a relatively short period of time. Onward ground movement by truck offers the greatest delivery flexibility. Specific needs can be prioritized for movement by truck, loaded and sent on their way to the construction site. Since this is the least secure mode of transportation, some countries may require that all foreign trucks travel in special police-escorted government convoys for safety and security. This requirement may slow transit time by as much as 24 hours during the week or more on weekends. If necessary, the U.S. military may be called upon to provide armed convoy support. Complete a thorough survey of road conditions for all countries involved with forward movement of resources (**Figure 9.1.**). Pay attention to general road conditions, road construction, low bridge clearances, road damages, bridge width, bridge load bearing capacity, and security concerns for freight while in transit. Verify that border crossings into the host nation permit goods to enter from the originating country and from all intermediate countries involved. Mobilize a

senior transportation manager to work transportation and logistics issues in the operating location established by the prime contractor or the unified command responsible for the overall construction task order.

Figure 9.1. Evaluate Road Conditions (road Near Fier, Albania).

9.5.10. **Site Transportation.** Materials and workers will have to be moved within the camp during construction. If organic assets are not sufficient for the task, they can usually be rented in the local area. Using vans or buses for moving workers will make moving them from work area to work area much faster and efficient than relying on foot movement. Material handling equipment for unloading vehicles must also be considered in transportation planning.

9.5.10.1. Planning Vehicle Needs. Assessing vehicle needs involves not only calculating the vehicles which are needed, but also assessing what vehicles it will be possible to operate and maintain in the area of operation. Make sure that the existing infrastructure (roads, workshops and fuel) is fully evaluated

before obtaining vehicles. Consider needs for transporting personnel, supplies, equipment, fuel, hazardous cargo, and special vehicles such as material handling equipment, earth moving equipment, etc.

9.5.10.1.1. Sourcing Vehicles. Vehicles (whether light or heavy) can be rented locally or provided by the USG.

9.5.10.1.2. Fuel and Maintenance Facilities. There must be adequate servicing facilities, including sufficient supplies of fuel and spare parts. Maintenance and repair must be carried out regularly and as per manufacturers' standards, either through local service dealers or through military mechanics. Regular maintenance will prevent minor problems turning into major ones. Proper driving and care by the drivers can be an important factor in keeping vehicles on the road and prolonging their life. Adequate training, incentives and supervision will be the key to this.

9.5.11. **Expediting.** Identify established transportation resources and freight forwarder resources in the host nation and establish a primary point of contact (POC). If there are no established host nation resources, check with country manager of the nearest known logistics expediter who may have agents or sub-agents in the host nation. The host nation POC should have knowledge and thorough understanding of requirements for local customs and immigration laws. The POC should have reliable communications and transportation for site surveys and addressing situations and should have reasonable command of the English language, both spoken and written. Determine requirements for transportation personnel at construction sites and at the primary contractor operating locations to act as liaison for all transportation matters. Mobilize transportation expediters to staff every location where people, equipment, and supplies will transit while enroute to the construction site. Individuals selected must have reliable communications and transportation available at all times. It is especially important to place transportation personnel at border crossings, ports, and other potential transportation bottlenecks to ensure visibility of freight and to immediately address problems and issues. The transportation expediters should report all delays encountered immediately to the transportation manager at the main operating location in order to speed resolution of any difficulties.

9.6. Demobilization. Demobilization and return of excess inventory temporarily imported into the host nation is essentially accomplished in the reverse order of the process to import the resources. Prior to any movement, the property custodian should inventory all materials departing the site. The same level of urgency applied during build up is not necessary for moving materials out of country.

9.6.1. **Disposition of Government Property.** Disposition instructions for all remaining government property will come from the government property administrator appointed by the Procuring Contracting Officer. All property shipped from the campsite should be inventoried at the time it is shipped to provide proper accountability records. It should also be inventoried when it arrives at each storage location. Signed transfer documents should be obtained when property reaches its final destination. Those materials designated for redeployment, generally equipment, vehicles and reusable high value materials, can usually be shipped by the most cost effective transportation methods available that satisfy the redeployment schedule. The exceptions are usually small packages and high value electronic goods that would lose visibility and control and be subject to theft on other than secure commercial air transportation. It will again be critical to thoroughly understand and comply with Customs and Immigration requirements for shipments out of the host nation. If strict compliance is not addressed, expect delays of return shipments.

