

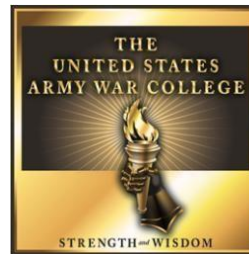
Strategy Research Project

Infrastructure Construction in Stability Operations

by

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Abstract

From 2001 through 2014 the United States spent nearly \$165 billion on reconstruction in Afghanistan and Iraq. As a part of these efforts, infrastructure construction programs managed by military engineers during Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF) provided new government facilities, road networks, and utility support infrastructure for the host-nation governments. These efforts reflect the tremendous capabilities of military engineers but they also highlight the importance of aligning work on the ground with national policy and military doctrine. This paper recommends: 1. Department of State taking the lead for stabilization and reconstruction; 2. Defining the scope of reconstruction as an interagency team before beginning; 3. Involving the host-nation in planning, prioritization, and oversight; and 4. Establishing security and legitimacy prior to beginning construction.

Infrastructure Construction in Stability Operations

United States military doctrine for stability operations includes tasks aimed at supporting the host-nation government and re-establishing essential services for the local population. From 2001 through 2014, Congress appropriated over \$104 billion for reconstruction in Afghanistan.¹ Reconstruction was mainly conducted by the Departments of Defense (DoD) and State (DoS), as well as the United States Agency for International Development (USAID), and included tasks such as purchasing military equipment, conducting training, providing grants and loans for business development, counter-narcotics activities, and the construction of infrastructure.² As part of those efforts, the Army Corps of Engineers obligated over \$8 billion for the construction of new facilities for Afghan security forces.³ From 2004 through 2012 the United States spent over \$60 billion for reconstruction in Iraq,⁴ including roughly \$12 billion for infrastructure construction.⁵ These construction programs provided new government facilities, road networks, and utilities support infrastructure for the host-nations.

U.S. construction efforts in Afghanistan and Iraq contributed to the stability and legitimacy of those nation's governments but deviations from national policy, inadequate collaboration with partners, and the insufficient condition setting limited the ability of the construction programs to achieve desired end states. This paper will explore what national policy and military doctrine say about reconstruction in stability operations and review some lessons learned from infrastructure construction programs during Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). Finally, it will propose some recommendations for improvement before conducting future stability operations.

National Policy and Military Doctrine for Reconstruction

Recent experience in Iraq and Afghanistan has shown leaders they cannot expect to reach enduring end states by deploying military forces to a failed or failing state to kill the enemy and return home without some enduring presence to help stabilize the situation and enable civil authorities. Doing so would leave a vacuum that could be filled by elements such as Al Qaida, the Taliban, or Daesh - all of whom oppose the ideas of freedom, democracy, and capitalism. Such forces are likely to take advantage of the weakened or lack of governance to pursue objectives that are counter to the host-nation's stability and security. If the U.S. military is to achieve national objectives, it must remain long enough to help establish a stable and legitimate host-nation government that represents the people and is able to sustain a lasting peace. These ideas are explained in U.S. policy and military doctrine for stability operations.

Guidance for the conduct of reconstruction in stability operations comes from the President. National Security Presidential Directive (NSPD) 24, signed on January 20, 2003, initially put the DoD in charge of reconstruction in Iraq.⁶ In May 2004, NSPD 36 shifted policy and put the DoS in charge of Iraq's reconstruction. This directive tasks the Commander of U.S. Central Command with the responsibility for military and security efforts in Iraq while DoS is responsible for "the continuous supervision and general direction of all assistance for Iraq."⁷ Then, in December 2005, NSPD 44 further clarified reconstruction and stabilization responsibilities, tasking the DoS to improve planning, preparation, and execution of these efforts for the U.S. government.⁸ The DoS is also responsible for synchronizing those efforts with U.S. military plans and operations.⁹ In Presidential Policy Directive (PPD) 6, signed September 22, 2010, President Obama reiterated the responsibility of the United States to further global development and

named the USAID “a leader in the discipline of development,” with foreign policy guidance from the Secretary of State.¹⁰

Military doctrine acknowledges that civilian agencies have the lead for reconstruction and stabilization. Joint Publication (JP) 3-07 *Stability Operations* states “The Department of State is charged with responsibility for leading a whole-of-government approach to stabilization.”¹¹ This makes sense since diplomacy and foreign policy expertise are so critical in stabilizing another nation’s government. This publication further states that although civilian agencies have the lead, “the joint force may render support, particularly in the conduct of initial response activities of infrastructure restoration.”¹² The goal of “initial response activities [is] to provide a safe, secure environment and attend to the immediate humanitarian needs of a population.”¹³

After that, the interagency team should work to help the host-nation government establish services and provide infrastructure to improve the lives of its citizens. This will contribute to the legitimacy of the local government and help bring stability to the nation. This is not easy to do, especially when the host-nation may not have an existing legitimate government, such as in Iraq in 2003 after the United States led coalition destroyed Saddam Hussein’s Ba’athist regime, or when insurgents or other forces are working to counter stabilization objectives, such as the Taliban in Afghanistan.

