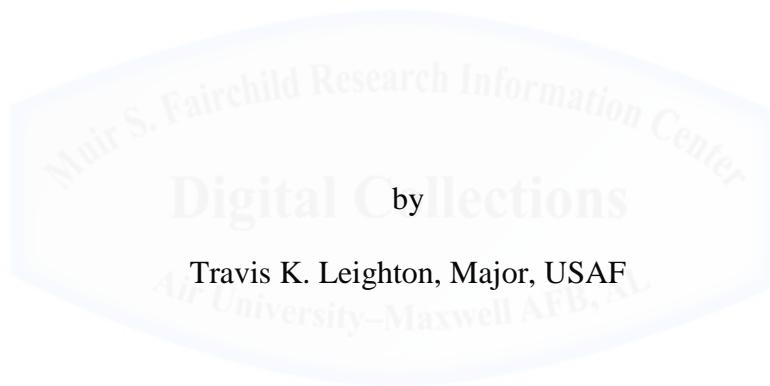


AU/ACSC/LEIGHTON/AY10

AIR COMMAND AND STAFF COLLEGE
AIR UNIVERSITY

STABILITY OPERATIONS
INFRASTRUCTURE RECONSTRUCTION AS A WEAPON SYSTEM



by
Travis K. Leighton, Major, USAF

A Research Report Submitted to the Faculty
In Partial Fulfillment of the Graduation Requirements

Advisor: Lt Col James S. Kockler

Maxwell Air Force Base, Alabama

April 2010

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Abstract

Infrastructure reconstruction is a key component of stability operations and one that has plagued U.S. military operations in recent conflicts. Cost overruns, delays, corruption, sustainability and security have all become impediments to success. This research seeks to evaluate some successes and failures of Department of Defense (DoD) infrastructure reconstruction in Afghanistan and Iraq. This analysis first presents host nation characteristics and describes the post reconstruction needs for each host nation. Next, this analysis examines specific infrastructure reconstruction projects using testimony, audits and inspection reports. The findings support recommendations for future infrastructure reconstruction. This research supports three progressive stages to infrastructure development: Emergency Relief, Reconstruction and Development. Additionally, conditions required to progress through these stages include adequate state capacity, security, engineering and oversight. Likewise, the Afghanistan and Iraq case studies indicate that failure to consider these conditions when progressing through infrastructure reconstruction stages increase the risk to stability operations resulting in potential failure of stability operations.

INTRODUCTION

Post-conflict stability and reconstruction challenges have afflicted the United States military for as long as it has sought to project power across the globe. The U.S. military has engaged in stability operations ranging from the American expansion across the western frontier, two world wars to Cold War proxy conflicts. Even today, the U.S. military is performing two extensive stability operations in Afghanistan and Iraq. Although every conflict or crisis is different, the basis for the military engagement in reconstruction and stabilization can fall into several broad categories. These include intervening in response to a human rights violation, preemptive force to address a security threat or responding to a humanitarian crisis.¹ Many experts allege the U.S. should not plan to use the military in a reconstruction and stabilization capacity as part of any strategy.² Of course, opinions vary on whether the military should be involved in reconstruction and stabilization but the fact remains that the military will continue to face situations requiring some level of capability. This is starkly evident today as success or failure of reconstruction and stabilization may pave the way for an effective and honorable termination to current military operations. At the very least, Department of Defense Instruction (DoDI) 3000-05 requires the military to develop a stability operations capability.³

Now in order to understand what the DoD means by “stability operations,” one must examine the terms commonly used in doctrine, policy and literature. Post conflict reconstruction has taken on many monikers over the years and while the terms do not perfectly align, there are some shared themes. National Security Policy Directive (NSPD) 44 makes use of “Reconstruction and Stabilization,” which includes activities such as, “internal security, governance, and participation, social and economic well-being and justice and reconciliation.”⁴ The 2009 DoDI 3000.5 uses the term “stability operations,” to describe military activities such as

“establish a safe/secure environment, provide essential government services, emergency infrastructure reconstruction and humanitarian relief.”⁵ Many still use the rescinded 2005 DoD Directive 3000.05 term of “stability, security, transition and reconstruction (SSTR),” which includes rebuilding indigenous institutions, reviving the private sector and developing government institutions.⁶ Finally, there is the frequently used and all-encompassing term, “Nation Building.” This paper will use current DoD term, “stability operations” throughout to represent all of the above definitions. Likewise, this paper will consider reconstruction as a subordinate task to stability operations referring to “the process of rebuilding degraded, damaged, or destroyed political, socioeconomic, and physical infrastructure of a country or territory to create the foundation for long-term development.”⁷ Unfortunately, the military considers these endeavors a “distraction from core warfighting competencies.”⁸

Officially, the DoD accounts for stability operations within phase IV (stability) and phase V (transition) within the joint planning process as well as in published department and service level instructions implementing NSPD-44. Regardless, one only needs to participate in a military exercise or peruse the DoD budget to understand the true focus for the military is major combat operations. The DoD’s mission of providing “the military forces needed to deter war and to protect the security of our country” drives what the military plans for and budgets for and executes.⁹ Fortunately, many of the same military resources that support major combat operations easily translate into effective and substantial stability operations capability. Engineering, medical, logistics, acquisitions and law enforcement are just a few of these capabilities. Likewise, the military also possesses the ability to involuntarily and rapidly deploy these resources where and when other U.S. government agencies cannot and historically this has been the case.¹⁰

BACKGROUND

During the past 100 years, the U.S. has engaged in 16 major stability operations. These operations range in duration from a few months to over 30 years and range in scope from low-level counterinsurgency to global war.¹¹ These experiences not only serve as historical backdrop but also shape the current stability operations doctrine and planning for both Afghanistan and Iraq. For example, WWII post-conflict planning began three years prior to the culmination of hostilities and although much was still unknown during initial planning, several factors were working in the Allies' favor.¹² First, they were planning for stability operations following the unconditional surrender of relatively homogeneous societies with ample industrial capacity and some history of constitutional rule.¹³ These stability operations were largely successful. In contrast, the U.S. supported a surrogate regime and embarked on a "hearts and minds" campaign in Vietnam but those efforts fell short of establishing a stable post-conflict environment due in part to a uniquely different post-conflict environment.^{14,15}

Following the Cold War, the U.S. encountered mixed success. Somalia for example was a notable disappointment, but interagency collaboration and planning improved for stability operations in Haiti and Kosovo. Leading up to Operations ENDURING FREEDOM (OEF) and IRAQI FREEDOM (OIF), the U.S. seemed to have internalized that a whole of government (WOG) planning approach was essential to success.¹⁶ Surprisingly, the U.S. has been involved in major stability operations in Afghanistan and Iraq for nine and seven years respectively but both are marginal successes at best. While many of the lessons learned from past stability operations certainly apply, these operations present unique challenges in their own right. A significant challenge and one that may be a linchpin for the success of stability operations in OEF and OIF is reconstruction of infrastructure.

In fact, infrastructure reconstruction has been a key component of every stability operation attempted during the last 100 years; providing services necessary for societies to return to (or finally attain) a stable and routine existence are key to successful conflict resolution. Since WWII stability operations, the U.S. military and other government agencies have rebuilt roads, rails, bridges and canals in Japan and Europe and provided basic services in the wake of crises in Haiti, Somalia, Kosovo and Bosnia.¹⁷ The same holds true for OEF and OIF; the restoration and development of infrastructure is a crucial factor driving the success of those stability operations. Before discussing reconstruction in these stability operations, one must first understand existing stability operations guidance and doctrine as well as how infrastructure reconstruction fits into the larger picture.

