

THE U.S. ARMY CORPS OF ENGINEERS (USACE)
IN STABILITY OPERATIONS

A thesis presented to the Faculty of the U.S. Army
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fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE
General Studies

by

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE U.S. ARMY CORPS OF ENGINEERS (USACE) IN STABILITY OPERATIONS,
Major James Walser, 81 pages

The purpose of this thesis is to examine the United States Army Corps of Engineers (USACE) current organization and its role in recent stability operations in Iraq and Afghanistan. The thesis begins by looking at some of the historic missions for USACE in stability operations. It then examines current U.S. Army doctrine to determine the role that it envisions for USACE. Following this examination, the thesis covers Engineer doctrine to determine USACE's vision of its role in stability operations. The current USACE organization is also examined. The thesis provides a brief overview of USACE experiences in recent stability operations in OIF and OEF. The thesis then draws lessons learned using the nine U.S. Agency for International Development (USAID) principles for reconstruction and development as a framework. The thesis concludes by determining that USACE is meeting the needs of the U.S. Army in stability operations but that there is some room for improvement.

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ACRONYMS

AE	Area Engineer
AED	Afghanistan Engineer District
AFCEE	Air Force Center for Environmental Excellence
CFC-A	Combined Forces Command-Afghanistan
COR	Contracting Officer Representative
CMO	Civil-military operations
CPA	Coalition Provisional Authority
CQM	Construction Quality Management
DOD	Department of Defense
ENCOM	Engineer command
EP	Engineer Pamphlet
FM	Field Manual
FEST	Forward Engineer Support Team
FFE	Future Force Engineering
GAO	Government Accounting Office
GRC	Gulf Region Central
GRD	Gulf Region District
GRN	Gulf Region North
GRS	Gulf Region South
GWOT	Global War on Terror
IRMO	Iraq Reconstruction and Management Office
JIIM	Joint, interagency, intergovernmental and multinational
LNO	Liaison officer

OIF	Operation Iraqi Freedom
OEF	Operation Enduring Freedom
OPCON	Operational control
OSD	Office of the Secretary of Defense
ORHA	Office of Reconstruction and Humanitarian Assistance
PCO	Project and Contracting Office
PMO	Program Management Office
PRT	Provincial Reconstruction Team
QAR	Quality Assurance Representative
RE	Resident Engineer
RMS	Resident Management System
USACE	U.S. Army Corps of Engineers
USAID	U.S. Agency for International Development

CHAPTER ONE

INTRODUCTION

Since 2001, the U.S. Army has begun to place more emphasis on full spectrum operations, or the idea that the U.S. Army should be able to operate in all types of deployment environments from stable peace to general war. In the newest edition of Field Manual (FM) 3-0, *Operations*, published in 2008, the U.S. Army expands on this concept. This edition specifically states that "...Army doctrine now equally weights tasks dealing with the local population - stability or civil support - with those related to offensive or defensive operations" (FM 3-0 2008, vii). FM 3-0 goes on to describe the primary tasks of stability operations, which include civil security, civil control, restore essential services, support to governance, and support to economic and infrastructure development (FM 3-0 2008, 3-7). The successful execution of these tasks can have an important impact on the overall operating environment and can lead directly to success or failure of a mission.

For the U.S. Army, subject matter expertise in infrastructure and reconstruction resides with the Engineer Regiment. According to FM 3-34, *Engineer Operations*, the Engineer Regiment "...consists of all Active Component (AC) and Reserve Component (RC) engineer organizations (as well as Department of Defense [DOD] civilians and affiliated contractors and agencies within the civilian community) with a diverse range of capabilities" (FM 3-34 2004, 1-2). One key asset of the Engineer Regiment is the United States Army Corps of Engineers (USACE). The USACE mission covers the full spectrum of operations. According to Engineer Pamphlet (EP) 500-1-2:

USACE is an Army MACOM [Major Command] assigned

responsibilities to execute Army and Department of Defense (DOD) programs and missions related to military construction and civil works. All of USACE's authorities (including Civil Works) are derived from authorities vested in the Secretary of the Army. All USACE activities are generated by law and prescribed through DOD and Army regulations. All USACE contingency missions are an Army component in support of DOD (EP 500-1-2 1995, 2-1).

USACE's involvement in major foreign reconstruction and infrastructure projects dates back to 1947 and the Marshall Plan. World War II had destroyed the infrastructure of much of Europe and the USACE mission expanded as a means to provide foreign assistance to other countries and to combat the spread of communism. Greece and Turkey were important areas in U.S. foreign policy and through USACE they became beneficiaries of large amounts of U.S. aid.

Greece in particular set a key precedent for future USACE operations. It was the first time that the United States created an engineer district to oversee large-scale foreign civil works. Established in June 1947, the Grecian District undertook such varied projects as clearing the Corinth Canal and restoring the Port of Piraeus as well as building or repairing over 3,000 miles of road. During the process, it also trained indigenous labor, provided technical assistance, and undertook projects specifically targeted to help restore a war-torn economy. It is also interesting to note that USACE had to deal with guerrilla attacks on reconstruction projects which delayed overall construction time (EP 360-1-21 1986, 113). As its history shows, USACE experiences in Iraq and Afghanistan are not unprecedented.

Because of successes in Europe and especially Greece, the U.S. Congress passed the Mutual Security Act in 1951, which further expanded USACE construction projects

around the world. USACE became a means to enhance national security and foreign policy by providing engineering assistance and knowledge to friendly nations. In 1961, Congress passed the Foreign Assistance Act, which established the U.S. Agency for International Development (USAID) as part of the State Department. As part of this act, Congress authorized USACE to provide services and commodities to foreign countries on a reimbursable basis under section 607 (EP 360-1-21 1986, 109-112).

USACE's relationship with USAID grew as the agency's role expanded. Typically, projects intended to improve the host-nation's economy were administered by USAID. Under USAID's administration, USACE continued to render assistance to these projects through program development, procurement assistance, and contract administration. In the mid-1960's, USAID changed its foreign assistance focus from major construction efforts to providing for immediate needs such as food, health, and education. The agency also pushed for more private engineering and architectural support on projects.

Another important development during this period was the beginning of USACE's involvement in projects funded by recipient nations rather than by United States loans and grants. The first such effort occurred in Saudi Arabia in 1963 where USACE constructed numerous military and civilian facilities for the Saudi government. This effort grew throughout the 1960's and 1970's and encompassed many nations throughout the middle east.

USACE's participation in these projects set the precedent for its participation in and organization for future projects. *The History of the U.S. Army Corps of Engineers*

clearly describes this, drawing parallels between host-nation reimbursable work and previous construction projects such as those undertaken in Greece. As stated:

First is the nature of the work itself, large-scale construction projects in support of friendly nations' armed forces and economic development. In addition, the Corps continues to employ the well-tested organizational structure of the engineer district. Furthermore, some of the important precedents established during the late 1940's in Greece continue as hallmarks of Corps projects. These include the sharing of American technical know-how and the training of indigenous contractors and workers to provide as much of the actual work force as possible. Finally, and most significantly, the Corps' participation in these programs indicates that it remains unique among government agencies in its ability to plan, organize and carry out major construction programs (EP 360-1-21 1986, 112).

Just as it has done in the past, USACE has continued to play a crucial role in aspects of stability operations in recent conflicts in Iraq and Afghanistan. It has undertaken large-scale reconstruction projects that have made an immediate impact on the local populace and directly affected operational success. The U.S. Army must continue to find a method to deliver these benefits at the tactical level to ensure that they provide the tactical commander with the maximum effect in his/her area of operations.

Primary Research Question

Is the U.S. Army Corps of Engineers (USACE) prepared to meet the requirements of stability operations as envisioned by the U.S. Army in FM 3-0, *Operations* and FM 3-07, *Stability Operations*?

Secondary Research Questions

Has the role of USACE evolved from past operations and if so how has it evolved? Are there any similarities/differences between current stability missions and past missions?

What is the role of USACE in current stability operations? What does it view as its role? What does the Army see as its role?

What are the successes of USACE in current stability operations and why has it been successful?

What are the shortcomings of USACE in current stability operations and how can USACE correct them?

Significance

USACE has performed stability tasks in numerous countries throughout the world for over sixty years. As an organization, USACE has the capabilities and expertise to undertake infrastructure and reconstruction projects that will have a direct impact on the battlefield. It is a force multiplier for the tactical commander because its construction efforts can bring a noticeable improvement to a local population's standard of living, a critical part of stability operations. In order to continue to meet the future needs of the U.S. Army, it is important that USACE be prepared to support future operations. This study will examine USACE's role in one type of operation to determine its ability to meet future U.S. Army requirements.

Assumptions

The U.S. will continue to perform stability operations throughout the world and with increasing frequency.

The U.S. Army will continue to conduct full spectrum operations.

DOD will continue to utilize USACE in stability operations.

Limitations

1. Since the conflicts in Iraq and Afghanistan are on going the ultimate outcome of operations in these countries is still to be determined. The conflicts are also still highly politicized and the author must consider the objectivity of sources.

2. Since Army doctrine is still evolving, there may be changes even as the thesis is completed. The Army published the most recent update of FM 3-0 in 2008. It has also recently revised FM 3-07. This paper will draw on the final version published in October 2008. The U.S. Army has also published its first updated counterinsurgency doctrine in 20 years with FM 3-24, published in 2006. The Engineer Regiment has not updated its doctrine since the publication of these new FMs. It published the most recent Engineer Operations manual in 2004 and USACE documents are even older. USACE published Engineer Pamphlet 500-1-2, *USACE Support in the Theater of Operations*, in 1995. The thesis will utilize the most current doctrine available.

3. The researcher's ability to travel limits the research. In order to get a true picture of what is actually occurring on the ground the best method would be to visit USACE operations and sites within the regions. However, the researcher does not have the time or the resources to conduct such extensive field research. Therefore, the researcher will have to rely on anecdotal evidence and firsthand accounts that are available, in addition to other secondary sources.

Delimitations

1. USACE's mission is very broad and includes such areas as water management, flood control, and homeland security. This thesis will only examine the role of USACE in stability operations.

2. The thesis will concentrate on a limited number of countries where USACE is performing operations. The thesis may use some historical examples to examine the evolution of the role of USACE; however, it will be primarily concerned with recent operations in Iraq and Afghanistan.

3. The author will draw on the most current sources in conducting research. However, even as the thesis is being written the situation in both countries is evolving. The majority of sources available offer lessons learned from 2003-2006. The paper will draw primarily on these sources, while recognizing that events may have changed since the writing of these documents.

4. Since the events that the thesis will analyze are very recent, there is not a large body of work to draw on in conducting research. Additionally, the author does not have the time to conduct exhaustive research involving a wide spectrum of USACE officers. Therefore, the author will rely on examples from interviews and anecdotal evidence in an attempt to draw some conclusions and set a basis for future study in this topic.

CHAPTER 2

LITERATURE REVIEW

The amount of information available on stability operations continues to grow. With the U.S. Army's rejuvenated focus on low intensity conflict and counterinsurgency, stability operations have received increased attention as part of U.S. Army doctrine. This thesis will use existing doctrine as a starting point to begin research. In order to determine Army expectations for USACE, the thesis will utilize FM 3-0, *Operations* (Feb 2008). Additionally, FM 3-07, *Stability Operations* (October 2008) provides more information on the stability aspect of full spectrum operations. FM 3-07 also describes in detail the nine USAID principles for reconstruction and development which will be utilized to analyze USACE performance in Iraq and Afghanistan. The thesis will also briefly examine FM 3-24, *Counterinsurgency* (December 2006) to determine the role of reconstruction in counterinsurgency operations.

On 1 June 2008, the Army published a position paper entitled *Stability Operations in an Era of Persistent Conflict*, which examined future force requirements for stability operations, and how the U.S. Army can prepare to meet these needs. The paper attempts to set a framework for future interagency planning. It also provides additional guidance on the U.S. Army's vision for future stability operations.