Further explaining the purpose of the military with respect to infrastructure, DoD Instruction 3000.05 “Stability Operations” states that the DoD will “establish civil security and civil control, restore essential services, repair critical infrastructure, and provide humanitarian relief.”¹⁴ JP 3-07 says “The joint force may be called upon to support infrastructure development by providing security, funding and materiel, Civil Affairs

functional expertise, or construction.”¹⁵ Army Doctrine Reference Publication (ADRP) 3-0 *Unified Land Operations* lists “decisive action stability tasks” including establishing civil security, restoring essential services, and support to economic and infrastructure development.¹⁶ The Army executes these tasks to provide a secure environment, meet the needs of the populace, gain support for the host-nation government, and shape the environment for interagency and host-nation success.¹⁷

U.S. military stability doctrine further states that “Commanders identify nonmilitary but critical objectives to achieving the end state. Such objectives may include efforts to ensure effective governance, reconstruction projects that promote social well-being, and consistent actions to improve public safety.”¹⁸ In other words, the goal of these operations is to help establish a safe and secure environment with a legitimate and stable government, and assist that government to provide essential services to the population and sustain a lasting peace.

Doctrine acknowledges the importance of infrastructure construction in contributing to the objectives of stability operations; however, it mainly focuses on the repair of infrastructure that was damaged during the conflict, instead of building new facilities and capabilities. JP 3-07 talks about reconstructing critical economic infrastructure to support development.¹⁹ JP 3-34 *Joint Engineer Operations* talks about assisting with infrastructure repair during the “stabilize” phase of joint operations.²⁰ Doctrine makes some limited references to building new infrastructure, but this is mainly in reference to building in support of economic development. ADRP 3-07 *Stability* includes “support to economic and infrastructure development” as one of the five primary stability tasks.²¹ This task includes “reconstructing or building essential

economic infrastructure”²² to contribute to economic recovery and governance with the end state of stabilization. In addition to enhancing the local government’s ability to provide essential services to the population, ADRP 3-07 also states that “infrastructure development complements and reinforces efforts to stabilize the economy... [using] construction services, engineering, and physical infrastructure.”²³ U.S. Army Corps of Engineers (USACE) doctrine also addresses this subject, mentioning both reconstruction and supporting the construction of new infrastructure. Engineer Publication 500-1-2 states that “Field Force Engineering support in stability operations include[s] the *restoration* of essential services and support for economic and *infrastructure development*.”²⁴ The purposes of these efforts are to “maintain or reestablish a safe and secure environment and provide essential government services, emergency infrastructure reconstruction, and humanitarian relief.”²⁵

Involving the host-nation in the planning and executing reconstruction efforts is also critical. As JP 3-07 points out, infrastructure construction is not an end in itself. Building or repairing infrastructure is a way to contribute to the host-nation government’s ability to provide services to its population and contribute to stabilization and development.²⁶ U.S. interagency efforts must include input from the host-nation government on needs and prioritization of development efforts. JP 3-34 states that engineers conduct infrastructure repair “in support of the other U.S. government departments and agencies, non-governmental organizations, intergovernmental organizations, and the host-nation.”²⁷

National policy and military doctrine give fairly clear guidance on the concepts behind conducting stability operations. Policy puts the DoS in charge of coordinating

reconstruction efforts among U.S. government agencies, but DoD is an important contributor to these efforts because of its vast capabilities and resources. Doctrine focuses primarily on repairing infrastructure that was damaged during the conflict, although it does mention building essential infrastructure to help with the economic recovery of the host-nation. Finally, it is important to remember that these efforts are in support of the host-nation and priorities must be synchronized with all involved.

Construction Management During OIF and OEF

The U.S. government funded the construction of a tremendous amount of infrastructure in Afghanistan and Iraq in the past 15 years. This work was mainly overseen and managed by three organizations: the DoD, the DoS, and the USAID. The vast majority, however, was funded through the DoD theater level headquarters and managed by USACE engineers and project managers.