STRATEGIC GUIDANCE

At the strategic level, planning and conduct of stability operations rests with a few capstone documents. First, NSPD-44 compels unity of effort by all governmental agencies and designates the Department of State (DoS) to coordinate and harmonize U.S. planning efforts.¹⁸ This policy directive also requires integration of operations between the Department of State and the Department of Defense. Subsequently, DoD Instruction (DoDI) 3000.05 requires military departments to train and equip forces “capable of conducting the stability operations.”¹⁹ These capabilities include establishing civil security and civil control, restoring or providing essential services, repairing critical infrastructure and providing humanitarian assistance. Likewise, the DoD must be capable of assisting other USG agencies on efforts that include disarmament demobilization and reintegration (DDR), strengthening governance and fostering economic stability.²⁰ Unfortunately, there is a shortage of stability operations doctrine at the operational level.

The Army's Field Manual (FM) 3-07, "Stability Operations," provides the most comprehensive body of operational doctrine. Eventually, Joint Publication 3-07, "Stability Operations," will replace "Military Operations Other Than War (MOOTW)" but that publication is at least one year away. Until then, FM-3-07 reinforces unity of effort within the whole of government approach as the "key doctrinal publication for stability operations." This document lays out the primary stability tasks, which "reflect a myriad of interrelated activities" performed across the five primary stability tasks: establish civil security, establish civil control, restore essential services, support to governance, and support to economic and infrastructure development.²¹ The Venn diagram in Figure 1 depicts these five tasks or pillars illustrating how each is interrelated to the other four. For example, support to governance relies heavily on the other stability operations pillars; civil security is necessary to provide for the safety of the population, rule of law must be established through civil control, essential services are a prerequisite for social well-being and economic and infrastructure development are crucial for sustained viability of the state. Without contributions from each pillar, state legitimacy will be difficult to achieve.



Figure 1. Stability Operations Pillars (adapted from FM 3-24)

Moreover, infrastructure cuts across all the primary stability operations pillars. Restoring essential services directly impacts infrastructure through the restoration of sewage, water, electricity, academics, trash, medical, safety and other (SWEAT-MSO). Likewise, support to economic and infrastructure development explicitly targets infrastructure through the rehabilitation of electrical power, engineering and construction support, municipal services and transportation infrastructure. Infrastructure is also a key enabler for remaining three tasks of support governance, establish civil security and establish civil control.²² It is not difficult to draw direct linkages from each pillar to the infrastructure that makes them possible. Clearly, security is more effective with adequate transportation and communication networks. Civil control and rule of law require facilities and basic municipal services in order to be functional. Finally, the perceived legitimacy of the state can be influenced by the infrastructure and basic services provided to the population. Within current U.S. stability operations there are many means employed to execute reconstruction of infrastructure but some have come to epitomize the overall reconstruction effort.

TACTICAL CONCEPTS

Two common tools warrant clarification before moving on: the provincial reconstruction team (PRT) and the commander's emergency response program (CERP). PRTs are a relatively recent doctrinal concept pioneered in Afghanistan in 2002 and later applied to Iraq in 2005.²³ Intended as an "interim civil-military organization designed to operate in an area with unstable or limited security," PRTs "aim to develop the infrastructure necessary for the local populace to succeed in a post-conflict environment."²⁴ Tailor-able to the mission, PRTs typically include between 60 and 90 military personnel as well as representation from DoD, DoS, the United

States Agency for International Development (USAID), the Department of Agriculture and the Department of Justice. Capabilities range from security to humanitarian assistance to strengthening governance.

Likewise, the CERP is a common tool in the military reconstruction repertoire. This funding program “provides U.S. Governmental appropriations directly to operational and tactical forces, enabling them to meet emergency needs of civilians”²⁵ The governing DoD financial regulation actually lists twenty areas appropriate for CERP funding. Similarly, the regulation also lists eleven categories of improper use of funds. Generally, CERP funds are to be used to aid the Afghan and Iraqi population through small-scale, urgent humanitarian and infrastructure projects preferably less than \$500,000.²⁶ Improper uses include goods and services, which should be available through the local municipality or security force. The CERP regulation also permits the approval of projects over \$500,000 by the CJTF commander but only recently have additional considerations for project sustainment and reporting been compulsory. Nonetheless, the use of CERP in practice has not been without problems as discussed below.

CASE STUDIES

Evaluation of actual reconstruction efforts reveals much about the effectiveness of existing guidance and tactics and can expose potential opportunities and pitfalls, which can serve to improve overall stability operations. This analysis now takes a closer look at the infrastructure reconstruction efforts in Afghanistan and Iraq. For each country, this analysis sets the stage by providing basic conditions such as national characteristics and initial needs assessments followed by a summary of reconstruction funding. Each case study then discusses specific successes, failures using official project inspection reports and audits. Finally, each case study will culminate in conclusions for each particular reconstruction effort.

AFGHANISTAN INFRASTRUCTURE RECONSTRUCTION CASE STUDY

Afghan Conditions. Host nation internal characteristics can have a significant impact on the success or failure of stability operations.²⁷ In that regard, Afghanistan's characteristics produce unique challenges. Afghanistan covers over 251,000 square miles or an area roughly the size of Texas supporting a population approaching 33 million. This population however is widely dispersed with only 20 percent residing in urban areas reflecting an economy primarily reliant on agriculture, livestock and mining. The standard of living is relatively low with a GNP per capita of \$800 and literacy below 50 percent.²⁸ National health is low as characterized by a high infant mortality rate (under 1) of 165 per 1,000 live births, which is not surprising when one considers only 22 percent of the population has access to improved water and only 30-percent are using improved sanitation.²⁹

Afghanistan has always been a comparatively poor country and its institutional capacity was weak even before conflict in the 1970s.³⁰ Following the initiation of OEF, the UNDP Needs Assessment for Afghanistan found most Afghans "have little or no access to basic services."³¹ Within the water sector, Afghans largely use on-site water and sanitation solutions, and years of drought have resulted in high levels of ground water contamination. Likewise, access to safe sanitation is also uncommon for the mainly rural nation. These water issues contribute to diseases and are a major contributing factor in the high infant mortality rate. The UNDP immediate needs assessment identified by the expedient, essential repairs to the limited urban-piped systems as well as improving access and safety of water and sanitation for some 420,000 priority rural areas.³² Within the electricity or energy sector, only 6% of the population has access to electricity leaving the immediate tasks to ensure reliable power to health, water and

government facilities. Of course, substantial funding is required to meet even these modest needs.

Reconstruction Funding. Subsequent to the initial UNDP needs assessment, U.S. reconstruction appropriations have reached over \$50 billion.³³ As shown in Figure 2, the largest share of this funding has been funneled to the DoD in the form of \$25.23B in the Afghanistan Security Forces Fund, \$2.64B in the Commander’s Emergency Response Program and \$9.74B in the USAID Economic Support Fund.³⁴ Infrastructure reconstruction within the Afghan theater falls under the “Economic and Social Development, Essential Services” subsection which includes five sectors: energy, transportation, education, health services and water and sanitation.³⁵ DoD execution for purely infrastructure-related reconstruction falls primarily with the CERP as executed by commanders and PRTs. Early on, CERP reporting requirements were deficient leaving very little in the way of infrastructure reconstruction records nevertheless, the following section seeks to assess the successes and failures of Afghanistan infrastructure reconstruction projects based on available documentation.