9.6.2. **Transfer of Government Property.** Logisticians must consider which equipment and supplies may be left behind at the completion of the mission.

9.6.2.1. Supplies and equipment cannot be arbitrarily left behind and donated to the HN. Supplies and equipment left behind as a result of HA support operations must be in accordance with all applicable Federal laws and statues relating to the donation or transfer of military articles and supplies. Consult legal counsel prior to any release of supplies and equipment.

9.6.2.2. It must first be determined what resources will be transferred and to whom. Government property to be transferred to NGO or the camp population after camp construction must be accurately inventoried so its value may

be computed and provided to the legal community for transfer documentation. The Defense Resource Management Organization will assist with this process. All legal ramifications must be taken into account and coordinated with military and embassy staffs.

Chapter 10

COMMUNICATIONS AND INFORMATION TECHNOLOGY EQUIPMENT

10.1. Purpose. Effective communications systems are vital to planning, mounting, and sustaining successful FHA operations. Operations, logistic, and intelligence functions depend on responsive communications. Communications is the central system that not only ties together all aspects military operations, but also allows commanders to command and control forces. Therefore, planning must include procedures to provide for interoperable and compatible communications among participants.

10.1.1. Every project must start with a full range of reliable office and communications equipment. Site personnel must have the capability to communicate with command and project management elements inside and outside the affected country and worldwide. Reliable voice and data communications are vital to effective completion of the camp construction mission. The ability to develop, maintain and transfer official records, documents, construction drawings and plans must be fully developed and available from the first day of the project. If unique or special communications or office equipment is required to support the project, ensure that a properly trained technician is part of the team.

10.1.2. Commercial telephone networks, military satellite channels, and conventional military C2 systems will support communication of directions, orders, and information. Commercial communications systems can be used to coordinate with other US agencies, disseminate meeting schedules, deconflict resource movement, and track logistics flow.

10.1.3. Direct communications between commanders and nonmilitary organizations should be established to facilitate effective collaboration and decision making. Peer to peer networks–desktop software designed to facilitate collaboration and communication among small groups–are also used by NGOs.

10.1.4. Information protection for non-secured communications must be implemented.

10.1.5. Frequency management will help allocate finite frequency availability. The HN government (if functioning) may control frequency management. FHA forces may not have exclusive use of frequencies.

10.1.6. Additionally, communications systems planning must consider the termination or transition of US involvement and the transfer of responsibility to other agencies such as the UN or NGOs.

10.2. Interoperability. Identify communications equipment interoperability among all participants. It is likely that non-DOD USG agencies, HN agencies, and multinational forces will have their own communications networks. These may include commercial leased circuits and satellite services as well as high frequency radio equipment. It is also critical that CMOCs are equipped with communication equipment that facilitates collaboration with all participants. The need for interoperability of communications equipment in FHA operations may also necessitate using unclassified communications means during the operation. Conducting an operation via unclassified means so multinational forces, OGAs, NGOs, and IGOs can be kept informed can be extremely difficult and challenging for US military forces. US military forces will receive correspondence by different classified modes that have to be further transmitted in one form or another. The use of classified and unclassified modes of communication are both necessary as classified modes are routinely used for operational information. Write for release should be used to the greatest extent possible at all levels. Write for release techniques include portion marking, the use of "tear-lines," and sanitizing sensitive text. Coordinate with the Air Force Network Integration Center (AFNIC) and the Air Force Network Operations Command (AFNETOPS) for interoperability assistance.

10.3. Joint Network Operations Control Center (JNCC). The JTF communications directorate may establish a JNCC to plan, manage, and operate all JTF communications systems. The JNCC exercises OPCON and technical management over communications control centers belonging to deployed components and subordinate commands. It serves as the single control agen-

cy for management and operational direction of the joint communications networks and infrastructure. It performs planning, execution, technical, and management functions. The JNCC develops and/or disseminates standards and/or procedures and collects and/or presents communications system management statistical data. The JNCC must be prepared to integrate the communications systems of foreign militaries, IGOs and NGOs as appropriate, to facilitate collaboration and cooperation. For further details on the JNCC, refer to JP 6-0, *Joint Communications System*.