The roughly \$20 billion spent by the United States in Iraq and Afghanistan from 2001 until 2014 was used to build everything from ministry level headquarters to brigade sized compounds with dozens of buildings and small, single building border outposts. The specific types of infrastructure constructed included barracks, dining facilities, headquarters buildings, logistics storage and distribution centers, medical facilities, fire and police stations, power generation plants, airfield improvements, border checkpoints, and transportation networks. In 2001, Afghanistan had roughly 18,000 kilometers of improved roadways. By 2015 that number was over 42,000 kilometers, including more than 12,000 paved kilometers.²⁸ The funding dedicated to these efforts indicates the massive scale of American efforts to help stabilize and legitimize the governments of Afghanistan and Iraq. Thanks to these efforts, nearly every Afghan National Army unit

has a new home with a full complement of permanent facilities and the U.S. government completed similar accomplishments in Iraq.



Figure 1. Base Built for Afghan Army Brigade



Figure 2. Fire Station Built for Afghan National Police

As previously discussed, policy states that the DoS is responsible for leading reconstruction efforts. In both Iraq and Afghanistan, however, the DoD spent the vast majority of the reconstruction funds appropriated by Congress. Civilian agencies such as USAID and the DoS conducted some economic and infrastructure development in both countries, but those efforts were significantly smaller than what was done by the military. Of the nearly \$110 billion appropriated for Afghanistan reconstruction, roughly \$66 billion was obligated by the DoD while the DoS spent about \$25 billion, and USAID approximately \$18 billion.²⁹ DoD used reconstruction funds to purchase military

equipment, fund training, provide budget assistance, and construct infrastructure for Afghan Security Forces. This includes over \$8 billion used by USACE for new facility construction contracts,³⁰ most of which built new facilities for security forces.

The United States provided just under \$61 billion for reconstruction in Iraq.³¹ The DoD obligated over \$45 billion of these funds, including over \$12 billion spent on infrastructure construction.³² The DoS and USAID used the remaining \$16 billion to support economic development, narcotics control, and other projects.³³

This indicates that the military had the lead in determining how to stabilize and reconstruct these countries. Despite NSPD 44 and PPD 6, Congress gave the bulk of the funding to the DoD. By controlling the money, the DoD was able to decide how and where that money would be used, thus determining which lines of effort got priority. Perhaps the host-nations could have benefitted more from increased investment in economic projects rather than barracks and vehicle maintenance facilities for the army, for example. Certainly the new army facilities contributed to the ability to maintain internal security by providing a new home for security forces, but those funds could potentially have been spent more effectively. The President appointed the DoS to oversee stabilization and reconstruction because the DoS has expertise in diplomacy and foreign policy. Yet this expertise was not fully used in Iraq or Afghanistan because DoD controlled the majority of the money.

The mission of infrastructure development during stability operations fits better under the mission of USAID than the DoD. USAID's mission is to "Partner to end extreme poverty and to promote resilient, democratic societies while advancing our security and prosperity."³⁴ But, considering organizational capabilities helps illustrate

why Congress gave the DoD the bulk of the funding. One problem with giving either DoS or USAID the task of leading reconstruction in two post-conflict nations simultaneously is that they do not have the personnel or capabilities to manage such a massive undertaking. The DoD includes nearly 3 million employees (counting active duty military, National Guard and Reserve forces, and civilians) while DoS has only 34,000 employees worldwide³⁵, and USAID only has about 3,100 employees.³⁶

The USACE alone has approximately 37,000 employees worldwide, not including military engineer units.³⁷ This gives the DoD far more engineers than total employees in the DoS and USAID combined. Since neither DoS nor USAID are manned or currently capable of managing such a tremendous task, Congress gave the funding to DoD. Unfortunately, the DoD does not have the diplomacy or foreign policy experience or expertise in development, so the bulk of the funds helped improve the security sector. This is contrary to current doctrine and the results do not seem, at this point, to be as enduring as they could have been.