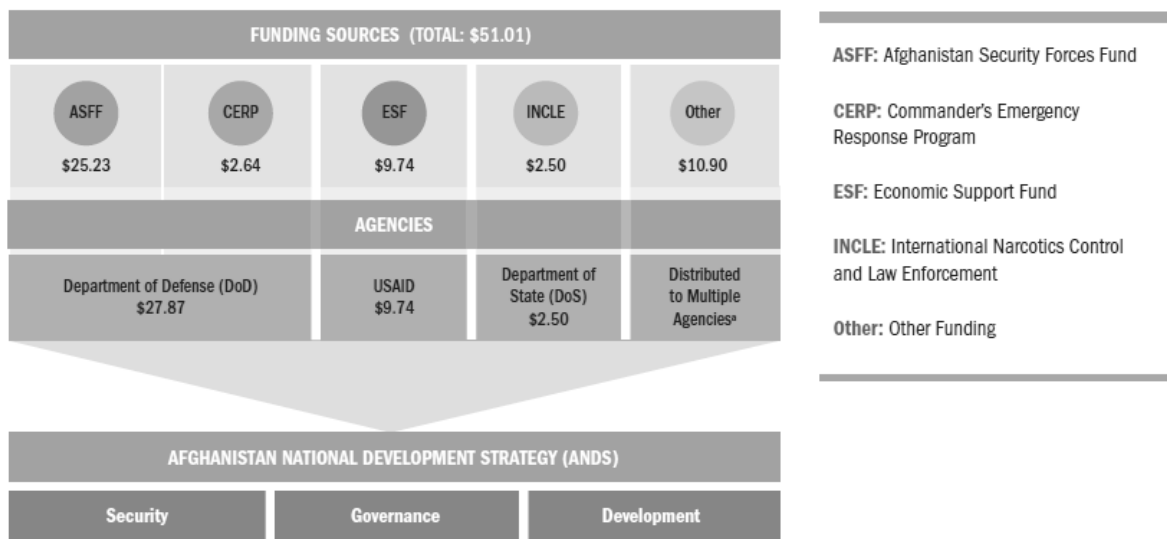


Figure 2. U.S. Funds Supporting Afghanistan Reconstruction Efforts³⁶

Successes. Although available project documentation for Afghanistan is sparse, a few notable examples illustrate infrastructure reconstruction success. CERP-funded school projects executed by PRTs are having some success as basic facilities for education with potential positive ripple effects throughout the governance and civil control stability operations pillars. The Special Inspector General for Afghanistan Reconstruction (SIGAR) inspected four of these school projects: the Kohi Girls' School, the Habib Rahman Secondary School, the Abdul Manan Secondary School and the Farukh Shah School. The Kapisa PRT within the Nijrab District executed all four of these projects at the request of the provincial government. All of the schools were under the intended CERP cap of \$500,000 meeting the objective of small-scale projects likely sustainable by the local population.³⁷

Given that the municipal government requested these facilities for a legitimate need within their communities indicates their intention to operate and maintain these schools but the SIGAR reports did not address the capability of these communities to provide teachers. Fortunately, such facilities conformed to local and/or Ministry of Education construction standards making maintenance and repair within the reach of most villages. Additionally, these projects occurred in a province where adequate levels of security existed.³⁸ The Kapisa Province currently averages less than one attack per day as compared with the Helmand Province, which averages over 10 attacks per day.³⁹ In this case, executing projects desired by the local population at a scope and complexity they can sustain in a relatively secure area significantly enhances the overall success of stability operations. One should note that these school projects are not without their problems as discussed below.

Failures. The same four school projects discussed above also revealed some significant flaws. Each of the four projects showed evidence of significant design deficiencies. The Kohi Girls' School failed to plan for demolition necessary to ensure safety of the occupants. The Habib Rahman Secondary School and Farukh Shah School did not account for essential retaining walls and embankment stabilization. The Abdul Manan Secondary School omitted major design elements to include a security wall and guardhouse. The common denominator in each case was lack of qualified personnel to plan and design projects. Likewise, each school project revealed inadequate project oversight. The common themes were lack of reporting, standardization, quality control and compliance with safety measures. These deficiencies increased risk to the projects by producing cost overruns, project delays and even degraded contractor performance.⁴⁰

Two additional projects stand out as remarkable examples of flawed project selection and execution in Afghanistan. First, the Khowst City Electric Power System project was initiated to upgrade the existing power plant and expand the distribution system in order to meet growing demand in a city of 160,000. This CERP-funded, PRT-executed project cost \$1.6 million. In what is a symptom of its deficiencies the PRT attempted to overcome technical inadequacy by “utilizing the volunteer services of a local engineer.”⁴¹ After the engineer moved on to other things, PRT effectiveness was diminished. Likewise, the PRT's project quality assurance and oversight was inadequate. More alarming was the discovery that the local authorities do not even have the capability to maintain and repair the plant in a safe condition--clearly not in line with the CERP intent of locally-sustainable projects. A more visible example of failure to consider sustainability is the Mahmood Raqi to Nijrab Road project. This project is anticipated to enhance local economies and security but “Afghan officials conceded that they do not have the equipment, materials, personnel or expertise needed to maintain the paved road.”⁴² Again,

this does not adhere to the intent of CERP and could well degrade the effectiveness of stability operations as discussed below.

Afghanistan Conclusions. Four fundamental areas of interest emerge from the above analysis: project oversight, design adequacy, sustainability, and security. First, project oversight appears to be a negative trend within the PRT projects. The problems are lack of visibility and reporting, incomplete or missing project records and deficient quality assurance. Within the CERP program, these issues are compounded by large-scale or long-term projects since PRTs typically do not have the necessary time, training, or manpower to execute them. In a September 2009 audit, SIGAR found that U.S. forces in Afghanistan could not even determine the number of on-going funded CERP projects.⁴³ Exacerbating this problem are CERP funds being used more and more for projects above the \$500,000 mark; in 2009, 67-percent of CERP funds were spent on large-scale projects. Of course larger projects usually also require a substantial planning and design effort.

Second, poor planning and design practices have eroded the effectiveness of reconstruction efforts. In several instances above, PRTs executed contracts that may not meet the intended project scope or even be safe for the public once complete. Within the PRT structure, this can be attributed to a lack of technical expertise and/or man power. Without competent engineers, it is impossible to correctly design and plan infrastructure and facilities. Furthermore, it is extremely irresponsible to execute public works projects without such expertise; doing so is akin to performing surgery without a doctor only on a larger scale. When the public's safety is at stake, there is no substitute for properly certified professionals. In the end, poorly designed projects degrade the effectiveness of all stability operations pillars by wasting resources and endangering the population.

Third, Afghanistan's ability to sustain infrastructure is a serious limitation. The customer's ability to maintain and operate infrastructure is pivotal but in an environment where the population has so little it is tempting to install paved roads, power plants and water plants to improve living conditions. PRTs are particularly susceptible to this pitfall, commonly pursuing "feel good" projects without consideration for larger strategic and capacity building implications."⁴⁴ Making matters worse are the current CERP regulations, which allow commanders to execute projects often without consideration to anything aside from military necessity. Moreover, CERP funding does not include maintenance or upkeep of those same projects leaving an under-resourced community to watch the projects degrade in a few short years or months.

Finally, security can have a significant effect on reconstruction efforts. Three years into OEF, the GAO found that "deteriorating security, increased opium production, and delayed funding continued to obstruct U.S. reconstruction efforts in fiscal year 2004 and threatened the achievement of U.S. goals."⁴⁵ Security can impact operations in several ways. Lack of security can result in inability to properly plan, initiate, and even access the site to inspect projects. Lack of security can also affect the contractors making it difficult to recruit workers. A particularly concerning phenomena potentially present in Afghanistan is that reconstruction actually draws insurgents in to the target-rich environment; military activity may increase insurgent attacks in the area of reconstruction. While this is a difficult concept to prove, it is notable to recognize NGOs and village residents often avoid military assistance because of the potential violence and attacks it can attract.⁴⁶ The resulting violence even can serve to undermine stability operations potentially producing accidental guerrillas as local tribesmen resist and/or sabotage

reconstruction in order to reduce the future risk to their village.⁴⁷ Interestingly, security actually plays a greater role in reconstruction in Iraq.