10.4. Lessons Learned. The following paragraphs identify some critical communications lessons learned from Operation PROVIDE COMFORT:

10.4.1. Obtain adequate communications equipment to provide basic mission essential service;

10.4.2. Employ additional equipment and reconfigure connectivity to provide direct routing to principal destinations;

10.4.3. Add equipment to provide multiple routes to prevent site isolation;

10.4.4. Have sufficient equipment to support airborne capabilities, respond to new missions, and avoid critical shortages; and

10.4.5. Build in redundancy.

10.5. Requirements. Communications requirements drive the configuration of ground equipment and the planner should determine who has to communicate with whom at the site and between the site and support commands. Coordination among all parties will be required to maintain proper control of communications nets and frequencies. **Table 10.1.** portrays graphically the minimum connectivity for on-site communications.

10.5.1. Communications with rear area command and support organizations will be critical. Reporting of progress and problems and requests for assistance will necessitate reliable, redundant communications. Use the Communications Checklist contained in **Attachment 3** to evaluate the camp's needs and the local areas support capabilities.

10.5.2. Basic requirements are:

10.5.2.1. A telephone system for efficient incoming and outgoing worldwide calls.

Table 10.1. Site Communications Connectivity Requirements.

	Camp Cdr	*Civil Affairs*	*NGO*	*Security*	*Construction Teams*	*Fire Teams*
Camp Cdr		X	X	X	X	X
Civil Affairs	X		X	X	X	
NGO	X	X				
Security	X	X			X	X
Construction Teams	X	X		X		X
Fire Teams	X			X	X	

10.5.2.2. Uninterrupted incoming and outgoing worldwide facsimile (FAX) capability.

10.5.2.3. Reliable access to the internet and e-mail.

10.5.2.4. Sufficient laptop or personnel computers to allow routine, timely and professional management and administration of the document and paperwork flow that is created as a result of project development.

10.5.2.5. Local area two-way radio network. Radios should be multichannel to allow assignment of channels to each functional area. Sufficient radios will be procured to ensure the system is widely used to enhance efficiency and safety of project personnel. Ensure there is an adequate number of batteries and recharging equipment compatible with local electric current.

10.5.2.6. If there is to be more than one camp, each should be self-sufficient for communications.

10.6. Maintaining Communications Equipment. Camp conditions will vary and conditions will determine the level of maintenance required. While communications equipment has become increasingly ruggedized, preventive maintenance will still be a major factor in communications reliability and

usefulness. Operators should perform basic daily checks to help prevent major outages. Spare equipment should be kept in a controlled environment, protecting it from pilferage, weather and the environment as much as possible. Preventive maintenance considerations are:

10.6.1. Dust conditions. Are dust covers provided and are they being used?

10.6.2. Heat/cold conditions. Are fans needed to provide air-flow around equipment?

10.6.3. Wet conditions.

10.6.4. Electrical grounding.

10.6.5. Connectors.

10.6.6. Fluctuation in electrical power. Is all equipment that requires constant electrical power protected for power fluctuations by means of power strips or UPSs?

10.7. Contractor Communications. If a contractor is involved in the camp, the communication required will be somewhat more complex. There will be more functions needing to communicate within the camp and a larger requirement voice and data communications. **Table 10.2.** identifies the site communications connectivity requirements with the contractor.

Table 10.2. Communications Requirements with Contractor Support.

	ACO	*QA*	*TR*	*CC*	*DA*	*NGO*	*Security*	*Contractor*
ACO		X	X	X			X	X
QA	X							
Tech Rep	X	X		X				X
Camp Cdr	X		X		X	X	X	X
CA	X		X	X		X	X	X
NGO				X	X			
Security	X			X	X			X
Contractor	X		X	X	X		X	

HERBERT J. CARLISLE, Lt General, USAF
DCS/Operations, Plans, and Requirements (A3-5)