To improve interagency coordination, the USACE created a Joint Program Integration Office (JPIO) under United States Forces Command – Afghanistan (USFOR-A). The JPIO managed Title 10 construction programs and linked USACE with the Combatant Command (U.S. Central Command), USFOR-A, DoS, USAID, and host-nation partners. According to the Center for Army Lessons Learned *USACE Overseas Contingency Operations Playbook*, “The JPIO is critical for ensuring USACE’s role in the [host-nation’s] reconstruction efforts is integrated with the roles of other stakeholders and interagency partners.”³⁸ Unfortunately, the JPIO mainly synchronized the infrastructure program using the Afghan Infrastructure Fund (AIF), while the military

engineers in the Combined Security Transition Command – Afghanistan (CSTC-A) oversaw the Afghan Security Forces Fund (ASFF). The funding appropriated for the AIF only equated to approximately \$385 million while the ASFF totaled over \$17 billion.³⁹ Again, this illustrates that DoD controlled the vast majority of the infrastructure funding with limited coordination with the diplomacy and foreign policy experts.

The scope and scale of recent construction efforts also exceeded what is discussed in doctrine. Military doctrine addresses infrastructure repair and the construction of infrastructure to support economic development, as opposed to building new facilities for security forces. This difference in focus is directly related to the fact that DoD led reconstruction efforts by controlling the majority of the funding. The DoD focused its efforts on the security sector because the military is more comfortable and familiar with working in that area, and because the President gave the DoD responsibility for military and security tasks in stabilization and reconstruction. Neither Afghanistan nor Iraq had sufficient facilities to sustain and train their security forces prior to OEF and OIF. While the DoD contributions certainly contributed to the professionalism of those nations' security forces, different prioritization of efforts could have brought more enduring stability. CSTC-A engineers had the mission of managing the construction programs to build facilities for the Afghanistan National Security Forces. That program included such facilities as barracks, motor pools, headquarters and other administrative buildings, medical facilities, logistics facilities, and more. The Afghan government is capable of building some of those same facilities and could have done so at lower costs than Coalition contractors because of expenses for security, overhead, engineering and design, and the cost of importing materials and employees.

CSTC-A engineers estimated that Afghan Ministry of Defense engineers were capable of managing a facility construction program of approximately \$20 million per year, as reflected in the FY15 budget allocation.⁴⁰

Other problems encountered during these operations stemmed, in part, from coalition planners not involving the local engineers in planning, decision making, and oversight of the construction programs early in the process. U.S. military leaders met with their Afghan counterparts to decide where to build military bases but the engineers in USACE and their contractors determined what types of facilities to build. While they did a tremendous job of managing massive construction programs, many of these projects were fraught with problems. Countless problems arose because of the type of construction materials contractors used to build new facilities.

The average Afghan soldier lived in mud huts without consistent access to electricity and running water before joining the military. They did not know how to use the relatively modern facilities that included sinks, showers, and toilets, not to mention generators, heating, and even air conditioning. This lack of familiarity caused issues with sustainment. Inspections of facilities that had been turned over to Afghan security forces revealed their inability to manage an operations and maintenance program without significant assistance from foreign contractors.⁴¹ Among the reasons for this were the inability of the Afghan government to hire enough local personnel for facility sustainment, the difficulty in finding trained and capable people to manage the type of facilities constructed, and difficulty in acquiring needed supplies for repairs or regular maintenance.⁴² Involving Afghan engineers in the program from the start could have

reduced costs by simplifying designs, finding sources of materials that were available locally, and producing facilities that Afghan soldiers knew how to use and maintain.

U.S. government representatives in both Iraq and Afghanistan also tried to build energy efficient infrastructure. Both of these countries have an abundance of sunlight and open terrain, making solar and wind power seem like a good way to provide sustainable energy for those nations. USAID and other U.S. government agencies conducted studies to determine the feasibility of using alternative sustainable forms of energy in Afghanistan, where electricity is a particularly important problem because of the need to import all petroleum products.⁴³ USAID is still working with the central energy company in Afghanistan, Da Afghanistan Breshna Sherkat (DABS), to build hydro and solar power plants near Kandahar and other cities.⁴⁴

Non-government entities and private citizens saw the potential with these ideas too. Mahdi Sadiqi, a native of Afghanistan and a researcher at Kansas State University, found that Afghanistan should use renewable energy such as solar power to help bring electricity to the remote areas of that country.⁴⁵ In 2009 a senior Afghan advisor for Mines and Energy spoke at the International Conference for Renewable Energy in Central Asia about the importance of renewable energy development in the region.⁴⁶

Unfortunately, using advanced systems in under-developed nations can be challenging. USACE constructed some limited infrastructure in Iraq using solar power but this was not common because of the inability of the Iraqis to sustain that infrastructure, especially outside of Baghdad.⁴⁷ Afghanistan's Ministry of Energy and Water is experimenting with solar power,⁴⁸ but they are having difficulty finding expertise to operate and maintain such systems, especially on large scale projects. Most local

nationals do not have the understanding or experience to know how to use those types of power plants and host-nation governments cannot afford to hire foreign contractors to handle maintenance and operations for them. Even in the simple case of powering lights on perimeter guard towers using solar power proved problematic in Afghanistan. Afghan soldiers frequently wired heaters into the power sources and drained the batteries, which could not be replaced locally. In other cases, criminals stole parts for use on private homes or for other purposes.⁴⁹ Many of these issues could have been averted if U.S. engineers had done more to involve the local national engineers earlier in the process of determining what should be built and how it should be built.