Chapter one of this thesis set a historic context for USACE participation in large reconstruction projects. This history is primarily drawn from EP 360-1-21, *A History of the US Army Corps of Engineers* (January 1986). The thesis then moves to more current doctrine to develop a better understanding of how the Engineer Regiment views the role of USACE in stability operations. To achieve this, the thesis will utilize FM 3-34,

Engineer Operations (2004) as a starting point. It will then move to USACE publications such as the Engineer Pamphlets (EP), which cover USACE's duties and responsibilities. EP 500-1-2, *USACE Support in the Theater of Operations* (1995) specifically covers USACE's organization and responsibilities to support commanders.

The Chief of Engineers has also published a USACE Campaign Plan, which lays out his guidance for USACE. The Campaign Plan was last updated in May 2007 and covers expectations for USACE in current operations. This plan details expectations and objectives for USACE in supporting current operations as well as describing areas where USACE needs to improve to meet these objectives.

To determine how the reconstruction mission in Iraq developed this thesis will make use of several recently published histories of Operation Iraqi Freedom. One of these is *Fiasco: The American Military Adventure in Iraq* by Thomas E. Ricks. This book provides good insights into the nature of the pre-war construction planning for Iraq. *Cobra II* by Michael R. Gordon and General Bernard E. Trainor also provides a good history of the initial reconstruction planning, particularly with regards to the Office for Reconstruction and Humanitarian Assistance (ORHA). L. Paul Bremer's *My Year in Iraq* provides the perspective of the head of the Coalition Provisional Authority (CPA) on the initial progress of reconstruction and where the areas of emphasis were for this organization during the early stages of Operation Iraqi Freedom (OIF).

The thesis will also draw on some of the critical works that have been written recently concerning the aftermath of the invasion of Iraq. These studies detail the initial set-up and award of reconstruction projects following the invasion of Iraq. They are often extremely critical and written in a sensational manner, but the information

contained in these books cannot be discounted and is relevant to the thesis. Some examples of these works are *Losing the Golden Hour* by James Stephenson, a U.S. Foreign Service officer with extensive experience in reconstruction. He was responsible for USAID's mission in Iraq. He details the initial implementation of the reconstruction program and USACE's involvement in this. His book also recommends two other accounts, *Blood Money* by T. Christian Miller, a Los Angeles Times reporter, and *Imperial Life in the Emerald City* by Rajiv Chandrasekaran, a Washington Post reporter. These two books provide outsiders perspectives of recent U.S. reconstruction efforts and USACE missions.

The history of planning for reconstruction in Afghanistan is not as detailed. The Government Accounting Office (GAO) has some of the best information on the history of reconstruction efforts in Afghanistan. To look for project specific information, the GAO has a web site with reports on USAID activities in Iraq and Afghanistan. These reports are extensive, detailed and provide good objective analysis of on-going projects. They provide specific data on individual projects as well as numbers for costs and time completed. Additionally, they tend to look at progress with a more critical eye in an attempt to identify areas that need improvement. This feedback will be useful in evaluating where USACE has had success and where it needs improvement.

To determine USACE performance in Iraq and Afghanistan, the thesis will utilize available sources and "lessons learned" materials. The U.S. Army Command and General Staff College recently published *On Point II*. This book provides some valuable insight into reconstruction from May 2003 to January 2005. Chapter 9 is entitled "The US Army and the Reconstruction of Iraq" and specifically details the initial struggles of

U.S. Army units operating on the ground. This chapter is not specifically focused on USACE but does mention some of its projects and the large role that USACE has played in major reconstruction projects.

Another important source of information is the USACE website as well as the Gulf Region Division (GRD) and Afghanistan Engineer District (AED) websites. These provide press releases and information on projects in progress and completed. They also have interviews and perspectives from senior leaders of AED and GRD. These articles are good for information but must also be viewed with a degree of skepticism since they are written by USACE employees to get their message out and tend to present USACE in a favorable light.

The Combined Arms Research Library has a large number of interviews that have been conducted with soldiers returning from Iraq and Afghanistan. The interviews are part of a project conducted by the Combat Studies Institute called Operational Leadership Experiences. Rather than conducting my own interviews or utilizing a questionnaire across all of USACE, I intend to use these interviews to gather information on operations in Iraq and Afghanistan. Some interviews that will be useful in writing this paper are as follows:

The thesis will use an interview conducted by John McCool with Major (MAJ) Ed Chamberlayne on 16 February 2008. Major Chamberlayne details his experience working with a Forward Engineer Support Team- A (FEST-A) in Iraq from June to December 2003 as well as his time as a resident engineer in Bagram, Afghanistan, from February to June 2005.

It will also use an interview conducted by John McCool with Colonel (COL) Peter DeLuca on 1 June 2006. COL DeLuca served as the J7 engineer for Multinational Security Transition Command- Iraq (MNSTC-I) from June 2004 to June 2005 and has a unique perspective of overall Engineer operations in Iraq.

John McCool also conducted an interview with MAJ James DeLapp on 10 January 2006. MAJ DeLapp served as the operations officer for the USACE Camp Victory office in Baghdad from May to November 2004 and also helped set up an office in Sadr City.

The thesis will use an interview conducted by MAJ Patrick Howell with MAJ Kip Korth on 7 April 2006. MAJ Korth served as the USACE Gulf Region Division (GRD) liaison officer (LNO) to the 1st Infantry Division and 42nd Infantry Division in Baghdad from 11 July 2004 to 26 June 2005.

MAJ Patrick Howell also conducted an interview with MAJ Mark Geraldi on 1 May 2006. MAJ Geraldi served as the chief of operations and plans for Gulf Region South (GRS) from 1 August 2004 to 19 June 2005.

The thesis will use an interview conducted by Laurence Lessard with MAJ James Schreiner on 16 November 2006. MAJ Schreiner served as the lead engineer planner for Combined Forces Command-Afghanistan (CFC-A) from January to May 2005 and then as the chief of construction for CFC-A from June to December 2005.

Laurence Lessard also conducted an interview with MAJ Wayne Sodowsky on 29 August 2007. MAJ Sodowsky served as the battalion civil-military operations (CMO) officer for 3rd Brigade, 1st Armored Division in 2003 after the end of major combat operations.

The thesis will use an interview conducted by Dr. Chris Ives with MAJ Dale Snider on 23 February 2006. MAJ Snider served as a Forward Engineer Support Team-A (FEST-A) leader in Afghanistan. The interview does not give the exact time frame for MAJ Snider's deployment to Afghanistan.

Dr. Chris Ives conducted a useful interview with MAJ Thomas Verell Jr. on 22 February 2006. As aide to then Major General(MG) Carl Strock who was later promoted to Lieutenant General (LTG) and became the Chief of Engineers, he was uniquely poised to witness the initial struggles of the Office for Reconstruction and Humanitarian Assistance (ORHA).

The author has also utilized select e-mail questionnaires to gather more information. The author was only able to find limited information on the role of the 249th Engineer Battalion (Prime Power). MAJ Dennis McGee was a company commander in this battalion and had experiences in both Iraq and Afghanistan working to restore electricity in both countries. The e-mail interview provides some good insight based on MAJ McGee's experiences in Iraq early in OIF.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter provides an overview of the method the author will use to answer the research question. This thesis will utilize a qualitative approach to answer the proposed research question. It will utilize a six-step process. The steps are listed below:

Step 1: Define current U.S. Army and Engineer concepts of stability operations.

Step 2: Determine current doctrinal missions for USACE in stability operations.

Step 3: Determine the organization of USACE for stability operations.

Step 4: Determine how USACE is supporting current stability missions in Iraq and Afghanistan.

Step 5: Evaluate USACE performance in stability operations based on the nine USAID principles for reconstruction and development.

Step 6: Re-evaluate research question and make determinations and recommendations.

Step one will look at current U.S. Army and Engineer doctrine to establish the doctrinal role of USACE as envisioned by the U.S. Army and the Engineer Regiment.

FM 3-0 (February 2008) defines Stability Operations as: "...various military missions, tasks, and activities conducted outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief "(FM 3-0 2008, 3-68). The FM further divides stability operations into five primary stability tasks. These tasks are establish civil security, establish civil control, restore essential services, support to governance, and

support to economic and infrastructure development. The tasks which USACE is primarily concerned with are restore essential services and support to economic and infrastructure development.

FM 3-07, *Stability Operations* (October 2008), contains more in-depth information on this aspect of full-spectrum warfare. It further breaks stability operations into three stages. These are the stabilization stage, the reconstruction stage, the development stage. FM 3-07 describes the stabilization stage as “characterized by a lack of civil control and services” (FM 3-07 2008, 4-1). In this stage, military forces work to save lives and protect key infrastructure in order to restore order and security to an area and prevent the rise of criminal elements. The reconstruction stage begins once civil organizations are functioning but the national government is not yet capable of sustaining peace. During this stage, military forces work to perform tasks that the national government is not yet capable of performing. The third stage, development, begins when the government is capable of functioning on its own and U.S. forces can begin the transfer of security and other tasks to the host nation (FM 3-07 2008, 4-1 – 4-2). USACE plays a role in all stages of stability operations, but is primarily involved in the reconstruction stage. The thesis will also begin to lay the framework of current stability missions. It will focus on current events in Iraq and Afghanistan and USACE’s role in stabilization.

FM 3-34, *Engineer Operations* (January 2004), is the Engineer Regiment’s equivalent of Army FM 3-0, *Operations* (February 2008). FM 3-34 states that “[t]he USACE mission covers the full spectrum of operations” (FM 3-34 2004, 3-59). Doctrine further breaks the USACE mission down to five major functions. This thesis will only

focus on one of these functions. This is “...provide full-spectrum engineering and contingency support” (FM 3-34 2004, 3-59). Step one will also review guidance from senior Engineer leaders such as the USACE Campaign Plan to determine how current Engineer leaders perceive the role of USACE in stability operations.

Step two will determine current doctrinal missions for USACE in stability operations. This step will analyze the newest Campaign Plan developed by the Chief of Engineers in order to determine his vision for future requirements of USACE. It will also look at current USACE organization and how it is oriented to support various combatant commanders throughout the world.

FM 3-34 states that “[t]he Chief of Engineers has aligned USACE divisions with combatant commanders as they reinforce and extend the capabilities of the Regiment. This relationship with the combatant commander allows direct access to USACE resources to support engagement strategies and wartime operation” (FM 3-34 2004, 3-59). FM 3-34 further elaborates on USACE capabilities, stating:

USACE capabilities include access to the expertise of the seven Engineer Research and Development Centers (ERDCs) and all of the resources within the divisions, districts, and other sources. USACE is the primary proponent of FFE [Field Force Engineering] which enables the Engineer battle space functions. FFE is provided through deployed tactical engineer units and USACE personnel (deployed and at their home station) (FM 3-34 2004, 3-60).

During step three, the thesis will detail how USACE organizes to perform the missions that its doctrine states it is supposed to perform.

Step three will describe the organization of USACE for stability operations. It will explain and discuss how Engineer Districts are organized and how these concepts are applied when working in stability operations.

Step four will introduce the two case studies to draw together the concepts laid out in the initial three steps. It will specifically focus on current Gulf Region Division (GRD) operations in Iraq and Afghanistan Engineer District (AED) in Afghanistan and provide a broad overview of how the operations developed as well as how USACE support to these operations has evolved. It will use this to develop an understanding and context for the environment in which individual projects are taking place.

Step five will evaluate the results of operations in Iraq and Afghanistan. In order to do this, the thesis will evaluate operations in each country using the USAID principles for reconstruction and development laid out in Appendix C of FM 3-07 (October 2008). This is the first time these principles have been included in U.S. Army doctrine. The thesis will attempt to determine how well USACE is meeting these principles in each country. The nine principles are,

1.) *Ownership*- sets conditions for success by allowing the host-nation to establish and drive its own development priorities. It encourages the host nation to take control of its own destiny.