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Prescribed Forms

None

Abbreviations and Acronyms

ACO—administrative contracting officer

AFCAP—Air Force contract augmentation program

AFCESA—Air Force Civil Engineer Support Agency

AFFARS—Air Force Federal Acquisition Regulations

AFNIC—Air Force Network Integration Center

AFNETOPS—Air Force Network Operations Command

AFS—Air Force specialty

AOR—area of responsibility

C2—command and control

CA—civil affairs

CADD—Computer-Aided Drafting and Design

CAP—crisis action planning

CBRNE—chemical, biological, radiological, nuclear, and high-yield explosives

CCDR—combatant commander

CDR—commander

CE—civil engineer

CERF—central emergency revolving fund

CFST—coalition forces support team

CJCS—Chairman of the Joint Chiefs of Staff

CJTF—commander, joint task force

CMAT—consequent management advisory team

CMO—civil-military operations

CMOC—civil-military operations center

COA—course of action

COM—chief of mission

COMSEC—communications security

CONOPS—concept of operations

CONPLAN—concept plan

CPR—cardiopulmonary resuscitation

CRS—coordinator for reconstruction and stabilization

DART—disaster assistance response team

DCMD-I—Defense Contract Management District-International

DFARS—Defense Federal Acquisition Regulation Supplement

DLA—Defense Logistics Agency

DOD—Department of Defense

DOS—Department of State

DP—displaced person(s)

DSCA—Defense Security and Cooperation Agency

DTRA—Defense Threat Reduction Agency

ENCOM—engineer command (Army)

EOD—explosive ordnance disposal

ESP—engineer support plan

F&ES—fire and emergency services

FAR—Federal Acquisition Regulation

FAX—facsimile

FCM—foreign consequence management

FHA—foreign humanitarian assistance

GARS—Global Area Reference System

GCC—geographic combatant commander

GCCC—Global Contingency Construction Contract

GCSC—Global Contingency Service Contract

GFM—global force management

GI&S—geospatial information and services

GPS—global positioning system

HA—humanitarian assistance

HACC—humanitarian assistance coordination center

HAST—humanitarian assistance survey team

HAZMAT—hazardous material

HN—host nation

HOC—humanitarian operations center

HOCC—humanitarian operations coordination center

HQ—headquarters

IGO—intergovernmental organization

IPI—indigenous populations and institutions

J-2—intelligence directorate of a joint staff

J-3—operations directorate of a joint staff

J-4—logistics directorate of a joint staff

JCMEB—joint civil-military engineering board

JFC—joint force commander

JFLCC—joint force land component commander

JFUB—Joint Facilities Utilization Board

JIB—joint information bureau

JIPOE—joint intelligence preparation of the operational environment

JISE—joint intelligence support element

JLOC—Joint Logistics Operations Center

JLOTS—joint logistics over-the-shore

JMC—joint movement center

JNCC—joint network operations (NETOPS) control center

JOC—joint operations center

JOPES—Joint Operation Planning and Execution System

JOPP—joint operation planning process

JP—joint publication

JPG—joint planning group

JTF—joint task force

LFA—lead federal agency

LNO—liaison officer

LOC—lines of communication

LOGCAP—logistics civilian augmentation program

LOS—line-of-site

MAJCOM—major command (USAF)

MARAD—Maritime Administration

MHE—material handling equipment

MMAC—military mine action center

MOA—memorandum of agreement

MOGAS—motor gasoline

MWR—morale, welfare and recreation

NAVFAC—Naval Facilities Engineering Command

NGA—National Geospatial-Intelligence Agency

NGO—nongovernmental organization

NSC—National Security Council

NSN—national stock number

O&M—operations and maintenance

OCHA—UN Office for the Coordination of Humanitarian Affairs

OFDA—Office of US Foreign Disaster Assistance

OGA—other government agency

OPCON—operational control

OPLAN—operation plan

OPSEC—operations security

ORM—Operational Risk Management

OSCE—Organization for Security and Cooperation in Europe

OSOCC—on-site operations coordination center

PA—public affairs

PAG—public affairs guidance

PAM—preventive aerospace medicine

PAO—public affairs officer

PCO—procuring contracting officer

pH—potential of hydrogen (the acidity or alkalinity of a solution)