Countless additional issues arose from attempting to manage construction projects in an environment that lacked security and governance. Because of this, USACE had to deal with contractors incurring cost overruns, project completion delays, and the inability to actually complete contracts. The U.S. Special Inspector General for Iraq Reconstruction (SIGIR) stated that “Escalating violence in Iraq severely affected the rebuilding program.”⁵⁰ Insurgents in both Iraq and Afghanistan attacked contractors and deliveries of construction materials resulting in higher costs for labor and site security, delayed project completion, and cancellation of projects in areas that could not be sufficiently secured. In Iraq, the completion dates of large USACE projects slipped between 120 and 330 days on average.⁵¹

Many more examples of infrastructure construction issues can be found in investigation reports produced by the SIGIR and its counterpart in Afghanistan, the U.S. Special Inspector General for Afghanistan Reconstruction (SIGAR). The Gardez Hospital was a USAID funded project that had still not been completed nearly two years

past the initial estimated completion date.⁵² A prison construction project in Baghlan Province funded by DoS was so poorly built a portion of the new prison had to be demolished.⁵³ A DoD funded project for the Afghan National Army at “Camp Commando,” worth \$18.7 million, was completed in accordance with the contract but after two years the fuel point and power plants were still not functional so the facilities were not fully usable as intended.⁵⁴

Contractors performed better in Iraq but construction there suffered many of the same problems seen in Afghanistan. For example, poor quality construction resulted in unsafe electrical connections, cracking tiles, and damaged plumbing fixtures in an Iraqi Army brigade headquarters and barracks.⁵⁵ The SIGIR also found the latrines in the newly constructed barracks at the Baghdad Police College to be in a state of disrepair due, in part, to theft of materials and a lack of maintenance on the part of the Iraqis.⁵⁶

Clearly the U.S. government has many lessons to learn from the massive infrastructure construction programs in Afghanistan and Iraq. The DoD took the lead because it is the most capable agency in the U.S. government to carry out efforts of this scale, but DoS has the responsibility and experience more applicable to nation building. U.S. agencies did not do a good job of coordinating infrastructure construction efforts with host-nation engineers. Such coordination could have saved considerable amounts of money and resulted in facilities that are more sustainable for the locals. U.S. military efforts in both countries focused mainly on building new facilities for security forces while doctrine focuses on infrastructure repair and building in support of economic development. U.S. engineers also learned many lessons about the difficulty of managing construction programs in environments lacking adequate local security and

governance. The rest of this paper makes recommendations to improve using infrastructure construction in support of stability operations in the future.

Recommendations for Future Stability Operations

A holistic review of doctrine and recent history reveals four recommendations to improve how U.S. government agencies conduct reconstruction as a part of stability operations. First, the DoS should lead reconstruction missions, and funding should come with that responsibility. DoD must support the DoS in the execution of these missions with engineering and other capabilities. Second, U.S. government interagency partners should plan together prior to initiating operations. One of the outputs of this planning should be an explanation of the extent to which the United States will conduct reconstruction. Third, U.S. construction planners must involve host-nation leaders and engineers in the planning, prioritization, and oversight of infrastructure construction programs. Finally, the U.S. interagency team must set the conditions for a minimum standard of security and governance before beginning with construction.

DoS Should Lead Stabilization and Reconstruction

The first recommendation is to let DoS take the lead of stabilization and reconstruction operations with DoD in support. The President holds the State Department responsible for these operations and it makes sense. The DoS personnel are the experts in diplomacy and foreign policy, and they have long-term global and regional responsibilities while the military will depart an overseas area of operations upon achieving military objectives. The USAID personnel are the experts in economic development and should lead in this area, with foreign policy guidance from the DoS.