IRAQ INFRASTRUCTURE RECONSTRUCTION CASE STUDY

Conditions. As in Afghanistan, the internal characteristics of Iraq as well as the nature of the conflict are having a significant impact on the accomplishment of stability operations objectives. Iraq is a somewhat smaller than Afghanistan at just over 168,000 square miles and 28 million people. However, some 70 percent of the population resides in urban areas and the economy is much more industrialized with a heavy emphasis on oil production. The Iraqi GNP per capita of \$1,900 is more than twice that of Afghanistan.^{48, 49} National health as represented by the infant mortality rate (under 1) has oscillated over the past 20-years from 42 deaths (per 1,000 live births) prior to the first Gulf War to 107 by 2003 and has recently fallen back to 36. Finally, 77 percent of the population has access to improved drinking water and 76 percent has access to improved sanitation facilities.⁵⁰

According to the UNDP, Iraq possesses “a strong core capital of institutional potential with well educated and determined civil servants.”⁵¹ Unfortunately, “years of conflict, deferred maintenance, weakened technical and management capacity and neglect” have degraded Iraqi infrastructure. Prior to the first Gulf War, 218 conventional water treatment plants and 1,191 compact water treatment plants water and sanitation systems were operating efficiently.⁵² By 2000, many water and sewer plants were not providing acceptable levels of service with capacity declining up to 50% in some areas.⁵³ Immediate needs in the post-conflict environment identified urgent requirements as increasing potable water access, repairing systems to reduce water loss and increasing sanitation coverage.⁵⁴ Likewise, prior to Operation DESERT STORM electrical capacity was 9,295 MW with a peak demand of 5,100 MW. Capacity fell to 2,325

MW after the war and after rising slightly during the 1990s, capacity was at 3,300 MW (half the demand) following the initiation of OIF. Immediate needs became restoring the power system to a pre-1991 level. Again, substantial funding is necessary to restore this level of infrastructure.

Reconstruction Funding. As of December 31, 2009, Iraq appropriations total \$47.12 billion across four major funds. These funds are, the Iraq Relief and Reconstruction Fund (IRRF) which was appropriated \$20.86 billion, the Iraq Security Forces Fund (ISFF) which was appropriated \$18.04 billion, the Economic Support Fund (ESF) which was appropriated \$4.56 billion and the Commander’s Emergency Response Program(CERP) which was appropriated \$3.65 billion.⁵⁵ This reconstruction effort experienced a massive influx of funds and agencies with little pre-planning and coordination. This created several problems as illustrated by the following successes and failures.



Figure 3. Iraq Funding Sources⁵⁶

Successes. Compared to Afghanistan, significantly more project documentation is available on the Iraq reconstruction effort. Within these records are several instances of

successful infrastructure reconstruction. The Sadr City R3 Water Treatment Plant project is one example. This project was originally a USAID project but at the 85 percent completion point, the U.S. Army Corps of Engineers (USACE) took over the \$65 million IRRF project. In a recent inspection, the Special Inspector General for Iraq Reconstruction (SIGIR) found that the design was adequate and should result in a functional project. Additionally, the report noted that sustainability was effectively addressed as the contractor is required to train operators, provide operation and maintenance support during construction, startup, and commissioning. Additionally, quality assurance for the project was adequate; the government representative was consistently present the construction site providing daily reports on progress and highlighting deficiencies.⁵⁷

Comparable success was achieved with the Al Ager Water Compact Unit in Nassriya, Iraq. This \$650,000 ESF project was initiated by USACE to construct a new 50-m³/hr compact unit water treatment plant for a population of 5,000. A subsequent SIGIR inspection found that project oversight was effective as the quality assurance representative provided daily reports highlighting deficiencies and corrective actions. Additionally, SIGIR found sustainability to be acceptable. The project requires the contractor to provide material and equipment warranties, supply spare parts for one year of the plant operations and four weeks of training for operators.⁵⁸ Likewise, the Al Wathba Water Treatment Plant in Baghdad design was noted by SIGIR as complete and sufficient ensuring the \$11.2 million project increased the available supply of potable water to Baghdad residents.⁵⁹ Unfortunately, many similar projects will not perform as intended due to all too common reconstruction failures.

Failures. Iraq infrastructure reconstruction failures follow many of the same patterns as the Afghanistan reconstruction effort. For example, the Fallujah Waste Water Treatment System

is a \$98 million USACE project and in 2008, SIGIR noted substantial sustainment concerns for this project. At the request of the Iraqi Ministry of Public Works, the design incorporated a system that demands substantial power and skilled labor to operate however, such resources were not available.⁶⁰ Consequently, this project is at risk because the host nation does not have the ability to operate and maintain the plant. In a similar vein, the Al Wahda Water Treatment Plant in Baghdad design is not adequate to provide a fully functioning plant upon project completion. Furthermore, oversight was also found to be deficient as the government representative was not even knowledgeable of construction progress or quality nor were contractor invoices being approved.⁶¹

Security has had a significant impact on Iraq reconstruction projects. Although SIGIR inspections of the Rebuilding of the Sagrah School project and the Renovation of the Khandek Intermediate School project found few substantial findings but perhaps that was because they were only able to remain on site for 45-minutes due to security concerns.^{62,63} Clearly if security affects the ability of SIGIR to assess a project, it quite likely will also have an effect on project oversight and perhaps even contractor performance. At the extreme end of the scale is the \$21 million Baghdad Municipal Solid Waste Landfill, which officials terminated prior to completion due to security and still has not been restarted and completed.⁶⁴ Although projects and execution mechanisms differ from Afghanistan, there are some shared themes as discussed below.

Iraq Conclusions. As with the Afghanistan analysis, four fundamental areas of interest become apparent: project oversight, design adequacy, sustainability, and security. First, where management and controls were inadequate projects experienced delays and cost overruns. However, in Iraq the larger more complex reconstruction effort has created a significant potential for fraud waste and abuse (FWA). Inadequate oversight leaves the door wide open for corrupt

people to commit fraud.⁶⁵ SIGIR has been investigating instances of fraud within Iraq from early on and as of 2008 had obtained at least 35 convictions but that is just the tip of the iceberg.⁶⁶ A series of audits directed which forensically identified potential FWA opportunities within the major funding streams. An interim update revealed \$340 million in irregular transactions involving approximately 800 vendors that we are potentially fraudulent or improper.⁶⁷

Unfortunately, FWA due to poor oversight is not the only problem plaguing Iraq reconstruction.

Lack of adequate planning and design is especially troubling in stability operations such as Iraq. Given the extensive preexisting infrastructure and the potential institutional capacity, the infrastructure projects in Iraq are much more complex than in Afghanistan. In addition to digging wells and paving roads, the USACE has undertaken efforts to expand water treatment plants and rebuild large power stations. Many of these projects cost in the tens and hundreds of millions of dollars and provide service to thousands of residents. A failure in design and planning for this level of effort can have far-reaching effects within the stability operation. For example, commissioning a non-functional Al Wahda Water Treatment Plant would certainly be aggravating for the population and could have negative effects within other stability operations pillars such as civil security and support to governance. Likewise, if the municipality cannot operate or maintain the plant, the consequences would be similar.

Third, sustainability and design considerations were lacking on larger infrastructure projects setting the conditions for extensive system failure affecting population centers. The typical OIF infrastructure projects are larger and more complex than in OEF making sustainability more critical. SIGIR has conducted several audits and inspections evaluating the sustainability considerations and the results are disconcerting; many designs have failed to account for sustainability.⁶⁸ As a result, with large projects comes large impacts and in Iraq,

failure to adequately sustain power plants and wastewater treatment plants can have huge consequences.

Finally, security appears to have had a greater impact on reconstruction in Iraq than in Afghanistan. There are many instances of projects unable to be visited, inspected or monitored and there are even examples of projects that were cancelled mid-construction purely because of security concerns. Not only is this potentially a huge waste of reconstruction funding, it also diminishes the success of the overall stability operation by discrediting the government as well as calling into question the resolve of the military forces. In the overall analysis, security is a factor that cannot be ignored when conducting infrastructure reconstruction in support of stability operations.