2.) *Capacity building*- strengthens the host-nation by passing on technical knowledge and skills to the local populace.

3.) *Sustainability*-builds projects that have an enduring impact on the host-nation long after the project has been completed.

4.) *Selectivity*-allocates funds based on three criteria: humanitarian need, foreign policy interests of the United States, and the commitment of the country and its leadership to reform.

5.) *Assessment*-conducts comprehensive assessment of host-nation conditions before designing and implementing a reconstruction program.

6.) *Results*-using resources to achieve clearly-defined, measurable and strategically-focused objectives.

7.) *Partnership*-outside organizations cooperate with host-nation organizations at

all levels.

8.) *Flexibility*-shows ability to adapt to changing conditions on the ground.

9.) *Accountability*-designs systems that are transparent and free from corruption (FM 3-07, 2008, C-1-C-8).

Each step will draw some examples from both countries to illustrate how USACE is or is not meeting the specific principle. In conducting this comparison, the author will also attempt to determine if the shortcomings were a result of the organization of USACE.

Step six will be covered in chapter five, which revisits the nine principles and contains an overall summary of the lessons learned from the research. The thesis will also answer the research question and explain the rationale for this answer. It will conclude by making recommendations for future improvements.

CHAPTER 4

ANALYSIS

Step 1: Define current U.S. Army and Engineer concepts of stability operations.

Although U.S. Army doctrine for stability operations is evolving, most of the newly published doctrine supports the concept that USACE will be an integral part of stability operations. In FM 3-0, Operations (February 2008), which is one of the U.S. Army's capstone documents, stability operations are described as follows:

Stability operations encompass various military missions, tasks, and activities conducted outside the United States in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential government services, emergency infrastructure reconstruction, and humanitarian relief (FM 3-0 2008, 3-68).

FM 3-0 then describes the primary stability tasks which U.S. Army forces should focus on in order to conduct stability operations. These are: civil security, civil control, restore essential services, support to governance, and support to economic and infrastructure development. FM 3-0 also highlights that "[s]tability operations require the absence of major threats to friendly forces and the populace" (FM 3-0 2008, 3-74). Although this is the ideal condition, recent experience shows that stability operations may be required in an environment with significant threats.

The manual then describes how these five Army stability tasks are matched with U.S. Department of State technical sectors. These five sectors are security, justice and reconciliation, humanitarian assistance and social well-being, governance and participation, and economic stabilization and infrastructure. FM 3-0 emphasizes that U.S. Army operations are designed to create conditions that allow a host-nation and other

civilian agencies to perform these tasks, but that when these elements cannot, the U.S. Army may fill the void. FM 3-0 does not specifically address which U.S. Army units are responsible for performing these tasks.

Recent experiences have also shown that during stability operations units may be required to fight a counterinsurgency. A vital part of success in a counterinsurgency is building the capabilities of host-nation forces so that they can provide security for their own citizens. These forces will need buildings and infrastructure for training and housing (FM 3-24 2006, 6-55-6-57). Although FM 3-24 emphasizes that the host nation should perform the work, if the host-nation does not have the capability then USACE can work to fill this gap until the host-nation is able to perform the work on its own.

The U.S. Army has provided additional guidance on stability operations in the position paper published on 1 June 2008, *Stability Operations in an Era of Persistent Conflict*. This paper states that it “articulates and interprets the myriad guidance involving stability operations and serves as an Army position to coordinate with the Office of the Secretary of Defense (OSD), the joint, interagency, intergovernmental and multinational (JIIM) community and private sector organizations” (U.S. Army, 2008). This paper also emphasizes the importance of stability operations throughout our nation’s history as well as the fact that it will continue to be an important part of future conflicts.

The position paper goes on to explain that U.S. Army requirements for stability operations will be different from those of conventional conflicts. “Military police, medical, signal, engineer and other CSS¹ capabilities will be needed to provide

¹ The position paper uses the old terminology rather than the new war-fighting function of sustainment.

infrastructure services until civilian capabilities can be restored” (U.S. Army, 2008). The paper also describes some of the capability gaps the U.S. Army has identified, particularly in its ability to “...conduct appropriately scaled repair/restoration operations as an initial response to provide essential services (e.g. electricity, telecommunications, waste treatment) or to facilitate economic activity (e.g., port dredging, railway repair, indigenous enterprise creation)” (U.S. Army, 2008).

FM 3-07, *Stability Operations* (October 2008) provides even more detail on how U.S. forces should conduct stability operations. It goes into a broader description of the essential stability tasks laid out in FM 3-0 and breaks each task down into further sub-tasks. Most USACE activities fall under the “support to economic and infrastructure development” task. The sub-tasks which most involve USACE are restore transportation infrastructure and support general infrastructure reconstruction programs. FM 3-07 states that “[g]eneral infrastructure reconstruction programs focus on rehabilitating the state’s ability to produce and distribute fossil fuels, generate electrical power, exercise engineering and construction support and provide municipal and other services to the populace. The United States Army Corps of Engineers and Field Force Engineering have the expertise to support host-nation capacity building in many of these areas” (FM 3-07 2008, 3-71).

FM 3-07 also mentions the Forward Engineer Support Teams (FEST), which are part of USACE and states that they provide “... detailed infrastructure reconnaissance in the operational area. These efforts are central to understanding the needs of the state and prioritizing projects and programs” (FM 3-07 2008, 3-72). This highlights the key role that the U.S. Army envisions for USACE in providing an early and effective assessment

of the condition of a countries infrastructure and other key facilities. This initial assessment can have a significant impact on early decisions that will be critical to the success of the entire operation.

FM 3-34, Engineer Operations, gives the Engineer Regiment's perspective on stability operations. It is important to note that Engineer Operations was last updated in 2004, while the newest FM 3-0 and FM 3-07 were published in 2008. The ideas therein are similar to those described in FM 3-0, however, FM 3-34 goes on to describe the engineer functions that support it. It also emphasizes that all five engineering functions, mobility, countermobility, survivability, geospatial and general engineering are conducted simultaneously during this phase. According to FM 3-34, "[p]reparing for stability operations is more difficult than preparing for combat operations because of the broad range of potential missions engineers are expected to participate in during stability operations" (FM 3-34 2004, 8-34). It highlights how critical the initial on-the-ground assessment is to ensure the proper engineer assets are brought into theater. FM 3-34 also describes some tasks where USACE may play a key role. These are infrastructure and facilities assessment and contracting officer representative (COR) capabilities. Just as FM 3-07 recognizes the importance of USACE in assessment it is also clear that the Engineer Regiment understands its role in this critical portion of stability operations.

The main document from USACE on its role in support of U. S. Army operations is Engineer Pamphlet (EP) 500-1-2, *USACE Support in the Theater of Operations* (October 1995). This is the only reference from within USACE that describes how the organization supports units within a theater of operations. This publication was last

updated in 1995, so many of the terms and concepts are dated. However, since USACE doctrine has not been updated in recent years this is the best guidance available on

USACE support to contingency operations. In the introduction, the publication states:

As a supporting Army major command (MACOM), it is not possible for the U.S. Army Corps of Engineers (USACE) commander to provide absolute guidance to USACE commanders on operating in the theater of operations. This pamphlet is intended to provide USACE subordinate commanders and their planning and functional staffs with a reference document to assist in preparing to support OCONUS military contingency operations at the operational level of war and within operations other than war (OOTW). (EP 500-1-2 1995, 1-1)

This statement also shows some of the challenges the USACE commander faces such as overseeing a vast organization with widespread missions both CONUS and OCONUS.

EP 500-1-2 highlights that it is a command responsibility for USACE commanders to be prepared to support U.S. Army units deployed for contingency operations. The EP highlights the importance of being prepared to deploy rapidly and envisions that future operations may require an even more rapid response. It highlights that USACE division and district commanders must continue to train and prepare for this reality (EP 500-1-2 1995, 6-2).

Step 2: Determine current missions for USACE in stability operations as described in doctrine.

The Chief of Engineers, LTG Robert Van Antwerp, updated the USACE Campaign Plan in May 2007. This plan was originally developed under the previous chief, LTG Carl Strock and published on 16 June 2005. The plan recognizes that USACE will continue to support the Global War on Terror (GWOT), as well as the

importance of continued interagency coordination. The plan lays out several goals for USACE. The first directly relates to stability operations.

Support Stability, Reconstruction and Homeland Security operations. Shape and institutionalize USACE capabilities for Stability, Reconstruction, and Homeland Security, to provide the Nation with highly adaptable and effective engineer and technical support for joint, combined and interagency/intergovernmental operations, responsive to the National Strategies and interests during peace and war, wherever needed in both domestic and international venues (USACE,2007).

These goals are further broken down into three sub-goals which have recently been modified.

1a: Improve capabilities, responsiveness and readiness of USACE to support all-hazard full-spectrum contingency operations (Readiness XXI).

1b: Formalize and improve USACE and Theater Engineer Command roles and execution in supporting COCOM activities, as well as DOS, USAID, DHS and other federal agencies as required.

1c: Institutionalize Engineer mission and technical support roles and responsibilities at the Department and National level for contingency operations domestically and abroad (USACE,2007).

The plan then describes how the organization will meet these goals by developing as a learning organization with an expeditionary mindset, as well as by forming strategic alliances with various interagency/intergovernmental organizations. The campaign plan does not address specifics, but does parallel U.S. Army doctrine which envisions robust engineer requirements in stability operations.

FM 3-34 discusses the role of USACE across the spectrum of conflict. It states “[t]he Chief of Engineers has aligned USACE divisions with combatant commanders as they reinforce and extend the capabilities of the Regiment ...The USACE mission covers the full spectrum of operations...” (FM 3-34 2004, 3-59). USACE is organized into

divisions to better align its duties with regional responsibilities. In order to provide support to geographic combatant commands and subunified commands, USACE is aligned in the following manner:

- United States Forces Korea supported by the Pacific Ocean Division through the Far East District – Seoul, South Korea

- United States Forces Japan supported by the Pacific Division through the Japan District- Camp Zama, Japan

- Pacific Command (PACOM) supported by the Pacific Ocean Division through the Honolulu District- Fort Shafter, Hawaii

- Southern Command (SOUTHCOM) supported by the South Atlantic Division through the Mobile District- Mobile, Alabama

- EUCOM supported by the North Atlantic Division through the European District- Wiesbaden, Germany

- CENTCOM supported by Transatlantic Programs Center-Winchester, Virginia.

(FM 3-34 2004, I-5).

The North Atlantic Division is also responsible for AFRICOM through EUCOM. USACE appears to have recognized its role in future operations throughout the spectrum of conflict and has aligned itself accordingly in order to be responsive to the needs of the U.S. Army.

Step 3: Determine the organization of USACE for stability operations.

USACE supports operations as needed based on the alignment described in step two. USACE does have on-going missions to support military construction and civil-

works both within the United States and abroad so soldiers and civilians must be drawn from their existing jobs within the organization to support contingency operations.

EP 500-1-2 provides a description of how USACE elements are organized once they deploy to a theater of operations. It states that the Engineer Command (ENCOM) commander is the senior U.S. Army engineer in theater and that USACE may be required to deploy elements to expand the ENCOM capabilities. The USACE forward organization can be placed under the operational control (OPCON) of the ENCOM or a USACE forward element can provide administrative support² for an ENCOM forward team. EP 500-1-2 also makes three points about USACE districts and the support they can provide. These are:

- (1) USACE districts are not structured to provide command and control for troop units³.
- (2) USACE can provide augmentation teams to troop units and engineer unit headquarters.
- (3) USACE can provide administrative support to early deploying engineer cells (such as those from an ENCOM) (EP 500-1-2 1995, 5-3).