The DoD should focus on its area of expertise: training, advising, and assisting foreign security forces and helping to establish a secure environment, all contributing to

strengthening governance in the host-nation. The DoD, and specifically the USACE, also provides the capability to manage infrastructure construction programs. The DoS should lead by prioritizing tasks that support the lines of effort and by coordinating the work of the interagency team. In order to truly have the power to prioritize efforts, the DoS should be given the bulk of the reconstruction funds allocated by Congress.

Because this is typically such a large amount of funding, the DoD can help award and manage contracts, but the DoS should be responsible for overseeing this function. This way, the agency with the long-term responsibility for foreign affairs will be able to lead and set priorities while the military, USAID, and other agencies can support within their areas of expertise. Even Robert Gates, as Secretary of Defense, called for increasing the funding for diplomacy and development to be used by the DoS and the USAID.⁵⁷

This recommendation supports concepts already included in policy and doctrine.

Improve Interagency Planning

The second recommendation is for U.S. government interagency partners to improve cooperation during the campaign Phases 0 and I in order to ensure planning and preparation for Phases IV and V of stability operations.⁵⁸ During planning the team should come to agreements on the end state, the center of gravity, and the lines of effort with decisive points. With respect to construction, planners must decide if U.S. contributions will be used to build new infrastructure or if the focus will be on repairing what was damaged during the conflict. Engineers and project managers in the USACE can build facilities for security forces as well as infrastructure that impacts economic development. Guidance must come from the DoS through the Combatant Commander, or Joint Task Force leading the operation, directing how to split efforts among different types of infrastructure to help achieve the desired end states. Engineer planners should

then decide on designs, the type and source of materials, appropriate contractors, and construction codes. The *USACE Overseas Contingency Operations Playbook* states “USACE personnel should advise customers on project efficacy, usefulness, and linkage to the overall campaign strategy, as well as engineering concerns.”⁵⁹ These factors will significantly impact the host-nation’s ability to sustain their infrastructure.

In accordance with lessons learned in OIF and OEF, engineers should consider the criteria of feasibility, acceptability, and suitability when deciding what to build and how to build it. To be feasible, designs must be within the capabilities of the contractors operating in that location. The infrastructure must satisfy the requirements of the host-nation end-users to be acceptable. Suitability tests plans to ensure buildings will be sustainable for the end users and takes into consideration the type of infrastructure that will most benefit the host-nation, thus contributing to development. Not satisfying these three criteria risks wasting considerable amounts of money on inadequate infrastructure that will not contribute to the government’s legitimacy and stability.

An assessment of strategic risk should include consideration of gaps between the construction strategy and its ability to support the achievement of desired objectives for the operation. Such gaps could come from building what the locals cannot sustain, not having the funds to build the type, quantity, or quality of infrastructure needed by the locals, or a contractor’s inability to complete projects on time or in accordance with plans. Engineers should figure out how to use designs that more closely match local practices. The SIGIR advocates this concept, stating engineers should “Design projects in accord with the host-nation’s capacity to maintain and sustain them.”⁶⁰ Simply installing locally made toilets instead of Western models could save the host-nation

significant amounts of sustainment funds and frustration. American contractors installed U.S. standard heating, ventilation, and air conditioning systems in some facilities in Iraq and Afghanistan. Most local engineers did not know how to maintain or repair these systems, and they could not easily find repair parts. For these reasons and to increase stimulation of the local economy, U.S. government agencies should maximize use of local contractors, infrastructure designs, and materials. This practice contributes to economic development and overall stability and security in the host-nation.

However, this recommendation could complicate safety and following the construction codes. To mitigate this risk, USACE engineers should still be responsible for reviewing designs. They could adjust local designs and materials to ensure United States funded facilities are safe for the end-users. The military should expand doctrine to further explain how infrastructure construction can be used to achieve objectives in stability operations. Doctrine must acknowledge that construction programs will not solely focus on infrastructure repairs, but will include the construction of new facilities in accordance with the lines of effort to help achieve the end state.

Involve the Host-Nation in Planning

The third recommendation is to involve the host-nation in planning, prioritizing, and overseeing reconstruction efforts. Involving local national engineers in planning will help develop a good construction strategy that will support achieving the desired end states of the operation. This will help build host-nation capacities and capabilities as well as giving the local government a sense of ownership in stabilization and reconstruction efforts. Host-nation partners will provide important input to the construction strategy and help determine acceptability and suitability as described

above. Local engineers must be able to maintain, sustain, and continue to improve their infrastructure after the departure of American or Coalition forces.