OVERALL FINDINGS AND ANALYSIS

Host nation characteristics can be a useful indicator of reconstruction objectives in a post-crisis environment. Table 2 summarizes some select characteristics from both Afghanistan and Iraq. Through comparison, one can infer Afghanistan is an agrarian society with little pre-existing infrastructure and a relatively low standard of living and a low technical, administrative and material capability to operate and maintain advanced infrastructure. Conversely, Iraq is more modern and exhibits a higher standard of living. This suggests that Iraq may possess a greater technical, administrative and material capability. This technical, administrative and material capability, or municipal capacity, may be an important limiting factor for near-term infrastructure reconstruction goals; attempting projects that exceed this municipal capacity, is to leave the population with infrastructure systems they cannot operate and maintain. Of course, efforts to build capacity can push this envelope out but the bulk of that heavy lifting may fall within other stability operations pillars for example supporting governance in order to establish

the revenue streams necessary to operate and maintain complex power plants or water treatment systems.

Afghanistan	Size	Iraq
<i>251,000 sq miles</i>		<i>168,000 sq miles</i>
<i>33 million</i>	Population	<i>28 million</i>
<i>20 percent</i>	Urbanization	<i>70 percent</i>
<i>165/1,000</i>	Infant Mortality (<1)	<i>36/1,000</i>
<i>22 percent</i>	Improved Water	<i>77 percent</i>
<i>30 percent</i>	Improved Sanitation	<i>76 percent</i>
<i>Agriculture/mining</i>	Industry	<i>Oil production</i>
<i>\$800</i>	GNP	<i>\$1,900</i>
<i>6 percent</i>	Electricity	<i>50% of demand (degraded)</i>
<i>Expedient repairs to urban water systems</i>	UNDP Immediate Needs	<i>Increase/repair potable water systems</i>
<i>Electrical power to health, water and gov't facilities</i>		<i>Restore electrical power to pre-1991 levels</i>

Table 2. Comparison of National Characteristics

A second important consideration is the funding and execution construct used in reconstruction. This drives the oversight, planning and design used during reconstruction. With a CERP-funded, PRT-executed construct, the oversight, design and planning capability may be lacking. This places all but the most basic projects at risk of failure. If CERP is a weapon system as many have asserted, it certainly is not a fire and forget weapon. Of course, access to a massive organization such as USACE is only beneficial if employed properly. Improper planning, design and oversight on larger, more complex projects only places more people at risk and creates opportunity for corruption.

Finally, security is an absolute prerequisite for reconstruction activities. Attempting infrastructure reconstruction in a non-permissive environment certainly makes both construction

and inspection extremely difficult. When project inspectors and quality assurance representatives are unable to visit construction sites on a frequent basis, the project can be at risk for delays and cost overruns from poor construction or non-performance. Likewise, non-permissive environments can make it difficult for contractors to recruit and retain a qualified workforce, which can also cause project delays and cost overruns. Although not well documented, reconstruction can also draw violence into communities and endanger the population it seeks to help. Infrastructure reconstruction is most effective when done in conjunction with adequate levels of security.

RECOMMENDATIONS

Although doctrine presents the five stability operations tasks as pillars or interrelated circles on a Venn diagram, common sense tells us that some tasks are more likely to be sequential than dependent. This analysis of infrastructure reconstruction supports the idea that there is a progression from 'restore essential services' to 'support to economic and infrastructure development.'⁶⁹ Restoring essential services involves meeting the immediate needs such as food, water, shelter, medical support and transitioning into SWEAT-MSO. Support to economic and infrastructure development includes restoring physical infrastructure at the local level and comprehensive infrastructure improvements at the regional level. Some literature also supports this concept. Alastair McKechnie suggests once a target country's needs and absorptive capacity is determined, the transition to development takes place in three stages. The first is "emergency relief" which may take place during the conflict and typically includes food, shelter and basic healthcare. This stage may also involve some reconstruction and development assistance to improve government capacity. The second stage is "reconstruction" which involves the restoration of services on an emergency basis. Finally, the "transition to development" can take

place “when the post-conflict country returns to normal.” This stage requires the economy to be stable and generate resources to operate the government.⁷⁰

Figure 4 graphically illustrates the relationship between the progressive stages of reconstruction and the key factors discussed in this paper. The stages of reconstruction are the increasingly larger bands beginning with emergency relief, growing to reconstruction and finally development. The X-axis represents the increasing municipal capacity of a host nation and the Y-axis represents the increasing level of security for the host nation. The center cone depicts the ideal route to progress through infrastructure reconstruction stages; there is an optimum conduit to move from one stage to the next. This model suggests that adequate municipal capacity and acceptable levels of security must be present in order to expand reconstruction efforts beyond emergency relief. The high-angle dotted line to the left of the cone represents the risk of progressing reconstruction without adequate municipal capacity. These are projects that the host nation cannot operate and maintain. Similarly, the low-angle dotted line to the right of the cone represents the risk of progressing reconstruction without adequate security.

Two additional factors are critical to this model. The first is the existence of adequate oversight and controls. The second is the ability to properly plan and design projects. These engines permit larger, more complex projects as reconstruction progresses from stage to stage. Without sufficient oversight and design expertise, stability operations and reconstruction cannot progress even if the host nation possesses unlimited security and municipal capacity.