The fact that USACE is primarily a civilian organization can create problems when deploying in support of combat operations. EP 500-1-2 highlights this in its discussion of unit readiness. It states, “[t]hat USACE exists and has written guidance does not mean that it is ready” (EP 500-1-2 1995, 6-4). USACE has major on-going mission to support military construction and civil works within the United States.

Whenever assets are needed to support missions in a combat environment they must be

² EP 500-1-2 states “ [t]he USACE forward element may be requested to provide administrative support for that forward deployed ENCOM team”(EP 500-1-2, 5-4). Although administrative support is neither a command or support relationship the EP is probably referring to administrative control.

³ USACE districts do not have the capability to command and control maneuver engineer units.

taken from current on-going missions and must rely in large part on volunteers. Because they are volunteers, employees may be limited in the amount of time they remain in theater. This can create manpower shortages, particularly, over long periods of time.

EP 500-1-2 also provides basic guidance on how USACE should organize when deploying to a combat or stability environment. It states that if there is not a district headquarters within the area of operations that the district commander will designate a forward commander. The publication is not clear which district commander will appoint the forward commander but it is most likely that this would be based on the alignment described in step two. EP 500-1-2 highlights the importance of tailoring the forward organization to meet the mission needs. It also emphasizes the office must be self-sustaining. Therefore, the office will need to bring its own equipment or acquire it locally(EP 500-1-2 1995, 6-46).

The variety of customers within a theater also creates “...a significant liason and support requirement. Coordination with engineer troop commanders, Army component staff and CINC⁴ or JTF staff are essential for USACE mission accomplishment” (EP 500-1-2 1995, 6-3). The pamphlet also suggests that there may be a requirements for a support cell to operate directly with the engineer unit in the area of operations in order to maintain proper coordination and communication with the units on the ground. This highlights the importance of partnership and the need for USACE to provide sufficient resources to this effort.

USACE uses a similar structure to the one it uses in the United States when

⁴ Another example of outdated terms in older doctrine. Commander-in-Chief (CINC) is the old terminology for combatant commander (COCOM).

supporting stability operations. Field offices in theater typically operate in the same manner that they operate at home. Depending on the size of the mission, USACE may stand up a division or a district. A division is typically commanded by a brigadier general while a district is commanded by a colonel. The basic unit of the district is the resident office. Resident offices vary in size depending on the area covered. They are typically led by a resident engineer who may be a military officer or civilian. Resident offices are responsible for monitoring projects within a given area. Typically a project is assigned to a project engineer and quality assurance representative (QAR or QA). The project engineer is primarily responsible for ensuring the contractor is managing the project properly while the QAR is responsible for monitoring the quality of construction. For more complex projects, USACE may also assign a project office which offers a more robust staff. USACE established project offices for large projects such as the Beyji power complex in Gulf Region North (GRN) (Korth, 2006).

An area office oversees several resident offices and is typically led by a military or civilian area engineer. An area office may have a more robust staff with more technical expertise to provide contract and technical support to resident offices. Depending on skills available, resident offices may need to reach back through several levels or back to subject matter experts from their home district within the United States in order to find answers to technical problems encountered in the field.

Another USACE asset which can directly contribute to stability operations is the 249th Engineer Battalion (Prime Power). The Prime Power battalion is made up of a Headquarters and Headquarters Company and two line companies, which have a variety

of capabilities. The prime power battalion is a vital asset in providing emergency generation capability as well as expertise in repairing and upgrading electrical systems.

The primary objective of prime power units during stability operations is to provide power-related technical support and limited interim contingency power generation. Prime power units engaged in stability operations may assist in sustaining operations by powering base camps, participating in peak-shaving operations⁵, or providing temporary power to key facilities, such as hospitals and government centers (FM 3-34.480 2007, 1-12).

This unit is unique within the U.S. Army since it is the only battalion that can provide “continuous, reliable, commercial-grade utility power produced by prime power generators” (FM 3-34.480 2007, 1-3).

The forward engineer support team-advance (FEST-A) or forward engineer support team-main (FEST-M) is another vital asset that USACE can provide in stability operations. The FEST-M is a “...deployable USACE organization that executes the USACE mission in the AO” (FM 3-34 2004, C-5). A FEST-A is deployed to augment existing engineer units and if deployed with a FEST-M will fall under that element. FEST are small teams with specialized expertise based on where they are deployed. Deployable sub-elements of a FEST are a real-property lease team (CREST) and an environmental support team (ENVST). Non-deployable sub-elements are the base development team (BDT) and the infrastructure assessment team (FM 3-34 2004, C-5). Personnel for these units are taken from existing positions within USACE. The position remains vacant while individuals are deployed.

⁵ Peak-shaving involves using generators to reduce the demand for grid electricity during high use periods.

Step 4: Determine how USACE is supporting current stability missions in Iraq and Afghanistan.

During the recent operations in Iraq and Afghanistan USACE has activated two new organizations to support units in Iraq and Afghanistan. These are the Gulf Region Division, activated on 25 January 2004, in Baghdad, Iraq, and the Afghanistan Engineer District activated on 1 March 2004, in Kabul, Afghanistan. These two newest USACE organizations have been heavily engaged in recent military activities in Iraq and Afghanistan. A brief examination of how they came about and have evolved will help place their operations in context.

As part of planning for the Iraq invasion, the Bush administration created the Office of Reconstruction and Humanitarian Assistance (ORHA) in an attempt to coordinate actions by various government agencies from DOD to USAID. This agency was created by presidential directive on 20 January 2003, and headed by Jay Garner, a retired three-star general (Miller, 30-31). One member of Garner's team was MG Carl Strock from USACE. Strock was serving as the director of military programs for USACE. He joined ORHA after acting Secretary of the Army Les Brownlee recommended that Garner bring him into the organization (Verell, 2006).

Strock received initial intelligence briefings on Iraq's infrastructure but the main focus of these briefings was on collateral damage produced by the invasion. The briefings did not anticipate the dilapidated nature of the existing infrastructure or the results of looting (Gordon, 467). Strock also worked "...to formulate how to leverage USACE's resources to best help in the reconstruction and get it integrated into what ORHA's organization was" (Verell, 2006).

Dr. Gordon Rudd who served as a historian for the ORHA during the initial planning for stability operations gives a good sense of the challenges this organization faced.

ORHA was stood up cold in January 2003 and by 16 March 2003 we had 167 people who flew with the main body. There were four or five who had gone forward on an advance party and four or five others who went with some sort of logistical element as the first echelon to go over...So inside of January, February and March 2003, in about two months because it didn't start at the beginning of January , we stood up from a cold start, starting with General Garner" (Rudd, 2006).

The ORHA faced a daunting task in standing up an operation while planning for stability operations. In addition, the Coalition Forces were having military success and Saddam Hussein's regime quickly fell. However, the challenges for ORHA were just beginning. MG Strock was able to enter Iraq on a number of occasions to assess select facilities such as oil wells and some electricity substations, but ORHA did not relocate to Baghdad until 20 April 2003 (Rudd, 2006). Once in Baghdad the true nature of the reconstruction task facing Coalition Forces became apparent as ORHA tried to conduct an overall assessment of the country. MG Strock worked to bring USACE assets forward in the form of FEST-As to assist in the assessment (Verell, 2006).

Garner was soon replaced by Ambassador L. Paul Bremer III. Under Bremer, the ORHA became the Coalition Provisional Authority (CPA). MG Strock continued to be in demand as he focused on Iraqi infrastructure needs and how to leverage USACE resources. He was also tasked to build a directorate of operations for the CPA and to serve as its deputy. His aide MAJ Thomas Verell, Jr. believes the reason senior leadership called on him to undertake such varied tasks was his reputation as a person

who could get tasks accomplished (Verell, 2006). However, these varied demands probably detracted from his ability to coordinate reconstruction efforts.

As the occupation progressed the CPA worked to develop operating procedures. However, Ambassador Bremer never appears to have appointed a lead agency to oversee reconstruction efforts. He let the various organizations ranging from military advisers in ministries to civil affairs soldiers, civilian agencies such as USAID and USACE, perform their separate tasks without any real guidance (Miller,38). During this time USACE was working in Iraq in areas such as Task Force Restore Iraqi Oil and Task Force Restore Iraqi Electricity, as well as with FESTs and Prime Power unit deployments (Wright, 369).

Eventually GRD was formed in 2004, and all of these elements were placed under one command structure. GRD was also further divided into three districts with Gulf Region North (GRN) in Mosul, Gulf Region Central (GRC) in Baghdad and Gulf Region South (GRS) in Basrah. These districts were then divided into area offices and resident offices to allow better management of projects within theater. GRD's initial mission was to support military construction in country as well as to provide construction management expertise for the Program Management Office (PMO). Following the disbanding of the CPA in June of 2004, PMO split and became Iraq Reconstruction and Management Office (IRMO) and the Project and Contracting Office (PCO). Eventually PCO and GRD would merge and GRD would manage all construction in Iraq. The PCO mission would end on 14 October 2006, and GRD would assume responsibility for all remaining projects. As of 05 October 2008, GRD had 99 additional planned projects, 4247 completed projects, 328 projects on-going and 99 projects awarded, but not started (GRD, 2008).

Information on the formation of the Afghanistan Engineer District is much more limited. U.S. and coalition forces achieved quick success in toppling the Taliban in December 2001. Following the fall of the regime, the international community convened a summit in Bonn, Germany, to establish the framework for the new Afghan government. The international nature of the summit was a contrast to Iraq since there was backing from the United Nations (Dobbins, 2005). The summit produced the Bonn Agreement which established a framework for a new Afghan government. It set goals of writing a constitution by the end of October 2003 and holding democratic elections by June 2004 (GAO-05-742, 8).

A year later in December 2002, the U.S. Congress instituted the Afghanistan Freedom Support Act of 2002, which allowed the U.S. to provide more assistance to the government of Afghanistan. The main conduit for this assistance was USAID which worked to provide targeted funds to strengthen Afghan institutions and provide humanitarian and reconstruction assistance (GAO-05-742, 9). It appears that USACE was left out of any initial reconstruction planning for Afghanistan (Trainor, 150).

Progress in achieving stability in Afghanistan remained slow and in Spring 2003 DOD drafted a political-military strategy for the country which did not focus on reconstruction. Significant U.S. efforts did not shift to major reconstruction until October 2003 (GAO-05-742, 10).

Throughout this period, USACE was involved in projects in Afghanistan through both FEST teams and the area office in Kabul. However the Afghanistan Engineer District (AED) was not formally stood up until March 2004. In creating the organization the district utilized the traditional model utilized in both the United States and Iraq with

resident offices and area offices dispersed as required throughout the country. AED has responsibility not only for Afghanistan but also for Uzbekistan, Tajikistan, Pakistan, and Kyrgyzstan, which significantly added to its duties and responsibilities.

Step 5: Evaluate USACE performance in stability operations based on the nine USAID principles for reconstruction and development.

Ownership

The principle of ownership involves getting the host-nation to take charge and establish its own priorities for reconstruction. By doing this, the host-nation takes a stake in the entire process and has an interest in ensuring the overall success of reconstruction efforts (FM 3-07 2008, C-4). However, encouraging the host-nation to take ownership for reconstruction can be a challenge. Since USACE is often in charge of the management of projects, the local populace may tend to feel unconnected to the overall success of a project. In recent operations, USACE initially struggled to develop ownership, but as projects have progressed this has improved.

In the initial planning for the Iraq invasion, USACE was consulted, but did not drive the overall reconstruction planning. Much of this was done by retired Rear Admiral David Nash who lead the effort as the head of the newly created program mangement office (PMO). Nash, who had served as the head of the U.S. Navy Seabee's, was hired away from the firm Bolvig, Edmonds, and Kennedy (BE&K) by the Pentagon. He believed that the best way to help the Iraqi people was to give them a solid infrastructure that would set the conditions for a better future. Nash worked to develop a list of construction projects for ten sectors, the majority of which were large infrastructure projects (Stephenson, 29). These ten sectors were security and law enforcement; justice

and public safety; electric sector; oil infrastructure; water resources and sanitation; transportation and telecommunications; roads, bridges and construction; health care; private sector development; and education refugees and human rights (White House, 2004). James Stephenson, the director for USAID in Iraq from 2004 to 2005, criticized this list of projects stating that he was “...deeply concerned at the heavy concentration of large infrastructure projects that would be slow to develop, generate little employment, and be largely invisible to the average Iraqi” (Stephenson, 30).