PM—program manager

POC—point of contact

PPE—personal protective equipment

PRM—population, refugees, and migration

PSYOP—psychological operations

QAE—quality assurance evaluator

RC—Reserve Component

RFA—request for assistance

RO/RO—roll-on/roll-off

ROE—rules of engagement

SecDef—Secretary of Defense

SJA—Staff Judge Advocate

SOF—special operations forces

SOFA—status-of-forces agreement

SOP—standard operating procedure

SROE—standing rules of engagement

TACON—tactical control

Tech Rep—technical representative

TTP—tactics, techniques, and procedures

UN—United Nations

UNDAC—United Nations disaster assessment and coordination

UNHCR—Office of the United Nations High Commissioner for Refugees

UNJLC—United Nations Joint Logistic Center

UNOCHA—UN Office for Coordination of Humanitarian Affairs

UPS—uninterruptable power supply

US—United States

USACE—United States Army Corps of Engineers

USAFE—United States Air Forces Europe

USAID—United States Agency for International Development

USAMC—US Army Materiel Command

USG—United States Government

USJFCOM—US Joint Forces Command

USSOCOM—US Special Operations Command

USTRANSCOM—US Transportation Command

UXO—unexploded ordnance

VSAT—very small aperture terminals

WMD—weapons of mass destruction

Terms

allocation—In a general sense, distribution of limited resources among competing requirements for employment. Specific allocations (e.g., air sorties, nuclear weapons, forces, and transportation) are described as allocation of air sorties, nuclear weapons, etc.

civil affairs—Designated Active and Reserve component forces and units organized, trained, and equipped specifically to conduct civil affairs activities and to support civil-military operations. Also called CA.

civil-military operations center—An organization normally comprised of civil affairs, established to plan and facilitate coordination of activities of the Armed Forces of the United States with indigenous populations and institutions, the private sector, intergovernmental organizations, nongovernmental

organizations, multinational forces, and other governmental agencies in support of the joint force commander. Also called **CMOC**.

combatant commander—A commander of one of the unified or specified combatant commands established by the President. Also called CCDR.

consequence management—Actions taken to maintain or restore essential services and manage and mitigate problems resulting from disasters and catastrophes, including natural, manmade, or terrorist incidents. Also called **CM**.

dislocated civilian—A broad term primarily used by the Department of Defense that includes a displaced person, an evacuee, an internally displaced person, a migrant, a refugee, or a stateless person. Also called **DC**.

displaced person—A broad term used to refer to internally and externally displaced persons collectively.

engineer support plan—An appendix to the logistics annex or separate annex of an operation plan that identifies the minimum essential engineering services and construction requirements required to support the commitment of military forces. Also called ESP.

environmental considerations—The spectrum of environmental media, resources, or programs that may impact on, or are affected by, the planning and execution of military operations. Factors may include, but are not limited to, environmental compliance, pollution prevention, conservation, protection of historical and cultural sites, and protection of flora and fauna.

evacuee—A civilian removed from a place of residence by military direction for reasons of personal security or the requirements of the military situation.

excess property—The quantity of property in possession of any component of the Department of Defense that exceeds the quantity required or authorized for retention by that component.

facility—A real property entity consisting of one or more of the following: a building, a structure, a utility system, pavement, and underlying land.

foreign assistance. Assistance to foreign nations ranging from the sale of military equipment to donations of food and medical supplies to aid survivors of natural and manmade disasters. US assistance takes three forms—development assistance, humanitarian assistance, and security assistance.

foreign disaster—An act of nature (such as a flood, drought, fire, hurricane, earthquake, volcanic eruption, or epidemic), or an act of man (such as a riot, violence, civil strife, explosion, fire, or epidemic), which is or threatens to be of sufficient severity and magnitude to warrant United States foreign disaster relief to a foreign country, foreign persons, or to an intergovernmental organization.

foreign disaster relief—Prompt aid that can be used to alleviate the suffering of foreign disaster victims. Normally it includes humanitarian services and transportation; the provision of food, clothing, medicine, beds, and bedding; temporary shelter and housing; the furnishing of medical materiel and medical and technical personnel; and making repairs to essential services.

foreign humanitarian assistance—Department of Defense activities, normally in support of the United States Agency for International Development or Department of State, conducted outside the United States, its territories, and possessions to relieve or reduce human suffering, disease, hunger, or privation. Also called **FHA.**

geospatial engineering—Those engineering capabilities and activities that contribute to a clear understanding of the physical environment by providing geospatial information and services to commanders and staffs. Examples include: terrain analyses, terrain visualization, digitized terrain products, nonstandard tailored map products, precision survey, geospatial data management, baseline survey data, and force beddown analysis.