As discussed above, Army engineers should favor hiring local national contractors as much as possible for construction projects overseas. When this is not possible, contracting officers can seek out regional companies. As a last resort, the U.S. government could hire larger international firms with local national sub-contractors to construct infrastructure. USACE did this for a portion of the programs in Afghanistan and in Iraq, but Western companies built far more projects than local contractors.⁶¹ Contracting offices should help local companies learn how to submit bids so they have a better chance of winning contracts. The engineer motto in stability operations should be “mentorship, not ownership.” The goal of engineers should be to develop the host-nation’s ability to manage a reconstruction program themselves, instead of doing it for them. Recent experience has illustrated the need to inject significant amounts of funding for infrastructure construction, but it also showed that locals are capable of building infrastructure on their own if resources are available.

Another aspect of involving the host-nation in the process is deliberately planning transitions. Much like military units do during deployment rotations, the United States should transition the reconstruction program to the local government. The majority of the program may initially be executed by the U.S. or Coalition partners, but when the local government has the capability, the transition should begin. Involving local engineers in the planning and prioritization of projects from the start will make the transition easier. When the local engineers gain sufficient understanding of the program, execution should become a combined effort. With established milestones, the local

engineers should take control of the program with U.S. mentorship and funding until that assistance is no longer needed. The goal should be to build the host-nation’s ability to manage its own infrastructure program. Involvement and transition will also help the locals to plan for and manage the sustainment of their infrastructure. Joint Publication 5-0 *Joint Operation Planning* discusses a phasing model for planning joint operations. Phase V in this model is to “Enable Civil Authorities.”⁶² Figure 3 shows that enabling civil authorities is something that should start at the beginning of the operation and becomes an increasingly larger portion of joint activities later in the operation.⁶³

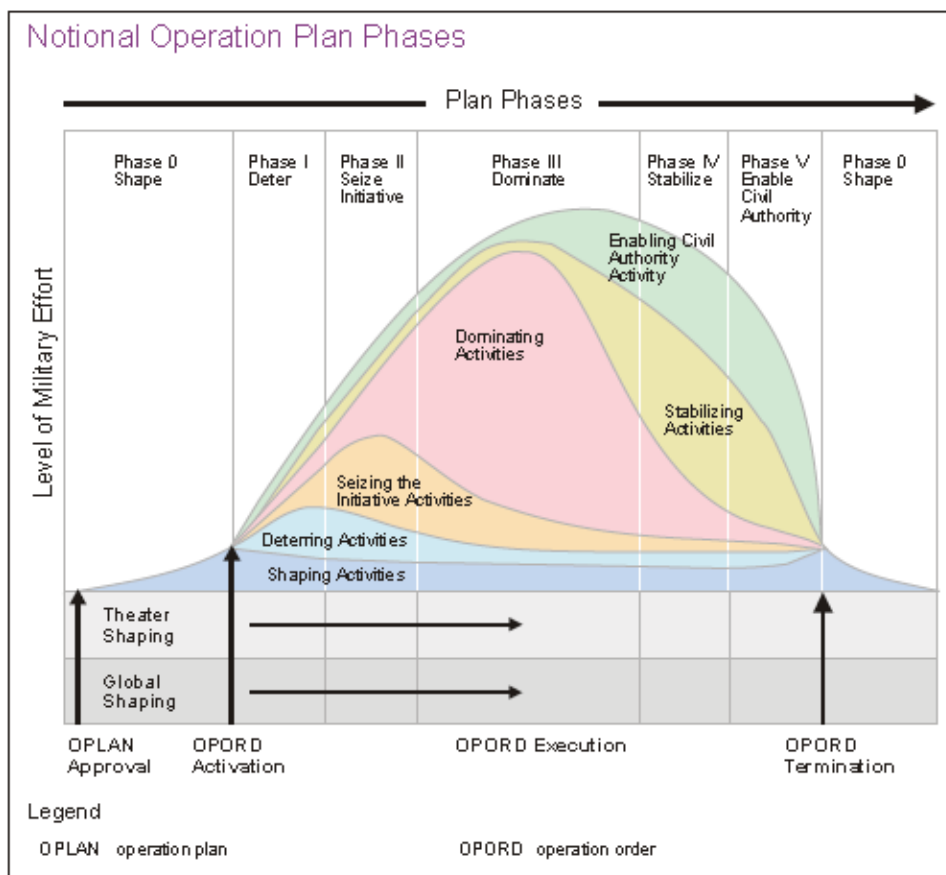


Figure 3. Notional Operation Plan Phases⁶⁴

Military leaders may find it difficult to surrender control of multi-billion-dollar infrastructure construction program to local engineers, but this must be done to enable

American forces to withdraw. This will also help ensure the continued success of the host-nation government after their departure. Army planners in Afghanistan, for example, could have decided to build fewer types of facilities under the United States managed construction program, while providing funding to the Afghans to manage a portion of the program with relevant construction. Operating in this manner would likely require American oversight and assistance but would give the Afghans a sense of ownership for the program. Involving the host-nation in stability operations is included in JP 3-07 already,⁶⁵ but the military should update doctrine to specifically address including the local engineers in decision making, building host-nation capacity and capability, and transitioning the effort to the host-nation.