Due to the fact that these large projects required technical expertise and equipment that was not available in Iraq, PMO also decided to award most of these large projects to multinational corporations such as Bechtel or Parsons. Another reason Nash did not award construction projects to Iraqi companies was a concern with corruption, as most of the existing companies were state-owned and had Baathist ties (Miller, 117).

The decision to award contracts to multi-national corporations instead of local firms would have a negative impact on the Coalition units operating in Iraq. Even though the corporations would eventually hire local Iraqi laborers, the process took a long time to begin working. MAJ Kip Korth, who served as the GRD liason to the 1st Infantry Division and 42nd Infantry Division from 11 July 2004 to 26 June 2005, discusses the impact of this issue at the tactical level. MAJ Korth specifically highlights the requests from brigade commanders to employ more local Iraqis on the projects in order to stimulate the economy. He states “ [w]e were getting feedback from the day I arrived from the different brigade commanders who were telling us we had to do something different” (Korth, 2006).

As USACE began to take a greater role and receive feedback from commanders in the field, it also worked to get Iraqis more involved. With the creation of Gulf Region Division in 2004, USACE worked to hire more Iraqi engineers and pushed to get more Iraqi input into the construction process. At the lower levels USACE attempted to coordinate with local authorities to encourage ownership. Additionally, USACE began conducting meetings with Iraqi ministries, such as the Ministry for Construction and Housing. These meetings were designed to get more Iraqis involved in the construction process by teaching them some of the technicalities of bidding on United States contracts (GRD, 2004).

In Afghanistan, the international community attempted to create a greater sense of ownership among the Afghan people. The United Nations helped facilitate negotiations during a meeting in Bonn, Germany, following the fall of the Taliban. This meeting included sides from all affected factions in Afghanistan and set the conditions for the creation of an Afghan political system (Donini et al., 46). Major reconstruction projects were not undertaken until later in OEF. Even after reconstruction began, the level of funding remained extremely low relative to the overall needs of the country. Donor countries pledged approximately \$4.5 billion over five years at the Tokyo reconstruction conference in 2002. \$1.8 billion was pledged for 2002 alone, but most went to the United Nations and NGOs with the Afghan government receiving only \$90 million (Williams, 206).

MAJ James Schreiner, who worked in the CJ7 or engineer directorate in Kabul and was the chief of construction for Combined Forces Command-Afghanistan (CFC-A), was well positioned to view overall reconstruction in Afghanistan and witness the sense

of ownership the Afghans had with reconstruction projects. He states that all the Afghans he worked with appeared extremely motivated to improve the country and supported the government of Hamid Karzai (Schreiner, 2006). Dr. Joseph Collins, the deputy assistant secretary of defense for stability operations from July 2001 through July 2004, supports this idea. He states that “[t]here wasn’t this perception that Americans were occupying. Americans were seen as friends of the people. They came in and they ousted the Taliban, which is still very unpopular in most parts of the country” (Collins, 2006).

The fact that the Afghani’s were placed in charge of their own political future may have effected their attitude in other areas, including reconstruction. Anecdotal evidence from MAJ Schreiner would appear to support this. He brings a perspective from both theaters to the discussion. He states that Iraqis tended to look to the United States to take charge and make decisions which may have been due to the centralized nature of Saddam’s regime. On the other hand, the Afghani’s tended to be more pro-active and would make decisions and accept the consequences depending on how things turned out (Schreiner 2006).

Lessons can be drawn from a comparison of the reconstruction planning for Iraq and Afghanistan. With the initial planning for Iraq, the principle of ownership appears to have been ignored. Massive construction projects, while well-meaning, did not have the immediate impact needed on the local populace and large multi-national corporations were slow to hire Iraqis to work on the projects. In Afghanistan, projects were coordinated through local officials and tailored to have a much more immediate impact on the local populace leading to a greater sense of ownership among the Afghans.

USACE , when utilized properly, can encourage a sense of ownership by hiring the local populace and involving them in the management of projects. However, in both Iraq and Afghanistan these organizations were slow to develop, leading to issues with the award and management of reconstruction projects. The confused nature of the initial planning and the award of large contracts to multi-national corporations may have contributed directly to some of the chaos that ensued the invasion, particularly in Iraq. It is important that in the future USACE be brought into the planning process for stability operations as quickly as possible so that the full resources of the organization can be utilized.

Capacity Building

Capacity building is important to setting a country on a path where it no longer needs U.S. support. It involves training local nationals on the skills necessary to maintain their institutions (FM 3-07 2008, C-8). In both Iraq and Afghanistan, USACE has attempted to employ this principle.

In Iraq, GRD was a proponent of capacity-building soon after the division was created in 2004. MG Ronald Johnson, the first commander of GRD, worked with the Iraqi Ministry of Municipalities and Public Works to develop an intern program in June 2004. This effort quickly began to pay dividends with the first group of interns ready to work for GRD by the end of that year (GRD, 2004).

USACE has also held Construction Quality Management (CQM) workshops for Iraqi engineers, which helped train Iraqi contractors to oversee projects to USACE standards and helped ensure that they produce a quality product. It also educated them on some of the requirements when working on government projects (McAleer, 2005).

These actions are beginning to achieve results with GRS working to increase the management responsibility of Iraqi engineers within the district. According to COL Steve Hill, the current GRS Commander, the district already employs 143 Iraqi engineers , but is looking to add almost 25 percent more local engineers. By increasing this capacity, the Iraqis will be able to take control of their long term reconstruction needs with decreasing assistance from USACE (Connor, 2008).

However, it is also important to note the time-lag in the establishment of these programs as compared to the initial invasion. The Hussein regime fell in April 2003, but GRD was not established until January 2004, and many of these programs were not established until over a year later. This represented a period of almost 15 months before USACE was able to meaningfully create an organized capacity-building effort. Although individual units may have been able to impart skills at the lower levels, USACE was not able to fully utilize its capabilities for many critical months in the occupation which may have directly contributed to issues U.S. forces would face later.

USACE has also pushed capacity-building in Afghanistan. This is highlighted in an AED interview with COL John O'Dowd, a former AED commander. O'Dowd compared the differences between 2004 and 2005, and highlighted the fact that in 2004, there were very few Afghan plumbers and electricians but in 2005, there are many more. This was accomplished by getting U.S. contractors to partner with local Afghan companies to help them establish business operations that will help them get larger contracts in the future. O'Dowd also discussed liason programs with the Afghan government where a full-time mentor is placed within a ministry to assist in planning and teaching (Sykes 2005). These efforts have also been successful in Afghanistan where

more local nationals are being hired to work as quality assurance representatives for AED (Rodgers, 2007).

As with Iraq, there was also a time-lag in the push for Afghan capacity-building. The Taliban fell at the end of 2001, but AED was not created for almost two years. Although USACE personnel were in country and working with Afghan personnel a sufficient organization did not exist to fully utilize USACE capabilities and work to teach Afghans technical skills so that they could better run their own country.

In developing its reconstruction programs for both countries, USACE grasped the importance of capacity-building. USACE has numerous subject-matter experts with a wide range of skills that can be drawn on for technical expertise and training. Leaders from both GRD and AED were pro-active in creating programs that would train the local population in the skills necessary to continue their own reconstruction. This early effort to encourage capacity-building is now contributing to success as USACE hires more local nationals and turns the long-term reconstruction responsibilities over to the host-nations.

The main problem of overall capacity-building was the slow method in which it developed. While the resources existed, it took many months after the initial invasion to implement programs that would have a meaningful impact on the local population. This lag may have hindered the overall efforts to restore both countries to normalcy as valuable time was wasted in restoring jobs and a component of stability to both countries.

Sustainability

This principle is focused on developing programs and projects that endure beyond the completion of the project. A project that is sustainable should have a lasting effect on the country for years to come (FM 3-07 2008, C-11).

In Iraq, USACE has pursued large scale projects that will provide returns to the Iraq people for years to come. Under USACE supervision over 4247 projects have been completed since the invasion of Iraq which helped to improve the daily living standards of local Iraqis. In the electricity sector over 4,439 megawatts have been restored to the Iraqi power grid providing more reliable electricity to the local populace. In the oil sector, USACE helped Iraq achieve 3.0 million barrels per day in capacity, 800 million standard cubic feet per day of natural gas, and 3,000 tons per day of liquefied petroleum gas (LPG). These natural resources will continue to contribute to Iraq's prosperity for years to come. In the water sector, USACE has completed projects that treat 0.9 million cubic feet of water per day. This provides clean water to over 4.7 million people within Iraq. In transportation and communication, USACE has completed 235 local road projects, 112 railroad renovation projects, 8 airport improvement projects and 8 port improvement projects. In health and education, it has completed 125 primary health centers, 41 hospital renovations, and 1,089 school renovations. These projects will contribute to the well-being of the local populace and their children for years to come. In the security and justice sector, USACE has completed 155 border posts, 14 port of entry facilities, 97 fire stations, 48 courthouses and 6 correctional facilities (GRD, 2008). These projects will continue to assist the local populace and set the conditions for the future success of the country and its government as U.S. and coalition forces continue to reduce their footprint within the country.

USACE is also focusing on sustainability in Afghanistan. Under the Afghan National Security Forces (ANSF) Program, AED has constructed numerous self-sustaining facilities for both the Afghan National Army and Afghan National police. It

has awarded and managed over \$1.86 billion projects under this program that will directly contribute to Afghanistan's future security. It has also awarded and managed \$158 million in projects as part of the Counter-Narcotics/ Border Management Initiatives Program (CN/BMI) that include border crossings a National Investigative Unit, a Judicial Center and Joint Aviation Facilities. As part of the Commander's Emergency Relief Program (CERP), AED has conducted water management studies and constructed over 1219 km of roads that will directly contribute to Afghanistan's future prosperity (AED, 2008). Another major undertaking that will directly contribute to the Afghan economy is a bridge connecting Afghanistan to the neighboring country of Tajikistan. This \$37 million project opens a trade route between Afghanistan and its neighbor and will contribute to Afghan prosperity (Rodgers, 2007).

In both Iraq and Afghanistan, GRD and AED focused on sustainability. When planners in both countries developed reconstruction projects, they did focus on projects that would have a lasting impact on both countries by improving the infrastructure and means to sustain the economy. GRD undertook a wider range of projects across numerous sectors and had far more resources and particularly funds to perform this work as discussed in section four. The main reason for this was the emphasis placed on reconstruction after the initial invasion. In Iraq, the U.S. focused its priorities on reconstruction quickly and over \$18 billion was appropriated by the U.S. Congress for this task, while in Afghanistan the mission was slower to develop and reconstruction was not the primary focus. When projects were undertaken in both countries, the focus was on projects that would have a direct impact on the local populace and set the country on a

path towards prosperity. In adhering to this principle, both GRD and AED have effectively followed the principle of sustainability.

Selectivity

The principle of selectivity is based on three requirements: humanitarian needs, U.S. foreign policy interests, and the commitment of the host-nation to reform. Selectivity also recognizes that resources are scarce and that funds and personnel should be allocated where they can have the greatest impact (FM 3-07 2008, C-13).