humanitarian assistance coordination center—A temporary center established by a geographic combatant commander to assist with interagency coordination and planning. A humanitarian assistance coordination center operates during the early planning and coordination stages of foreign humanitarian assistance operations by providing the link between the geographic combatant commander and other United States Government agencies, non-

governmental organizations, and international and regional organizations at the strategic level. Also called **HACC**.

humanitarian operations center—An international and interagency body that coordinates the overall relief strategy and unity of effort among all participants in a large foreign humanitarian assistance operation. It normally is established under the direction of the government of the affected country or the United Nations, or a US Government agency during a US unilateral operation. Because the humanitarian operations center operates at the national level, it will normally consist of senior representatives from the affected country, assisting countries, the United Nations, nongovernmental organizations, intergovernmental organizations, and other major organizations involved in the operation.

indigenous populations and institutions—A generic term used to describe the civilian construct of an operational area to include its populations (legal citizens, legal and illegal immigrants, and all categories of dislocated civilians), governmental, tribal, commercial, and private organizations and entities. Also called **IPI**.

infrastructure—All building and permanent installations necessary for the support, redeployment, and military forces operations (e.g., barracks, headquarters, airfields, communications, facilities, stores, port installations, and maintenance stations).

internally displaced person—Any person who has been forced or obliged to flee or to leave their home or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border.

Joint Facilities Utilization Board—A joint board that evaluates and reconciles component requests for real estate, use of existing facilities, inter-Service support, and construction to ensure compliance with Joint Civil-Military Engineering Board priorities. Also called JFUB.

joint operations—A general term to describe military actions conducted by joint forces, or by Service forces in relationships (e.g., support, coordinating authority), which, of themselves, do not establish joint forces.

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

migrant—A person who (1) belongs to a normally migratory culture who may cross national boundaries, or (2) has fled his or her native country for economic reasons rather than fear of political or ethnic persecution.

natural disaster—An emergency situation posing significant danger to life and property that results from a natural cause.

refugee—A person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his or her nationality and is unable or, owing to such fear, is unwilling to avail himself or herself of the protection of that country.

stateless person—A person who is not considered as a national by any state under the operation of its law.

sustainment—The provision of logistics and personnel services required to maintain and prolong operations until successful mission accomplishment.

Attachment 2

SITE SELECTION CRITERIA CHECKLIST

	Sites Criteria	***Site #/name:***
1. Potential Beneficiaries		
a	Numbers	
b	Type or categories	
2. Location		
a	Distance from major towns	
b	Distance from the border	
c	Security and protection	
d	Local health and other risks	
e	Distance from the protected areas	
3.	**Basic Characteristics of the Site**	
a	Area/expansion possibility	
b	Land use and land rights	
c	Topography	
d	Elevation	
e	Soil/vegetation condition	
f	Water availability	
g	Drainage	
h	Sanitation possibilities	
i	Climatic condition	
4.	**Complementary/Supportive Points**	
a	Nearby villages/communities	
b	Accessibility	
c	Proximity to national services (e.g., health and education)	
d	Distance to electrical source	

e	Proximity to economical centers	
f	Proximity to agriculture	
g	Wood for construction and fuel	
5.	**Observations/Recommendations**	

Attachment 3

SITE SURVEY CHECKLIST

ITEM	*NOTES*
GENERAL	
Determine approximate camp population both initially and long-term.	
Determine current location of DPs/refugees.	
Determine rate of DPs/refugee arrival along with mode of travel.	
Determine possible land use impediments such as grazing rights, prior occupancy, and disputed ownership.	
POPULATION	
Determine DPs/refugee composition. Will they be scattered individuals, families, village groups?	
What is the average family size?	
Determine approximate ages of men, women, and children.	
Identify ethnic origin. - Sedentary or nomadic background? - Role of female in society? - Customary skills? - Language used? - Basic diet? - Customary shelter? - Customary sanitation practices? - General distribution of socioeconomic status?	
Identify relative health of local population and DPs/refugees. - Mortality rate? - Main cause of death? - Percentage vaccinated? - Incidents of diarrhea?	