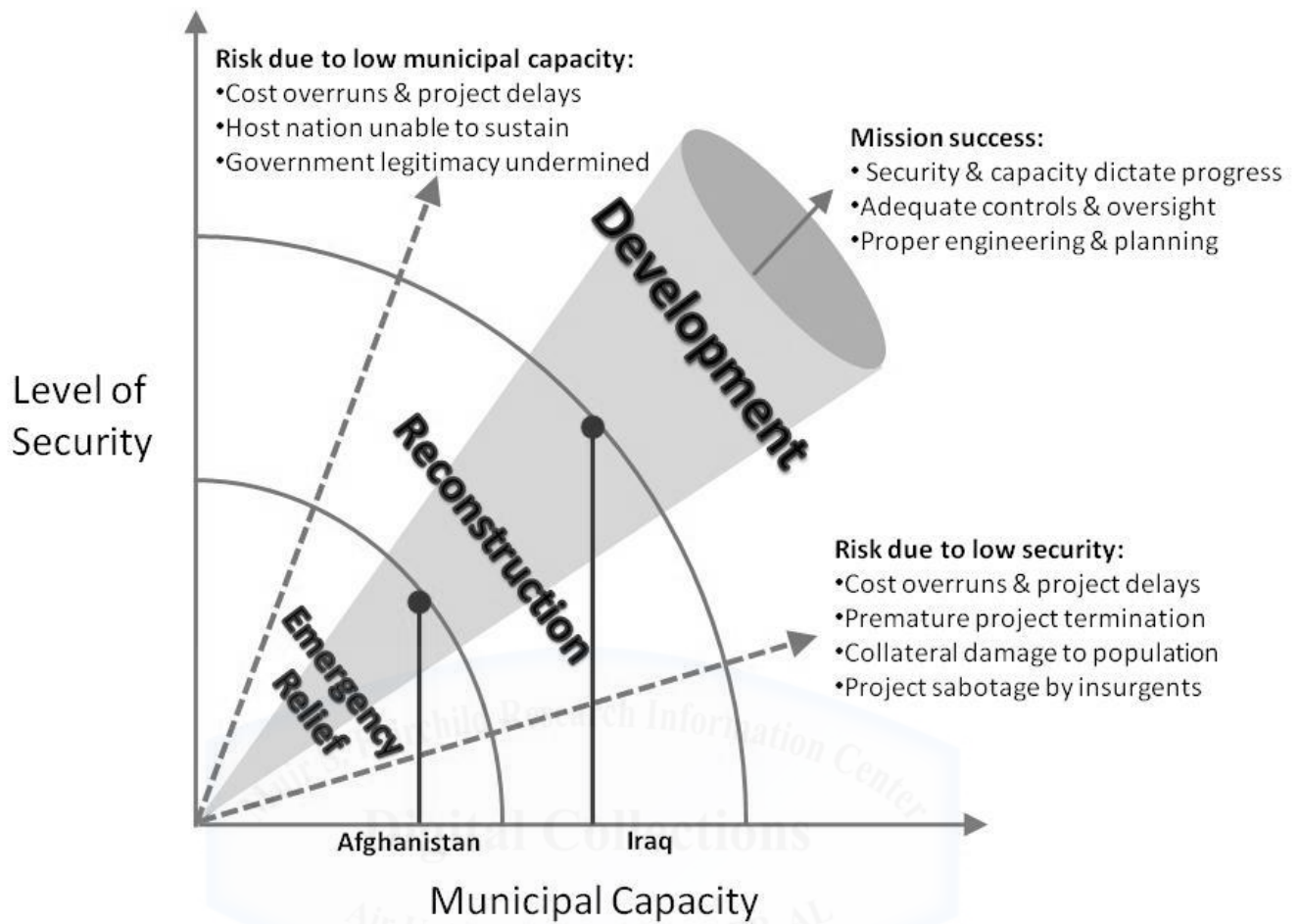


Figure 4. Progressive Infrastructure Reconstruction

Infrastructure reconstruction is a key component of stability operations and one that continues to challenge U.S. military operations in recent conflicts. Cost overruns, delays, corruption, sustainability and security have all become impediments to success. The implications for stability operations are simple. Reconstruction may be best implemented sequentially beginning with emergency relief, progressing to reconstruction and eventually development. Assessment of the host nation's municipal capacity is critical in determining the appropriate level of reconstruction in order to avoid unsustainable infrastructure systems. Likewise, security is a fundamental prerequisite for infrastructure reconstruction; the

environment must be permissive enough to allow inspection of the site and to ensure the safety of contractors. Infrastructure reconstruction can be viewed as a function of both security and municipal capacity where progressing beyond emergency relief before the host nation is ready may put the stability operation at risk. Finally, adequate oversight and design are an essential component of the infrastructure reconstruction effort; failure to resource these capabilities will result in nonfunctional infrastructure systems and even create opportunity for fraud waste and abuse.

¹ Lischer, Sarah Kenyon, "Military Intervention and the Humanitarian 'Force Multiplier'," *Global Governance* 13, 2007, 99-118

² Dempsey, Gary T., *Old Folly in a New Disguise: Nation Building to Combat Terrorism*, Cato Institute, D.C., 2002 (Policy Analysis, No 429)

³ Department of Defense Instruction (DoDI) 3000-05, *Stability Operations*

⁴ National Security Presidential Directive (NSPD) 44, *Management of Interagency Efforts Concerning Reconstruction and Stabilization*, 7 December 2005

⁵ Department of Defense Instruction (DoDI) 3000-05, *Stability Operations*, 16 Sep 2009, 1

⁶ Department of Defense Directive (DoDD) 3000-05, *Military Support for Stability, Transition, and Reconstruction (SSTR) Operations*, 28 November 2005, 1

⁷ Field Manual 3-07, "Stability Operations," US Army, glossary

⁸ Irish, H. Allen. "Peace Corps with Guns: Can the Military be a Tool of Development?" In *The Interagency and Counterinsurgency Warfare: Stability, Security, Transition and Reconstruction Roles*, 53-96. Carlisle Barracks, PA: Strategic Studies Institute, 2007, 60

⁹ DoD mission from website, <http://www.defense.gov/pubs/dod101/>

¹⁰ Irish, H. Allen. "Peace Corps with Guns, 70

¹¹ Minxin Pei and Sara Kasper, "Lessons from the Past: The American Record on Nation Building," *Carnegie Endowment for International Peace*, 2003, 4

¹² FDR to Bush, 15

¹³ FDR to Bush

¹⁴ Irish, H. Allen. "Peace Corps with Guns, 58

¹⁵ Minxin Pei and Sara Kasper, "Lessons from the Past, 4

¹⁶ Dobbins, James, Poole, Michelle A., Long, Austin, and Runkle, Benjamin. "After the War: Nation Building from FDR to George W. Bush," RAND, 2008, 84

¹⁷ *Ibid*, 37-83

¹⁸ Guidebook for Supporting Economic Development in Stability Operations, 29

¹⁹ DoDI, 3000-5, *Stability Operations*

²⁰ *Ibid*

²¹ Field Manual 3-07, "Stability Operations,"

²² *Ibid*

²³ GAO-09-86R, 1 October 2008, Provincial Reconstruction Teams, 1

²⁴ Field Manual 3-07, "Stability Operations," Appendix

-
- ²⁵ Martins, Mark S., The Commander's Emergency Response Program, JFQ issue 37, 46
- ²⁶ DoD Financial Management Regulation Volume 12, Chapter 27, January 2009, DOD 000.14-R, VOLUME 12, CHAPTER 27, "COMMANDERS' EMERGENCY RESPONSE PROGRAM (CERP)"
- ²⁷ Minxin Pei and Sara Kasper, "Lessons from the Past, 4
- ²⁸ Culture Grams 2010, World Edition, www.culturegrams.com
- ²⁹ UNICEF Afghanistan Statistics, 1
- ³⁰ McKechnie, Alastair J., *Humanitarian Assistance, Reconstruction & Development in Afghanistan: A Practitioner's View*, International Conference on Post-Conflict Reconstruction, 2002
- ³¹ UNDP Afghanistan Preliminary Needs Assessment for Recovery and Reconstruction, January 2002, 34
- ³² UNDP Afghanistan Preliminary Needs Assessment, 37
- ³³ SIGAR Quarterly Report to United States Congress, 30 January 2010
- ³⁴ Ibid
- ³⁵ Ibid
- ³⁶ Ibid
- ³⁷ SIGAR 10-1, Inspection of Farukh Shah School, SIGAR Inspection Report 10-2: Inspection of Abdul Manan Secondary School, SIGAR Inspection Report 10-3: Inspection of Habib Rahman Secondary School, and SIGAR Inspection Report 10-4: Inspection of Kohi Girls' School Construction
- ³⁸ Ibid
- ³⁹ *Progress toward Security and Stability in Afghanistan*, June 2009, Report to Congress in accordance with the 2008 National Defense Authorization Act (Section 1230, Public Law 110-181)
- ⁴⁰ SIGAR 10-1, Inspection of Farukh Shah School, SIGAR Inspection Report 10-2: Inspection of Abdul Manan Secondary School, SIGAR Inspection Report 10-3: Inspection of Habib Rahman Secondary School, and SIGAR Inspection Report 10-4: Inspection of Kohi Girls' School Construction
- ⁴¹ SIGAR 09-01, 28 July 2009, Inspection of Improvements to the Khowst City Electrical Power System: Safety and Sustainability Issues Were Not Adequately Addressed, , 9
- ⁴² SIGAR 09-02, 2 October 2009, Inspection Report: Mahmood Raqi to Nijrab Road Construction Project in Kapisa Province: Contract Requirements Met, But Sustainability Concerns Exist, 1
- ⁴³ SIGAR Audit-09-5, Increased Visibility, Monitoring, and Planning Needed for Commander's Emergency Response Program in Afghanistan, September 9, 2009
- ⁴⁴ *Quick Impact, Quick Collapse, The Dangers of Militarized Aid in Afghanistan*, paraphrased from speech given by Kai Elde to the U.N. Security Council on January 3, 2010, 2
- ⁴⁵ GAO 05-742, July 2005, Afghanistan Reconstruction; Despite Some Progress, Deteriorating Security and Other Obstacles Continue to Threaten Achievement of U.S. Goals
- ⁴⁶ *Quick Impact, Quick Collapse*, 3
- ⁴⁷ Kilcullen, David, *The Accidental Guerrilla* (New York: Oxford University Press, 2009)
- ⁴⁸ Assessing Iraqi Reconstruction Needs, 35
- ⁴⁹ Culture Grams 2010, World Edition
- ⁵⁰ UNICEF Afghanistan Statistics, 1
- ⁵¹ United Nations/World Bank Joint Iraq Needs Assessment October 2003, 12
- ⁵² Ibid, 21
- ⁵³ Ibid
- ⁵⁴ Ibid
- ⁵⁵ SIGIR Quarterly Report and Semiannual Report to the United States Congress, Jan 30 2010
- ⁵⁶ Ibid
- ⁵⁷ SIGIR PA-08-143, 29 October 2008, Report on Project Assessment of the Sadr City R3 Water Treatment Plant