In Iraq, USACE initially attempted to follow the principle of selectivity. Planning prior to the invasion was initially focused on humanitarian assistance to an expected massive surge in refugees. However, when this failed to materialize planners began to evaluate how to repair Iraq's infrastructure (Verrell, 2006). In conducting its assessment, the primary areas where CPA determined to use USACE resources were the two task forces, Restore Iraqi Oil (RIO) and Restore Iraqi Electricity (RIE) (Wright, 371). While the restoration of electricity was of primary importance to restoring Iraq to normalcy, the selection of the restoration of oil as another priority is more questionable when applying selectivity. Ambassador Bremer states that "[o]ne of his first economic priorities was getting crude oil and fuel production running again" (Bremer, 61). This rationale does make sense when looking at the the long-term economic prosperity of the country, however, restoration of oil was not an immediate humanitarian need. While the primary focus of USACE efforts were on these tasks, maneuver units were required to conduct various reconstruction missions throughout the country with limited support (Wright, 368).

RIO may fit the second aspect of selectivity which relates to U.S. foreign policy interests. Since oil is an important aspect of the U.S. economy a continued steady supply is in the country's national interest. However, in hindsight a successful transition to stability operations and stable and secure situation on the ground was more important to U.S. foreign policy interests. By focusing scarce resources on these needs, the CPA and USACE ignored other critical areas.

MAJ Dennis McGee, who commanded Alpha Company of the 249th Engineer Battalion (Prime Power) and was deployed to Iraq from October 2003 to April 2004, highlights an incident where his unit was unable to provide support to a "high pay-off target" due to competing demands and lack of resources. MAJ McGee discusses a visit to he made to a small village outside Balad:

[It was] ...used to house the families and workers of the former Iraqi airbase. The village had water and wastewater treatment plants, school, police stations and many other municipal buildings that were vacant and not operating. For the most part they needed minor fixes to get them up and running. The village was probably only 25-30% populated as most of the folks had left during the invasion. If enough time and money was available we could've brought the majority of these facilities on line, however, at that time we were limited in the amount of support we could provide outside of the airbase and we didn't have enough of our own crew served weapons and security vehicles to take on the operation (McGee, 2008).

Although there is no direct evidence that focus on the oil sector detracted from the ability of USACE to supply assets for this village. The fact that USACE was extremely focused on massive economic and infrastructure projects while the Iraqi populace needed much more limited and immediate help, points to a need for a better focus on selectivity in the future.

It is also unclear if there was any significant commitment by the Iraqi's to reform which would be consistent as detailed in the third principle of selectivity. In his autobiography, Ambassador Bremer discusses issues the CPA encountered when attempting to manage the country's oil infrastructure. He details numerous issues of smuggling of oil and sabotage of the electrical system. These constant problems created a significant strain on the ability of the government to fund itself. However, the Iraqi government and its people seemed unable or unwilling to do anything about these issues (Bremer, 110-111).

In Afghanistan, the amount of funds allocated to the country was smaller and required the United States and USACE to use greater selectivity. Due to the limited resources available, USACE initially focused on quick-impact and humanitarian assistance projects. As the mission in Afghanistan expanded, the focus shifted and the USACE effort shifted to infrastructure reconstruction. Due to the dilapidated nature of the country's infrastructure, this was deemed a crucial piece in the overall rebuilding process and in a return to normalcy for the country. The overall feeling was that there was much more support from the local populace on these projects since they felt they had a stake in their country's future (Collins, 2006).

USACE needs to do a better job of applying the selectivity principle. While USACE has the capability to conduct oversight on numerous types of projects it is primarily constrained by the number of personnel available to perform these missions. Since it must rely heavily on volunteers from other jobs within USACE, the pool of personnel that is available to deploy in support of stability operations is constrained. By

focusing on selectivity and prioritizing projects, personnel may be concentrated on the most important projects so that they can be completed in the most efficient manner.

Assessment

Assessment involves conducting proper analysis of conditions on the ground before initiating programs. It is important that units conduct a proper assessment before determining how to spend scarce resources (FM 3-07 2008, C-14). USACE is an extremely important component of assessment and it is the only organization within the DOD with the technical expertise to assess infrastructure. The primary means of harnessing this expertise is through the FESTs, which conduct on the ground assessments. Members of a FEST can also utilize resources at their home location to answer difficult technical questions.

Prior to the invasion of Iraq, USACE was slow to become fully involved in assessment. The primary proponent in conducting assessments was the Office for Reconstruction and Humanitarian Assistance (ORHA). MG Strock was the USACE representative. His comments about the focus of planning give some key insight into the overall nature of the assessment that was performed prior to the invasion. He stated:

Our whole focus on our reconstruction effort was really not to go in and fix this country, but to fix what we broke...And we sort of made the assumption that the country was functioning beforehand. I had a dramatic underestimation of the condition of the Iraqi infrastructure, which turned out to be one of our biggest problems, and not the war damage (Gordon, 151).

As the invasion progressed and forces flowed into country, units actually began to get a look at the condition of the infrastructure. USACE supported these assessments through use of FESTs. However, a key concern initially for these teams was assessing

the infrastructure for housing U.S. Army forces, instead of the Iraqi infrastructure. MAJ Ed Chamberlayne, who was the head of one team in Iraq from July to October 2003 , states that his team was the only military FEST in country and that they spent a lot of time travelling throughout Iraq to numerous base camps. His primary focus was “establishing base camps and focusing on the infrastructure that supports the military forces in country (Chamberlayne, 4).

It is difficult to determine the full extent of CPA’s assessment capabilities immediately following the invasion. There is some anecdotal evidence that there were other civilian FESTs within country that were responsible for assessing the Iraqi infrastructure (Chamberlayne, 2006). But the disorganized nature of ORHA and later the CPA most likely presented these assessment teams with numerous challenges. COL (Ret.) John Martin, who served in ORHA from March to August 2003, provides some perspective on the capabilities of ORHA during this time-frame. He states that ORHA was supposed to “ ...go out and find the ministries, find the ministry people, and work with the ministry people to help them reestablish their services. We didn’t have the troops to do that. Many of our ORHA folks, CPA to a certain extent but clearly ORHA folks, took a pretty huge risk in going out in the community with soft-skinned vehicles with limited protection” (Martin, 9-10).

In Afghanistan, the FESTs also provided a critical component of the assessment of facilities and infrastructure. At the start of OEF, most of the commanders on the ground were not aware of the FEST or its capabilities but as operations continued they became aware of the element and its capabilities and began to request its support. However, there was only one FEST team in country at any one time which was extremely

busy conducting assessments throughout the country. There were also some problems that restricted its ability to operate. First, the teams did not have organic transportation capabilities or security and relied on other units for these items. Also the process for requesting the team was chaotic, with requests coming via e-mail and word of mouth from other engineer units. The FEST team leader was responsible for prioritizing these requests with the assistance of the C7 (Snider, 2006).

USACE is a key asset in the assessment portion of stability operations. The FESTs are its primary means to support this action. These teams proved invaluable in both Iraq and Afghanistan. However, their primary focus initially was on assessing conditions of infrastructure to support military units coming into country. Assessment of the local conditions appears to have been a lower priority task and one which the FESTs found difficult to execute due to numerous demands and lack of resources. While, the FESTs did excellent work they appear to have been overtasked in both countries which directly impacted the U.S. military's ability to conduct a thorough assessment of conditions on the ground. This limited ability to assess can also have a direct impact on other principles of reconstruction, particularly selectivity.

Results

Of the nine principles for reconstruction and development, this is probably one of the most difficult to evaluate. FM 3-07 states that achieving results involves directing resources to "...achieve clearly defined, measurable, and strategically-focused objectives" (FM 3-07 2008, C-17).

To measure results, USACE tends to measure the amount of construction funds spent and the number of projects completed. While this metric may be clearly defined

and measurable it is not necessarily strategically focused. USACE can award contracts and build projects but its record on achieving strategic results can be mixed. Determining results should be tied to measures of effectiveness and measures of performance.

USACE tends to measure its results using measures of performance such as projects completed and funds spent. Measures of effectiveness, whether projects are having the desired effect, can be much more difficult to gauge and take longer to develop. LTC Brian Dosa argues in his U.S. Army War College Research Project that the U.S. Army should "...establish a system of metrics that will allow leaders to measure progress based on improvements to basic services, both at the local and national levels, in cooperation with host nation officials and engineers" (Dosa, 13-14).

By most measures of performance, GRD is achieving results in Iraq. The GRD web-site contains hundreds of press releases highlighting completed projects. MAJ Mark Geraldi, who served as the Chief of Plans and Operations for GRS from 1 August 2004 to 19 June 2005, discussed the numerous successfully completed projects for his district. These included police stations and border posts as well as multiple schools built for the education sector. He also mentioned the fact that while these projects were on-going the amount of insurgent attacks tended to decrease (Geraldi, 2006, 12).

But MAJ Geraldi also provides an example of a project in southern Iraq that shows the difficulty of measuring results simply by using one measure of performance. He discussed a \$70 million power plant built near Al Amarah, which was extremely modern but involved a complicated process to keep running and also required special fuel. USACE spent over \$70 million and completed this project but the plant was still not working when he departed. Although USACE achieved results by one measure of

performance, the complicated plant was not effective in supporting the local populace and does not appear to have achieved the desired results (Geraldi 2006).

There are also examples of USACE's failure to achieve results. The most high-profile example involves the building of primary health-care centers across Iraq. USACE awarded the \$200 million contract in 2004 to the California construction company, Parsons Corp. The project was to provide Iraq with 151 state of the art health-care facilities. The projects quickly encountered problems with debates between the locals and contractor over site location and numerous other contract disputes. Additionally as the security conditions deteriorated, the security costs increased. USACE ultimately had to terminate the contract and is still in a dispute with the contractor over the number of clinics actually completed. The incident has proved costly to the U.S. government and delayed the overall rebuilding of Iraq (Northam, 2007). The AED web-site highlights numerous examples of USACE achieving results in Afghanistan. Due to the slow development of Afghan reconstruction, AED does not appear to have experienced the high-profile project failures that GRD encountered. However, there have been some setbacks in achieving results for AED. One example is the initial difficulties with the construction of the 300-mile highway to connect Kabul and Kandahar. This road was funded primarily by USAID and was supposed to be a primary cornerstone of the U.S. reconstruction effort. However, the project was constantly under attack by gangs and Taliban militants causing the efforts to be severely slowed and damaging the overall effort in the eyes of the average Afghan (Orr, 256).

As the experiences in Iraq and Afghanistan show, USACE has achieved clearly defined results based on the established measures of performance of funds committed and

projects completed. There have been a few documented setbacks particularly in regard to the health centers in Iraq. Much of this was due to the hasty nature of project awards and unforeseen security costs. Afghanistan appears to have largely avoided these major mistakes due to the more limited scope of reconstruction projects. Quantifying the measures of effectiveness of these results is more difficult and it is still early to judge how effective the reconstruction operations have been in achieving results in both countries. Only as both countries achieve long term stability will the true results of reconstruction efforts become fully known.

Partnership

The partnership principle fits closely with current Army concepts for JIIM and stresses the importance of all elements of government working together with the host-nation and other partners to achieve the best outcome (FM 3-07 2008, C-20).

In Iraq, USACE appears to have quickly realized the importance of partnership in winning over the Iraqi people. MAJ Geraldi discussed GRS and integrating Iraqis when trying to solve problems. He also stated that the State Department later made it mandatory that leaders interface with Iraqi ministers monthly (Geraldi 2006).

MAJ Korth highlights a good example of partnership in GRN. His unit established a regional reconstruction operations center (RROC) to monitor projects within 1st Infantry Division's area of operations (AO). He describes the numerous groups working within this center.

We had a project and contracting office (PCO) representative in there too. We also had a USAID representative. She really worked for the Office of Transition Initiatives (OTI). We also had a State Department rep who served as a political advisor to the division commander...With PCO came Aegis, a security and intelligence operation, and they were to provide security for contractors, as in the intel picture, tracking movements and being

able to coordinate with the contractors as they came in to provide them with any liason they needed as far as emergency services...You had all the major reconstruction effort right there in the 1st Infantry Division RROC. You had Corps of Engineers, Department of State, USAID and you had PCO, plus their security detachments (Korth, 2006).