ITEM	*NOTES*
LABOR	
Determine who controls or manages the local labor market.	
Is there one local broker who can supply labor to meet the needs of all aspects of the camp?	
Identify sources of bilingual personnel - check with schools, libraries and government agencies for people available to serve as interpreters.	
What are related work skills of local population?	
Identify any committees, government agencies, action groups, or NGOs that can help mobilize sources of labor.	
Determine if residents of the camp or DPs/refugees living in the local area can be employed on the project.	
Obtain detailed maps of the general area and construction site.	
PETROLEUM AND FUEL	
Determine fuel types, availability, and cost.	
Determine fuel distribution and storage capability.	
WATER	
Determine required amount of water per person per day.	
Determine source and quality of water.	
Determine the evidence of water-related diseases.	
Determine availability and adequacy of water treatment facilities, pumps, and distribution network.	
Determine types of wells, transportation, and/or storage systems used.	
Determine if there are any problems with well repair/rehabilitation.	

ITEM	***NOTES***
Determine if the local water system is functional. What are the requirements for repair?	
Determine the availability of additional sources of safe water.	
Determine who is in charge of the local water supply.	
Assess condition of canals and downstream channels.	
SHELTER	
Determine from local officials the expected climate and weather conditions for the construction period.	
Determine the number of people requiring shelter and whether the need for shelter is temporary (a few weeks), or if it is a population that will require shelter for an indeterminate period of time.	
Determine the type of structures that will be required (tent, portable building, existing buildings, etc.).	
Determine the average number of people allowable in an individual dwelling.	
Identify obstacles that prevent victims from meeting their own needs for shelter.	
Inventory existing structures and public facilities that can be used as temporary shelters, giving careful consideration to access to sanitation and water.	
Determine the number of private dwellings and public facilities (schools, churches, medical facilities) that will be required.	
Assess the suitability and infrastructure of any available existing facilities.	
ELECTRICAL POWER	
Determine minimum essential electrical power requirements.	
Determine local and regional suppliers, cost,	

ITEM	***NOTES***
and availability.	
Determine availability of technical and maintenance support.	
Determine the power system operability. - Power generation facility. - Number of substations and condition. - Fuel source. - Output capacity. - Switching facilities. - Transmission facilities. - Distribution facilities.	
MATERIALS	
Determine types and sources of local construction materials.	
How far are the materials from the site?	
What is the availability and cost to meet both cultural and religious requirements?	
Are there locally available substitutes?	
What is the competition for these materials?	
Determine types and quantities of materials that the local government can provide.	
Determine the accessibility of site for the delivery of materials.	
Determine the availability of transportation for the delivery and distribution of materials.	
Assess the environmental conditions that would impose constraints on the supply and distribution of materials.	
Determine quantity and quality of tools available locally.	
Key materials that will probably be required in large quantities: Civil Materials. - Gravel. - Rock (round and angular). - Plywood. - Culvert.	

ITEM	***NOTES***
- Lumber. - Fencing. Mechanical Materials. - Water piping and fittings. - Hydrants. - Hot water tanks. - Pumps. - Portable latrines. - Portable heaters. - Storage tanks. Water treatment chemicals. Electrical Materials. - Cable. - Transformers. - Fixtures.	
SANITATION AND SEWAGE	
Determine population estimate and density.	
Determine placement and number of latrines.	
Determine if cultural taboos affect design and placement of latrines.	
Determine local customs of waste disposal. What facilities do the residents use at home?	
Develop sanitation plan for unexpected population increase.	
Determine how to ensure safe access to latrines for women and girls.	
Determine any evidence of water-related disease.	
Determine the proximity of latrines and refuse areas to water sources, storage areas and distribution points.	
Determine collection and disposal plan for garbage.	
Determine adequacy of sewage disposal facilities in public buildings or facilities.	
Determine availability of local technical and maintenance support.	