-
- ⁵⁸ SIGIR PA-08-129, 22 July 2008, Report on Construction of the Al Ager Water Compact Unit, Nassriya, Iraq
- ⁵⁹ SIGIR PA-05-002, 15 March 2006 Al Wathba Water Treatment Plant, Baghdad, Iraq
- ⁶⁰ SIGIR PA-08-144, PA-08-145, PA-08-146, PA-08-147, PA-08-148, Falluja Waste Water Treatment System, Falluja, Iraq, 27 October 2008
- ⁶¹ SIGIR PA-05-001, 15 March 2006, Al Wahda Water Treatment Plant Baghdad, Iraq
- ⁶² SIGIR PA-080140, 15 April 2009, Report on the Rebuilding of the Sagrah School, Anbar province, Iraq
- ⁶³ SIGIR PA-08-136, 21 April 2009, Report on the Renovation of the Khandek Intermediate School, Yousefiya, Iraq
- ⁶⁴ SIGIR PA-06-067, 19 October 2006, Report on Project Assessment of the Baghdad Municipal Solid Waste Landfill, Baghdad, Iraq
- ⁶⁵ “Hard Lessons: The Iraq Reconstruction Experience,” Special Inspector General for Iraqi Reconstruction (SIGIR), 2008, 225
- ⁶⁶ Hard Lessons, 222
- ⁶⁷ SIGIR 10-011, 28 January 2010, Iraq Reconstruction Funds: Forensic Audits Identifying Fraud, Waste, and Abuse— Interim Report #2
- ⁶⁸ SIGIR PA-080139, 24 July 2008, Summary Report on Project Assessments through April
- ⁶⁹ Field Manual 3-07, “Stability Operations,”
- ⁷⁰ McKechnie, Alastair J., *Humanitarian Assistance, Reconstruction & Development in Afghanistan*



Bibliography

- Anita Menghetti and Jeff Drumtra, "Humanitarian Aid and Intervention: The Challenges of Integration; Improving the U.S. Government's Humanitarian Response, 2004
- "Applying Hard Lessons to the Reform of Stabilization and Reconstruction Operations," Special Inspector General for Iraqi Reconstruction (SIGIR), February 2010.
- CPA PN-ADG-252, June 2006, Provincial Reconstruction Teams in Afghanistan, An Interagency Assessment
- CPA 05-001, 22 Oct 2004, Coalition Provisional Authority Control of Appropriated Funds,
- Crane, Conrad C. and Terrill W. A., *Reconstructing Iraq: Insights, Challenges, and Missions for Military Forces in a Post-Conflict Scenario*. Carlisle Barracks, PA, U.S. Army War College, 2003
- Culture Grams 2010, World Edition, www.culturegrams.com
- Dempsey, Gary T., *Fools Errands: America's Recent Encounters with Nation Building*, Cato Institute, D.C., 2001
- Dempsey, Gary T., *Old Folly in a New Disguise: Nation Building to Combat Terrorism*, Cato Institute, D.C., 2002 (Policy Analysis, No 429)
- Department of Defense Instruction (DoDI) 3000-05, *Stability Operations*, 16 September 2009
- Department of Defense Directive (DoDD) 3000-05, *Military Support for Stability, Transition, and Reconstruction (SSTR) Operations*, 28 November 2005
- DoD Financial Management Regulation Volume 12, Chapter 27, January 2009, DOD 000.14-R, VOLUME 12, CHAPTER 27, "COMMANDERS' EMERGENCY RESPONSE PROGRAM (CERP)"
- Dobins, James, Jones, Seth G., Crane, Keith, Rathmell, Andrew, Steele, Brett, Teltschik, Richard Teltschik, and Timilsina, Anga RAND Corporation, *The UN's Role in Nation Building from the Congo to Iraq*
- Dobbins, James. 'Occupying Iraq: A Short History of the CPA', *Survival*, 51: 3, 131 — 162
- Dobbins, James, Poole, Michelle A., Long, Austin, and Runkle, Benjamin. "After the War: Nation Building from FDR to George W. Bush," RAND, 2008.

Field Manual 3-07, "Stability Operations," US Army [PDF File]

Field Manual 3-24, "Counterinsurgency Operations," US Army [PDF File]

GAO-04-902R June 2004 Rebuilding Iraq Resource, Security, Governance, Essential Services, and Oversight Issues

GAO-08-1144T Stabilizing and Rebuilding Iraq, Iraqi Revenues, Expenditures, and Surplus
Statement of Joseph A. Christoff, Director International Affairs and Trade

GAO-08-1031, August 2008, Stabilizing and Rebuilding Iraq, Iraqi Revenues, Expenditures, and Surplus

GAO-090526, June 2009, Rebuilding Iraq, Improved Management Controls and Iraqi Commitment Needed for Key State and USAID Capacity-Building Programs

GAO-08-966, July 2008, Rebuilding Iraq, DOD and State Department Have Improved Oversight and Coordination of Private Security Contractors in Iraq, but Further Actions Are Needed to Sustain Improvements

GAO-08-568T, Stabilizing and Rebuilding Iraq, Actions Needed to Address Inadequate Accountability over U.S. Efforts and Investments Statement of David M. Walker
Comptroller General of the United States

GAO-08-117, October 2007, Stabilizing and Rebuilding Iraq, U.S. Ministry Capacity Development Efforts Need an Overall Integrated Strategy to Guide Efforts and Manage Risk

GAO-07-525T, 23 April 2007, Stabilizing and Rebuilding Iraq, Conditions in Iraq Are Conducive to Fraud, Waste, and Abuse Statement of David M. Walker Comptroller General of the United States

GAO-07-385T, Securing Stabilizing and Rebuilding Iraq, GAO Audit Approach and Findings
Statement of David M. Walker Comptroller General of the United States

GAO-07308sp, January 2007, Securing Stabilizing and Rebuilding Iraq, Key Issues for Congressional Oversight

GAO-09-86R, 1 October 2008, Provincial Reconstruction Teams

GAO-07-30R 15 December 2006, Iraq Reconstruction

GAO-05-742, Afghanistan Reconstruction, July 2005

GAO 05-742, July 2005, Afghanistan Reconstruction; Despite Some Progress, Deteriorating Security and Other Obstacles Continue to Threaten Achievement of U.S. Goals

GAO 04-403, June 2004, Afghanistan Reconstruction; Deteriorating Security and Limited Resources Have Impeded Progress; Improvements in U.S. Strategy Needed

Gompert, David C., Kelly, Terrence K. Stearns, Brooke Lawson, Parker Michelle, and Colloton, Kimberly. "Reconstruction Under Fire," RAND, 2009. [PDF File]

"Hard Lessons: The Iraq Reconstruction Experience," Special Inspector General for Iraqi Reconstruction (SIGIR), 2008.