LTC Bud Jones who served as the area engineer of the Tikrit Area Office in GRN highlights an example of a partnership failure. When asked in an interview about coordination of reconstruction efforts, he discusses an example of issues in his area where schools were rehabbed numerous times due to a lack of coordination. Different organizations were not communicating and funds were allocated toward the same project numerous times. He does go on to state that this process improved as GRD became more established (Jones, 2006).

MAJ Kip Korth also mentioned some problems with the partnership portion, particularly with regards to using local workers to perform construction activities. Since many of the initial contracts were awarded to large multi-national companies, they did not always utilize local labor to perform the work. He also discussed how brigade commanders were giving him feedback that locals should be performing the work. By allowing locals to perform the work the security situation in an area would improve since the local populace wanted to receive payment and needed to be working on a project to do so. Additionally, local sheiks would have an interest in keeping the site secure since overall it benefited their area (Korth 2006).

MAJ James Schreiner also discussed his time in Afghanistan where he worked as part of Combined Forces Command-Afghanistan (CFC-A) as in the CJ7 or engineer directorate. Although he was not working for USACE directly he was very involved in coordination with the AED. He worked as a liason to the Afghan Ministry of

Transportation and worked with the minister and subordinates of other ministries. He discusses the motivation of the Afghans and their desire to rebuild their country. He also gives some insight into the enormity of the undertaking in Afghanistan. “Everybody names it Afghan *reconstruction*, but I will argue that it’s Afghan *construction*. Reconstruction is a misnomer. The country has been so devastated by three decades of civil war and Soviet occupation that there’s nothing there” (Schreiner 2006).

In both Iraq and Afghanistan, USACE has supported the partnership principle. The nature and funding of its construction projects require the organization to work with a variety of partners. In Iraq, the establishment of an RROC was an effective means to coordinate efforts across agencies. By creating a center to coordinate reconstruction activities between partners, USACE was able to avoid some of the duplication that occurred earlier in OIF. In Afghanistan, reconstruction projects were coordinated between partners as part of the Afghan ministries. As U.S. Army operations evolve to changing conditions, USACE must continue to focus on working in the JIIM environment and becoming a partner in the entire process. The establishment of an RROC should be standard within every maneuver commanders area of operations. Ideally, USACE military officers would be the perfect lead for this organization. These cells should be established whenever the U.S. Army conducts stability operations and should be incorporated at various exercises to develop a rapport among all the participating organizations

Flexibility

This principle recognizes that situations will change and that successful organizations must be able to adapt to these changes (FM 3-07 2008, C-22). Flexibility

can often be difficult when dealing with government organizations; USACE is no exception. USACE as an organization is often constrained by bureaucratic and legal requirements, such as contract law, requirements of other government agencies and the U.S. Congress. An example of this inflexibility was the example provided earlier from James Stephenson and the inability to change or cancel projects without notifying congress (Stephenson, 30). However, at lower levels USACE is able to adapt quickly to changing conditions on the ground.

USACE showed flexibility during Operation First Light which occurred as a result of a failure by a contractor, Parsons Inc., to complete over 120 primary health-care clinics throughout Iraq. Six of the centers were located in the Multi-National Division-Baghdad (MND-B) sector and were 90-99% complete. These clinics became a Corps commander's priority and units in the area were directed to provide all available assets and security to assist USACE in completing these clinics. With assistance from various Brigade Combat Teams, USACE was able to purchase the necessary remaining materials and complete construction on the clinics. All the clinics eventually opened and ultimately began seeing 200-300 patients daily contributing to security in Baghdad (Bogart, 59-60).

COL Peter DeLuca, who served as the J7 engineer for Multinational Security Transition Command-Iraq (MNSTC-I), is critical of USACE as an organization and its ability to be flexible. He specifically refers to how contracting officers award contracts, not only within USACE but throughout the federal government. He highlights that contracting officers are "promoted and rewarded primarily on how well they reduce financial risks to the government...They could not see that the failure to take some

financial and administrative risks was increasing the combat risks to our soldiers” (DeLuca, 2006). This adversity to risk delayed project award and construction and hampered USACE’s ability to quickly change terms and conditions of contracts. COL DeLuca highlights that because of this fact he preferred to utilize the Air Force Center for Environmental Excellence (AFCEE) to perform work. He liked the design-build model they generally followed and the minimal oversight they provided on projects which allowed more flexibility in the completion of projects (DeLuca, 2006).

USACE showed flexibility in Afghanistan by adapting to some of the changing and difficult conditions on the ground. MAJ Chamberlayne talked of some of the difficulties he encountered while working on projects in Afghanistan. Many of the contracts were hastily written and awarded which created many issues during the construction phase. AED personnel were required to work quickly with the contractor and the user to develop modifications or changes to the construction contract. There were also issues with unexploded ordnance and security delays that hampered construction efforts and increased the cost and time for contracts. These issues required USACE personnel to be flexible when dealing with issues (Chamberlayne, 2006).

MAJ Dale Snider, who served on a FEST-A in Afghanistan, highlights how he had to be flexible when receiving assessment requests. He states that it was very important to be flexible since assessment requests would come via e-mail, some through his immediate chain of command and a large amount via word of mouth from other engineers (Snider, 2006).

In Iraq and Afghanistan, USACE has shown flexibility particularly at the tactical

level. This has been essential to mission accomplishment in both countries. At the same time, USACE is subject to many of the federal guidelines and regulations that restrict most government organizations. USACE should recognize this and while still following these rules work to adapt them to be more effective in stability operations. As COL DeLuca highlights, stability operations may require the government as whole to take on more risk to itself in order to complete projects more quickly and protect soldiers. Many of the rules that apply to construction projects in the United States also apply to construction projects in stability operations. However, the unique circumstances under which these programs are undertaken may require more flexible regulations. USACE should look at its current regulations and work to adapt them to stability operations.

Accountability

This principle involves utilizing oversight and transparency to ensure that resources are utilized properly and not squandered or misappropriated (FM 3-07 2008, C-24). USACE has many methods for ensuring accountability and uses many of the same methods that it uses in the U. S. in Afghanistan and Iraq. The main tool for tracking projects is through the Resident Management System (RMS), which allows project engineers and quality assurance representatives to track and input progress on the projects they manage. It also tracks the budget for contracts and how much contractors are paid relative to the work complete. This system is a USACE wide system and projects can be viewed up and down the chain of command depending on whether an individual has permission.

A major issue in enforcing accountability is a shortage of volunteers to support contingency missions. While many USACE personnel have volunteered, the protracted

nature of both deployments has strained USACE and contributed to personnel shortfalls within Iraq. PEs and QARs are required to oversee numerous projects across a wide range of sectors and areas. In the U. S., PEs and QARs typically oversee a few projects, while in Iraq they may oversee many more in a much more challenging environment. They also are not able to spend the time needed at the site. A recent Special Inspector General for Iraq Reconstruction (SIGIR) report specifically highlights GRS as not having enough personnel to manage all projects. It states that “GRD officials reported that its South region was responsible for more than 400 projects but employed fewer than 40 military and civilian field engineers and construction inspectors” (SIGIR, 2008). MAJ DeLapp reinforces this in his interview when he discusses the time spent on construction project sites. He mentions that when USACE representatives went to project sites they “...didn’t like to spend a lot of time on the project site” (DeLapp, 2006). This was primarily due to security concerns and the desire to reduce the perception of an American presence at the site.

MAJ Chamberlayne discussed the way the Bagram Resident Office conducted financial oversight through the use of the Corps of Engineers Financial Management System or CEFMS. The system tracked the percentage of work that was completed and contractors could not be paid until a USACE representative had verified that the work had been completed. He states that he felt “very confident” that financial oversight was accurate (Chamberlayne, 2006).

MAJ Don Nestor, who served as a project engineer in Mazar-e-Sharif from June to December 2005, discusses in an interview how he monitored projects in his area. He was responsible for a \$66 million project to build a base camp for the Afghan National

Army (ANA). He states that USACE QAs were on-sight at the projects all day to ensure the contractors constructed projects to standard. He also mentions instances where contractors were required to redo work that was substandard (Nestor, 2008).

USACE appears to have good accountability within the organization. Existing systems that have been set up over many years within the U.S. are well-suited for use in a stability operations environment. However, the primary issue preventing USACE from better accountability is a limited number of volunteers and military personnel. In order to enforce accountability, qualified personnel must be present on site to inspect and oversee construction to ensure the contractor is providing a quality product.

Summary

Although the newest edition of FM 3-07 brings the USAID principles of reconstruction and development into U.S. Army doctrine for the first time many of the concepts are not new. In many aspects, USACE has already been applying some of these principles to reconstruction projects in Iraq and Afghanistan. It is important to also recognize the interconnected nature of many of these principles. Without effective assessment, USACE units cannot effectively execute the principle of selectivity. There are numerous other similar linkages within the principles and it is important that they are all executed effectively in order to have the maximum success.

USACE has done a good job of applying the principles of capacity-building, sustainability, assessment, flexibility and accountability. USACE needs to improve in ownership, selectivity and partnership. The thesis cannot make a determination on results due to the fact the operations are still on-going and long-term results will not emerge for many years. Chapter 5 will summarize the analysis and make recommendations.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

On 16 September 2004, Jay Garner gave a speech to the second annual military symposium at Fort Leavenworth, Kansas. His comments on USACE were very insightful. “I think we need a much broadened and well-defined role for the Corps of Engineers. The Corps of Engineers can do marvelous things in a postwar effort. And we really haven’t harnessed the talent and energy of the Corps of Engineers” (De Toy, 272). Garner gave this speech only a year after the invasion of Iraq and USACE has evolved since he spoke these words. However, the lesson to take from OIF and OEF is that USACE should be involved early in the planning for any type of stability operation.

This thesis began by asking the question is the U.S. Army Corps of Engineers (USACE) prepared to meet the requirements of stability operations as envisioned by the U.S. Army in FM 3-0, *Operations* and FM 3-07, *Stability Operations*? The answer is yes, USACE is prepared to meet the requirements of stability operations, but there are some areas that need improvement. The thesis also posed some secondary questions which will be answered below.

1.) Has the role of USACE evolved from past operations and if so how has it evolved?

Are there any similarities/differences between current stability missions and past missions?

USACE has been involved in some capacity in almost every U.S. conflict since 1947. It has also been an important tool to assist friendly and allied nations in working to improve their infrastructure. In the past, USACE

has worked in difficult and hostile environments to build infrastructure and restore services to the host-nation population. Over time it has evolved but many of its organizations have remained the same. The primary means to administer an area in a foreign country is still the district.

2.) What is the role of USACE in current stability operations? What does it view as its role? What does the Army see as its role?

As this thesis has laid out, the U.S. Army does envision that USACE will play an important role in stability operations since it possesses a unique ability to assess and repair infrastructure. USACE also is prepared to support these missions, although as an extremely large organization with numerous other full-time responsibilities it can only devote finite resources to contingency operations. The Chief of Engineers has laid out a Campaign Plan that details how USACE will continue to support contingency operations in the future. However, USACE as a whole has not updated its Engineer Doctrine in many years. EP 500-1-2, which details how USACE will support units within a theater of operations has not been updated since 1995. The U.S. Army and its doctrine have gone through many changes since then and the doctrine, although still relevant, does not wholly reflect these changes.

USACE has done a good job of supporting operations in Iraq and Afghanistan creating a new division and districts to oversee the projects in both countries. Two main assets that were used early on were the FESTs

and a Prime Power company. These limited resources were in high demand at the outset of both operations. USACE also experienced many difficulties. The hasty nature of planning for stability operations prior to the invasion of Iraq created a long period in which reconstruction efforts were not well-coordinated. GRD was slow to stand-up, leading to a long period in which valuable time was lost. While Afghanistan did not initially have the massive amount of reconstruction spending seen in Iraq, it took the U.S. several years to realize the nature of the effort needed to rebuild the country. AED was also slow to stand-up and this delay cost the U.S. valuable time.