Set the Conditions Before Construction

The fourth recommendation of this paper is to carefully and methodically set the conditions for infrastructure construction before beginning such a program. In 2010, Colonel John Cross, former Deputy Engineer for U.S. Forces – Iraq, proposed six criteria for planners to determine the feasibility of implementing a post-conflict infrastructure reconstruction program:

1. Presence of a functioning government and government capacity
2. Pre-war level of development
3. Level of wartime destruction and type of destruction
4. Local construction capability and capacity
5. Security
6. The human dimension⁶⁶

Colonel Cross states that criteria 1 and 5 are most critical.⁶⁷ Constructing infrastructure in an unstable environment is not an efficient use of resources or an effective way to build infrastructure. In stability operations, the environment forces construction contractors to hire private security companies to secure their job sites,

significantly increasing costs. Instability will likely lead to violence at or near project sites, theft or destruction of materials, or attempted destruction of newly constructed infrastructure. Knowing that new infrastructure will contribute to government legitimacy and local stability, anti-government forces will do what they can to interfere with those efforts. “Achieving a secure environment before initiating major reconstruction activities”⁶⁸ is the first of several recommendations in the final list of lessons learned published by the SIGIR in 2011, just before OIF transitioned to Operation New Dawn.

If the purpose of infrastructure construction efforts is to contribute to the legitimacy of the government, the host-nation must have a functioning government before the United States attempts to contribute to legitimacy. While Afghanistan has had a relatively functional national government for several years, corruption continues to be widespread. A recent Al Jazeera article summed up the situation stating “[Afghanistan] will not win the war against religious radicalism and extremism by military means alone. A responsible and accountable government – free from corruption and committed to promoting transparency and integrity across Afghan society – is the best weapon to deprive insurgents of their public support.”⁶⁹ Much of the stability issue in Afghanistan is linked to relationships and ties to either the Taliban or to national government officials in Kabul. Although it takes time to establish security and legitimacy, and eliminate problems of corruption, the U.S. military and its host-nation partners must set the conditions before initiating a large scale construction program. This does not mean that the lines of effort must be approached sequentially, but basic levels of security and governance should be established before beginning construction.

This idea is not currently included in doctrine. ADRP 3-07 lists lines of effort such as establishing civil security, establishing civil control, restoring essential services, support to governance, and support to economic and infrastructure development.⁷⁰ Missing from doctrine is sequencing or prioritizing stability tasks or the importance of setting conditions before beginning certain tasks, such as infrastructure construction.

Conclusion

U.S. national policy and military doctrine address the tasks that support stability operations. These tasks include helping the local national government to establish services and provide infrastructure for its people. These efforts will contribute to the legitimacy of the government and the stability of the nation.

While the construction of infrastructure may not seem like a military mission, operations over the past 15 years demonstrate that only the Department of Defense is capable of managing large scale construction programs such as the ones undertaken in Iraq and Afghanistan. The U.S. Army Corps of Engineers accomplished a remarkable amount in support of host-nation governments and the local populace. These efforts included impressive infrastructure construction programs funded by over \$20 billion. While executing these programs, U.S. engineers learned many lessons that will make these efforts more efficient and effective in future stability operations.

Although recent accomplishments are impressive, this paper offers four recommendations to improve how the United States carries out infrastructure construction in support of stability operations. The DoS should lead reconstruction efforts, as appointed by the President, to include controlling and prioritization of appropriated funding. Interagency planners must jointly define the scope of reconstruction before the United States begins a new operation. The interagency team

must also include host-nation engineers and leaders in the planning and execution of an infrastructure construction program, build host-nation capacity, and deliberately transition the program to the local engineers well in advance of the conclusion of the operation. Finally, interagency planners must set the conditions for security and governance prior to initiating construction. These recommendations should result in more robust, sustainable results for the host-nation and more effective accomplishment of U.S. stabilization objectives.

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