ITEM	***NOTES***
Determine availability of existing treatment facilities.	
Assess site topography and natural drainage patterns.	
Assess soil permeability and characteristics. Can pits be hand dug?	
Determine elevation of groundwater table.	
Determine if latrines can be built locally.	
Determine if portable latrines and servicing are available and acceptable.	
Identify the sources and types of refuse. Prioritize the sources as to existing and potential health hazards.	
Determine how to control and dispose of refuse according to potential hazard ranking.	
TRANSPORTATION	
Ports	
Visit seaports, airports and border crossings that may be used in support of the camp construction and operation.	
Meet local tax and customs officials and ensure there is a clear process and procedure for clearing supplies and equipment into the camp area.	
Obtain telephone numbers for all officials that can help resolve problems and delays.	
Determine availability of helicopter landing sites.	
Determine port costs, limitations and restrictions.	
Determine airport operational capacity, restrictions, limitations, military and civilian traffic.	
Determine port night, weekend and holiday operation capability.	
Determine fuel availability.	
Determine port storage availability.	

ITEM	*NOTES*
Determine landing and docking clearance requirements.	
Determine port security requirements.	
Surface Transportation (Road and Rail)	
Determine condition of road network.	
Identify restrictions such as weight, length or height limitations at bridges and tunnels.	
Identify alternate supply routes and bypasses.	
Determine adequacy of local traffic control.	
Determine if containers can be moved inland.	
Determine availability and cost of trucks (government and commercial).	
Determine size, quantity and number of commercial vehicles.	
Determine availability of maintenance facilities and spare parts.	
Determine availability of fuel along delivery routes.	
Determine location, availability, cost and reliability of railroads in the area.	
Determine security measures to protect rail cargo in transit.	
WAREHOUSING	
Validate sources, quantities, quality and storage.	
Identify usable warehouse space, cost and capacity over time.	
Determine if warehouse space is commercially or government owned.	
Determine availability of warehouse material handling equipment.	
Determine warehouse security levels.	
SUPPORT FACILITIES AND EQUIPMENT	
Obtain a detailed list of suppliers willing to do business with the camp.	
Determine the method of payment each local company will accept.	

ITEM	***NOTES***
Determine availability of local hotels that may be used as temporary living facilities.	
Meet with local bank officials and ensure all bank rules, procedures and restrictions are fully understood.	
Determine how the transfer of funds will be executed with local banks.	
Determine availability of local area personnel transportation.	
Determine availability and capability of local health facilities.	
FOOD	
Identify all possible local food sources.	
Determine local farming procedures that are used to grow crops.	
Determine bakery availability and capability.	
Determine availability of local food preparation and distribution facilities.	
Determine if there are legal impediments to importation of certain foods?	
Determine veterinary/military public health approval requirements?	
COMMUNICATIONS	
How many people are deploying who need communications? Contractor? Government?	
How many camps are to be established? Each should be self-sufficient.	
Is the initial deployment package sufficient to support deployed personnel?	
What is the degree of integration between military and civilian communications networks?	
What operable or easily repaired communications facilities exist?	
Is military support available?	
Are there any unique requirements?	

ITEM	***NOTES***
Who needs full time voice and fax? Contractor? Government?	
Who needs full time data services? Contractor? Government?	
Who needs e-mail? Contractor? Government?	
Can the local telephone system provide the needed support?	
Is there a local work force that can support camp communications effort?	
Is a local internet service provider available?	
Are satellite phones needed for initial deployment? How many? Contractor? Government?	
Is high-speed data support available?	
Who needs cellular service and when? Contractor? Government?	
Is a cellular system available?	
Are there host nation cellular phone restrictions?	
Can we purchase telephones in U.S. and have local provider install proper chips?	
Does local provider have cellular FAX and data available?	
Who needs 2-way radio service and when? Contractor? Government?	
Will they need private channels? Contractor? Government?	
Can multi-channel hand-held radios be imported or must they be acquired locally?	
If acquired locally, how will they be purchased or rented and who can provide that service?	
Who provides and manages radio frequencies and call signs?	
Total number of telephone users. Contractor? Government?	
How many trunks?	

ITEM	***NOTES***
How many telephones?	
Are multi-line telephones needed? Is a T-1 telephone line needed for voice and data?	
How many faxes will be in use? Contractor? Government?	
How many computers will be in use? Contractor? Government?	
How much cable is needed?	
Are Very Small Aperture Terminals (VSATs) overloaded? Are more VSATs needed?	
Are routers needed for the data system?	
Is a data switch needed for data system?	
Is there a need to separate data from the voice system?	
Can local infrastructure support local communications between camps?	
Are LOS radios needed for camp interconnectivity? What bandwidth is needed?	