- 3.) What are the successes of USACE in current stability operations and why has it been successful?

Capacity Building- USACE understood this principle early and began to utilize it quickly. Since USACE has experience working on construction projects throughout the world hiring of local-nationals is a common practice. USACE worked to train locals in both countries and give them responsibility for project management. The primary set-back to a more robust capacity-building effort was the lag between the end of major combat operations and the establishment of GRD and AED

Sustainability- USACE has undertaken a variety of projects in both Iraq and Afghanistan that will contribute to both countries continued well-being after the U.S. commitment ends.

Assessment- USACE has excellent assessment capabilities and can project these capabilities through use of the FESTs. These teams proved invaluable in both Iraq and Afghanistan. However, their primary responsibility was assessing the infrastructure for the establishment of U.S. military installations. Assessment of the local infrastructure is an important aspect as well and should not be ignored. USACE planners should ensure they devote sufficient resources to assess both U.S. military infrastructure and host-nation conditions.

Flexibility- At the lower levels, USACE has showed continued flexibility and adapted to changing and difficult conditions as they occur. However, USACE should evaluate and update its regulations in order to ensure its procedures reflect the necessity of increased financial risk in stability operations.

Accountability- Existing USACE systems and procedures are well-suited to tracking construction projects. In Iraq, USACE has lacked personnel to oversee the massive amounts of construction which has led to gaps in accountability. In Afghanistan, a more limited construction effort has allowed better oversight of projects.

What are the shortcomings of USACE in current stability operations and how can USACE correct them?

Ownership- USACE did not do a successful job of encouraging ownership in the opening months of OIF. The initial award of major reconstruction projects to large multi-national corporations slowed the

important process of quickly delivering needed projects to the Iraqi people. In OEF, USACE had more contact with the local Afghans and did not initially undertake the massive reconstruction projects that it did in Iraq. Construction programs were coordinated through the Afghan ministries and tended to encourage a better sense of ownership. As operations have progressed, USACE has continued to push involvement from local nationals in both countries in order to foster ownership.

Selectivity- USACE did not support this principle when undertaking projects in Iraq. Although initially focused on humanitarian relief, the overall focus after the initial invasion quickly shifted to the electricity and oil sectors. While these areas were important, they did not address the immediate needs of the Iraqis and led to continued unrest within the country. In Afghanistan, the more limited funds forced reconstruction planners to be more selective and target the most important sectors.

Partnership- As the U.S. Army conducts operations in a joint environment, USACE should work to do the same thing and participate more closely in joint training and other exercises. In particular the inclusion of an RROC into training exercises could help to draw all elements of reconstruction together to develop a better working relationship and understanding.

Results- This principle could not be fully-assessed since long-term results are still to be determined. By its measures of performance, USACE has achieved successful results by completing numerous projects in both Iraq

and Afghanistan. However, adequate means need to be developed to assess measures of effectiveness to ensure maximum impact on the host-nation.

Recommendations

Recommendation # 1: Since U.S. Army doctrine envisions an era where stability operations become more common and where restoration of infrastructure and essential services will become a critical part of its mission, USACE should work to organize itself accordingly. USACE should devote a portion of the organization's resources exclusively to planning and preparing for stability operations, this would shorten the amount of time required to organize and prepare for these operations. Personnel would work full-time to train for stability operations and the element could be drawn on immediately to plan for and deploy in support of these operations. This element could consist of a key staff of planners that could be augmented by additional volunteers in the event of a contingency mission. Upon deployment this element would assume responsibility for coordination of any assessment and reconstruction requirements in theater.

Recommendation #2: USACE has a wide array of capabilities that are extremely important to the success of stability operations. However, USACE needs to continue to work to raise awareness throughout the JIIM environment of its capabilities. It is not clear that all elements understand USACE's full range of capabilities and how to utilize them in stability operations. USACE should send all ranks and grades of personnel (military and civilian) from within the organization to participate in joint exercises with all the organizations it supports. This applies not only to U.S. Army units but also other partners, particularly USAID. This would help to build a habitual working relationship

and raise awareness of USACE as an organization. It might also help USACE to develop a more expeditionary mindset. Establishing a good working relationship early will lay the foundation for success in future operations.

Recommendation # 3: USACE needs to conduct a thorough review of its own doctrine. Much has changed in the world since many of the documents were last updated and USACE needs to ensure it continues to adapt by updating doctrine to match changes. A good document to start with is EP 500-1-2 since this deals with how USACE provides support to units in a theater of operations. Updating doctrine is especially important for stability operations where recent experiences have brought numerous changes in U.S. Army organizations and operations.

USACE is a large and diverse organization with a broad and varied mission and a wide-variety of assets. However, the organization is also extremely complex and its full-capabilities do not appear to be adequately understood. This thesis has attempted to better explain the role of the organization while examining some aspects of its current missions in stability operations. In future conflicts, USACE will continue to be a valuable organization within the Department of Defense and a better understanding of its capabilities will ensure it is utilized properly. USACE must also continue to adapt to ensure it can continue to fulfill its role as a critical support element in full-spectrum operations and a key component of victory in future conflicts.

APPENDIX A

E-Mail Interview Major Dennis McGee, Former Company Commander A/ 249th EN BN
(Prime Power)

Describe your unit's mission in Iraq and/or Afghanistan.

Alpha Company, 249th Engineer Battalion, Prime Power...we were responsible for producing contingency power on some coalition bases, electrical design and base planning for enduring presence locations, installation and repair of existing power grids, QA/QC of contracted power production, and some QA/QC of contracted electrical construction. We also were the SME's for electrical power and provided advice to planners involving infrastructure and based operations with respect to power problems. Additionally, we also provided support to the USACE Task Force- Restore Iraqi Electricity (TF-RIE) by assisting in power assessments of various public works facilities and helped to repair and restore small diesel electric power generation sites. For the majority of our Corps of Engineers work we were repairing existing diesel generators anywhere from 500KW to 3MW. These were usually backup generators for facilities', (water & wastewater treatment plants, hospitals, pump houses, grain elevators, airports, and larger power generating facilities.)

How was your unit organized to perform this mission?

I had four detachments assigned to me; three active duty prime power ones and one reserve power line unit. My company HQ was located at the Baghdad International Airport, along with two of the prime power detachments and the power line one; the fourth unit was stationed at Balad Airbase. I still had command and control of two additional active duty prime power detachments one stationed at Camp Humphreys in the Republic of Korea and one at Schofield Barracks HI, and my rear detachment back in Fort Lewis, Washington.

How was your chain of command structured? How much contact did you have with them/ how did you communicate?

My company remained assigned to my Battalion HQ's at Fort Belvoir, VA but in theater I was OPCON to the Theater Engineer Brigade, first the 130th then the 420th. I had established various DS and GS relationships throughout my time deployed to Iraq usually centered around Division HQs where we had longer duration missions/projects.

What type of equipment/resources did you have to perform this mission?

Each prime power detachment brought its MTOE SKOs, its four heavy weight generators and had at least two HMMWVs. These were soft skin HMMWVs the majority of them drawn from prepo down in Kuwait. Additionally, we had a limited number of SINCGARS radios and only four M249s. We were severely constrained in communications, transport and crew served weapons. We relied on other units to provide us security escort as we moved around the area and primarily moved by air if it was available. The power line detachment had its standard SKO's, three Altec Power line bucket trucks, a HMMWV, and two contact trucks. The total amount of power generating capability I had was 9.68MW of power.

For the majority of our missions we would design a power grid, get approval from the Joint Contract Review Board, then order the materials (cable, transformers, switch gear, etc.) to install a power grid. We would also recommend a power generating source, usually contracted for 1MW generators to be installed, operated and maintained by a contractor for the larger bases. These contractors were primarily from the US or other coalition countries...hardly from Iraq, some were from the Middle East though.

Did you have much interaction with the local populace? Was the experience positive/negative? Are there any incidents that stand out?

Throughout my time in Iraq we interacted with the local populace on a regular basis primarily other electrical engineers who were running the various facilities prior to the invasion of Iraq. They were very welcoming as they knew we were coming to help repair the facilities. Often times we would use local vendors to provide us with the material we needed to repair install and maintain the power grids on the coalition bases. For the most part all of my interactions were positive; occasionally when we were moving along roads through some crowded neighborhoods, as we stopped or pushed through traffic, it would cause some local Iraqi citizens to get upset but never a significant incident.

Two incidents stand out in my mind...one was when I road along with a contact team of mine to some cities in the south of Baghdad, Al Najaf, Hillah and Nasiriyah, to conduct assessments of a few grain elevator, Ministry of agriculture sites. These all had large generators attached to them and if we could get them operating and connected to the power grid it would provide enough power for a few hours during the night for smaller areas in the surrounding neighborhoods. At all of the sites we found brand new hardly used generators usually with less than 100 operating hours on them. Most of them were seized and couldn't run due to lack of replacement parts...oil filters, seals, and oil for lubrication. They were all in pretty good shape but were manufactured outside of the Middle East and not US made so we couldn't even repair them. It was frustrating and when we brought the assessments back we could find no resolution on getting the repair parts out there to fix them.

The second incident was a small village outside of Balad that used to house the families and workers of the former Iraqi airbase. The village had water and wastewater treatment plants, school, police stations and many other municipal buildings that were vacant and not operating. For the most part they needed minor fixes to get them up and running. The village was probably only 25-30% populated as most of the folks had left during the invasion. If enough time and money was available we could've brought the majority of these facilities on line, however, at that time we were limited in the amount of support we could provide outside of the airbase and we didn't have enough of our own crew served weapons and security vehicles to take on the operation. These two incidents stick out in my mind as missed opportunities to gain local support and provide a better standard of living with minimal effort. I would've considered them high payoff 'targets'.

How was your communication with other military units in your area of operations? How did you communicate?

We had fairly good communication with the units we were providing support to.

When we were moving as part of a convoy or between the airport, the green zone and Victory base we would use standard SINCGARs radios. We also had limited access to the local cell phone network using Iraqna cell phones and some satellite phones. Primarily, when we were at the HQ or on a coalition base we would use email (Nipr and Sipr) and the military DSN phones. Additionally, my NCOs developed very good relationships with most of the other combat units in the areas they were operating in and we could use the systems they provided for us. We understood that we needed them to provide security in order for us to move around Iraq and they understood the capabilities we could provide them.

What were the positives/negatives of USACE operations in your area of operations and do you have any recommendations for improvements?

The missions we conducted on behalf of USACE weren't always the most synchronized efforts and we would often miss a link up with an escort unit that was supposed to provide our security or have to cancel them due to the lack of a security element. Additionally, the data we would gather during assessments would get submitted back to our POC/project manager and often no further action or follow-up missions would come our way. This was very frustrating for us, as we usually spent a lot of time travelling on the roads between our base and the sites and often didn't get to complete any of our recommended solutions. After the Gulf Region Division stood up and the various Resident offices were activated, we experienced much better coordination for our missions. Additionally, we now had better access to specific engineering talents, capabilities and support. We could also leverage these offices for more effective contract development and oversight. I believe that USACE needs to have these capabilities, (much like their Emergency Response Teams (ERTs) following natural disasters) prepared to deploy with the early entry forces so we don't miss any opportunities for reconstruction to begin early on following the cessation of hostilities.

Any other information you would like to add?

Overall my experiences with USACE have been positive and professional. My biggest concern about USACE is its ability to react quickly enough in concert with support to the combat forces. The fielding of Forward Engineer Support Teams, Emergency Response Teams, and other USACE personnel imbedded in PRTs will make a tremendous impact in the ability for USACE to support reconstruction and stabilization efforts.

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