Interagency and Counterinsurgency Warfare: Stability, Security, Transition, and Reconstruction Roles, Editors: Joseph R. Cerami and Jay W. Boggs, December 2007

Iraqi Reconstruction: Reliance on Private Military Contractors and Status Report Hearing before the Committee on Oversight and Government Reform, House of Representatives One Hundred Tenth Congress First Session, February 7, 2007, Serial No. 110–11

Irish, H. Allen. "Peace Corps with Guns: Can the Military be a Tool of Development?" In *The Interagency and Counterinsurgency Warfare: Stability, Security, Transition and Reconstruction Roles*, 53-96. Carlisle Barracks, PA: Strategic Studies Institute, 2007.
<http://sel.isn.ch/serviceengine/FileContent?serviceID=ISN&fileid=0BD17FB7-E012-8DDA-6075-149C8EFE96A0&lng=en>.

Joint Publication (JP) 3-0. *Joint Operations*, 2 October 2008.

Kenneth M. Pollack, *After Saddam: Assessing the Reconstruction of Iraq*, Saban Center for Middle East Policy at the Brookings Institute, 2004 (Analysis Paper)

Kilcullen, David, *The Accidental Guerrilla* (New York: Oxford University Press, 2009)

Lischer, Sarah Kenyon, "Military Intervention and the Humanitarian 'Force Multiplier'," *Global Governance* 13, 2007, 99-118

Martins, Mark S., The Commander's Emergency Response Program, JFQ issue 37

- McKechnie, Alastair J., *Humanitarian Assistance, Reconstruction & Development in Afghanistan: A Practitioner's View*, International Conference on Post-Conflict Reconstruction, 2002
- Minxin Pei and Sara Kasper, "Lessons from the Past: The American Record on Nation Building," *Carnegie Endowment for International Peace*, 2003
- Moore, John M., *Disconnected Strategies: Why Success is Elusive in Stability Operations and Post-Conflict Reconstruction*, Carlisle Barracks, PA, U.S. Army War College, 2004
- National Security Presidential Directive (NSPD) 44, *Management of Interagency Efforts Concerning Reconstruction and Stabilization*, 7 December 2005
- "Operationalizing a Comprehensive Approach in Semi-Permissive Environments," Edited by Christopher M Schnaubelt, NATO Defense College
- Progress toward Security and Stability in Afghanistan*, June 2009, Report to Congress in accordance with the 2008 National Defense Authorization Act (Section 1230, Public Law 110-181)
- Provincial Reconstruction Teams in Afghanistan: An Interagency Assessment, Office of the Coordinator for Stabilization and Reconstruction, Department of State, Joint Center for Operational Analysis/United States Joint Forces Command, Bureau of Policy and Program Coordination, United States Agency for International Development, April 5, 2006
- Pusateri, Anthony, E., *Metrics to Monitor Governance and Reconstruction in Afghanistan: Development of Measures of Effectiveness for Civil-Military Operations and a Standardized Tool to Monitor Governance Quality*. Ft. Bragg, N.C. : [United States Army Civil Affairs and Psychological Operations Command], Technical Report 04-01, 2004
- Quick Impact, Quick Collapse, The Dangers of Militarized Aid in Afghanistan*, paraphrased from speech given by Kai Elde to the U.N. Security Council on January 3, 2010. Signatures of paper include: Action Aid, Afghanaid, CARE, Christian Aid, Concern Worldwide, Norwegian Refugee Council, Oxfam and Trocaire.
- Reconstructing Iraq: A Guide to the Issues*, A joint publication of the Open Society Institute and the United Nations Foundation, 2003

SIGAR 09-01, 28 July 2009, Inspection of Improvements to the Khowst City Electrical Power System: Safety and Sustainability Issues Were Not Adequately Addressed

SIGAR 09-02, 2 October 2009, Inspection Report: Mahmood Raqi to Nijrab Road Construction Project in Kapisa Province: Contract Requirements Met, But Sustainability Concerns Exist

SIGAR 10-1, 26 October 2009, Inspection of Farukh Shah School Construction Project in Kapisa Province

SIGAR Inspection Report 10-2: Inspection of Abdul Manan Secondary School Construction Project in Kapisa Province: Insufficient Planning, Safety Problems, and Poor Quality Control Affect Project Results October 26, 2009

SIGAR Inspection Report 10-3: Inspection of Habib Rahman Secondary School Construction Project in Kapisa Province: Design and Safety Issues Require Attention October 26, 2009

SIGAR Inspection Report 10-4: Inspection of Kohi Girls' School Construction Project in Kapisa Province: Construction Delays Resolved, But Safety Concerns Remain October 22, 2009

SIGAR Quarterly Report to United States Congress, 30 January 2010

SIGAR Audit-09-5, Increased Visibility, Monitoring, and Planning Needed for Commander's Emergency Response Program in Afghanistan, September 9, 2009

SIGIR PA-08-143, 29 October 2008, Report on Project Assessment of the Sadr City R3 Water Treatment Plant

SIGIR PA-080140, 15 April 2009, Report on the Rebuilding of the Sagrah School, Anbar province, Iraq

SIGIR PA-080139, 24 July 2008, Summary Report on Project Assessments through April

SIGIR PA-08-136, 21 April 2009, Report on the Renovation of the Khandek Intermediate School, Yousefiya, Iraq

SIGIR PA-08-129, 22 July 2008, Report on Construction of the Al Ager Water Compact Unit, Nassriya, Iraq

SIGIR PA-06-067, 19 October 2006, Report on Project Assessment of the Baghdad Municipal Solid Waste Landfill, Baghdad, Iraq

SIGIR PA-05-002, 15 March 2006 Al Wathba Water Treatment Plant, Baghdad, Iraq

SIGIR PA-05-001, 15 March 2006, Al Wahda Water Treatment Plant Baghdad, Iraq

SIGIR 10-003, October 27 2009, Iraq Commander's Emergency Response Program Generally Managed Well, but Project Documentation and Oversight Can Be Improved (SIGIR 10-003)

SIGIR 05-007, April 30, 2005, Quarterly Report and Semiannual Report to the United States Congress Report

SIGIR Quarterly Report and Semiannual Report to the United States Congress, Jan 30 2010

SIGIR 07-014, 25 July 2007, Status of the Provincial Reconstruction Teams Program Expansion in Iraq

SIGIR Audit-09-5, Increased Visibility, Monitoring, and Planning Needed for Commander's Emergency Response Program in Afghanistan, September 9, 2009

SIGIR 10-011, 28 January 2010, Iraq Reconstruction Funds: Forensic Audits Identifying Fraud, Waste, and Abuse– Interim Report #2

SIGIR 10-006, 29 October 2009, Development Fund for Iraq: Policy Guidance Needed To Enhance Accountability of USACE-managed Funds

SIGIR 10-004, 28 October, 2009, Iraq Reconstruction Funds: Forensic Audits Identifying Fraud, Waste, and Abuse– Interim Report #1

SIGIR 09-004, 27 October, 2008, Iraq Reconstruction Project Terminations Represent a Range of Actions

SIGIR 08-008, 24 January 2008, U. S. Anticorruption Efforts in Iraq: Sustained Management Commitment is Key to Success

SIGIR 08-006, 25 January 2008, Commander's Emergency Response Program in Iraq Funds Many Large-Scale Projects

SIGIR PA-08-144, PA-08-145, PA-08-146, PA-08-147, PA-08-148, Falluja Waste Water Treatment System, Falluja, Iraq, 27 October 2008

SIGIR 08-006, 18 October 2007, Commander's Emergency Response Program in Iraq Funds Many Large-Scale Projects

SIGIR 08-006, 30 January 2007, Commander's Emergency Response Program in Iraq Funds
Many Large-Scale Projects

SIGIR 08-006, 24 October 2005, Commander's Emergency Response Program in Iraq Funds
Many Large-Scale Projects

Smith, Dan, "Trends and Causes of Armed Conflict," Research Center for Constructive Conflict
Management

United Nations/World Bank Joint Iraq Needs Assessment October 2003

UNDP Afghanistan Preliminary Needs Assessment for Recovery and Reconstruction, January
2002

Williams, Garland H., *Engineering Peace: The Military Role in Postconflict Reconstruction*,
United States Institute of Peace Press, D.C., 2005

