

## THE ROLE OF THE ARMY IN INFRASTRUCTURE AND CAPACITY BUILDING

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**THE ROLE OF THE ARMY IN INFRASTRUCTURE AND CAPACITY BUILDING**

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## ABSTRACT

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The September 16, 2009, Department of Defense Instruction 3000.05, *Stability Operations*, directed the military to maintain the capability to repair critical infrastructure. Additionally, the military must be able to contribute to other civil military stability operations, which frequently includes infrastructure construction, among other tasks. Efforts to repair, reconstruct, and establish infrastructure in Iraq and Afghanistan have experienced varying degrees of success. Recent experience suggests that the U.S. Army is the only organization able to execute this vital effort, at least initially. This paper examines both the importance of infrastructure and the role of the U.S. Army in the nation's capacity building efforts along with the associated expectations. The roles and relationships of the Department of Defense (DOD), other U.S. governmental agencies, and non U.S. entities in capacity building are reviewed. The importance of infrastructure and the lines of governance are also examined. Finally, some improvements toward expectation management, interoperability, understanding, and execution of infrastructure construction in support of capacity building are offered.





## THE ROLE OF THE ARMY IN INFRASTRUCTURE AND CAPACITY BUILDING

The United States, as a matter of policy, is engaged in nation building. America has engaged in nation building or capacity building as it is currently defined for much of the modern era. As the nation moves into the second decade of the 21<sup>st</sup> century, it is worth reviewing the 2008 Joint Operating Environment (JOE) which states that

The next quarter century will challenge U.S. joint forces with threats and opportunities ranging from regular and irregular wars in remote lands, to relief and reconstruction in crisis zones, to sustained engagement in the global commons.<sup>1</sup>

Success with relief and reconstruction operations is often thought of in terms of the post World War II Marshall plan which rebuilt a devastated Europe, or the reconstruction of Japan. In the same fashion, capacity building and infrastructure in particular, remains an integral part of the efforts in Iraq and Afghanistan counterinsurgency (COIN) operations. Regardless of the location or timeframe, U.S. national interests have dictated the need to render assistance, restore, and rebuild the capacity of countries to function.

America's whole of government approach to international policy requires the use of every element of national power: Diplomatic, Information, Military, and Economic. A nation utilizes these elements either alone or in some combination in an attempt to influence the behavior of others to act in such a way as to benefit the originator.<sup>2</sup> The United States military and the U.S. Army in particular, continually finds itself in the forefront of American efforts. Arguably this is not new, as the military has often played a significant role, short of war, in the country's efforts overseas. Often the military provides security, humanitarian assistance, and infrastructure to other nations during times of crisis. Infrastructure is inescapably linked to a country's inherent governing capability. The U.S. Army has provided significant support in the improvement or

restoration of facilities used to provide both social and economic services to a nation. These efforts may be post conflict or occur during a protracted war such as the ongoing counterinsurgency wars over the last decade. There is no more striking visual symbol of the success or failure of U.S. efforts and that of the assisted nation's government than the physical infrastructure that serves the people. Efforts to repair, reconstruct, and establish infrastructure in Iraq and Afghanistan have experienced varying degrees of success. Recent experience suggests that the U.S. Army is the only organization able to execute this vital effort, at least initially.

This paper examines both the importance of infrastructure and the role of the U.S. Army in the nation's capacity building efforts along with the associated expectations. Highlights are reviewed from two key policy documents which direct and define the roles and responsibilities of the Department of Defense (DOD) and other U.S. governmental agencies in capacity building. The relationship of infrastructure and the lines of governance are examined. The providers of capacity building and the role they play in infrastructure and capacity building are elaborated on as well. The integral role of the U.S. military, specifically the U.S. Army, in infrastructure construction in support of capacity building is discussed. Finally, some improvements toward expectation management, interoperability, understanding, and execution of infrastructure construction in support of capacity building are offered.

### Capacity Building

The efforts over the last eight years, both in Iraq and Afghanistan, have brought to the forefront the complex challenges of nation building or capacity building. According to the U.S. Army's Stability Operations field manual,

Capacity building is the process of creating an environment that fosters host-nation institutional development, community participation, human resources development, and strengthening managerial systems. It includes efforts to improve governance capacity, political moderation, and good governance-ethos as well as structure.<sup>3</sup>

The requirements of at risk governments vary across the globe and in time. It is no small task to assist a fragile government in achieving the desired end states of a safe and secure environment, rule of law, stable governance, sustainable economy, and social well being.<sup>4</sup> This is a complex and intertwined process, in which short term demands must be balanced with mid and longer term requirements in terms of aid and construction of host nation infrastructure.

#### Expectations of Capacity Building

Capacity building and associated stability operations are a tough business. Every nation's citizens have a right to expect some level of services from their local, regional, and national governments. A lack of functioning infrastructure is often a hallmark of underdeveloped countries, highly authoritarian nations, and failed or failing states that may have little ability or interest to provide services for their citizens. Physical infrastructure is practically inseparable from capacity building.

Post conflict states also experience similar challenges after the ravages of war or prolonged civil unrest. The July 2009 Report to Congress on *Measuring Stability and Security in Iraq* notes that, "The provision of essential services remains a key component of national reconciliation and a significant factor in building popular support for the GOI (Government of Iraq)."<sup>5</sup> While not the only component, arguably the provision of essential services and associated physical infrastructure is a critical component in building support for a functional government and for a nation to flourish.

Current policies and practices for physical infrastructure development in pursuit of capacity building have created unrealistic expectations within the government and populations of the nations that the United States seeks to assist. The post invasion Iraqi expectation that the United States would “rebuild” their country is just such an example.<sup>6</sup> Unrealistic expectations reside within U.S. government officials and citizens as well. There is a limit to the enormous amounts of fiscal, national, and intellectual capital for uncertain returns in America’s efforts to promote capacity building and stability operations across the world. The reality of limited resources calls for informed decisions in the use of U.S. assistance in capacity building efforts. It is a challenging task to gain a consensus amongst the consortium of U.S. agencies, other governments, national and international organizations, public and private entities. The military often finds itself taking the brunt of the criticism when expectations are not met in reestablishing national infrastructure such as in Iraq and Afghanistan.

According to the July 2009 Special Inspector General quarterly report on Afghanistan reconstruction, “the United States has provided approximately \$38 billion in relief and reconstruction assistance to Afghanistan.”<sup>7</sup> While not entirely spent on physical infrastructure, it is indicative of the challenges and the hazards. For example, despite a significant increase over prewar figures, only ~15% of an estimated 28 million people have access to electricity, even after the massive efforts over the last 7 years to improve Afghanistan’s electricity production and distribution.<sup>8</sup>

#### U.S. Capacity Building Policy

The necessity for a redefined interagency approach for stability operations lead to the December 2005 National Security Presidential Directive (NSPD)-44, *Management of Interagency Efforts Concerning Reconstruction and Stabilization*.<sup>9</sup> This directive

clearly gave the Secretary of State lead agency responsibilities for all stability and reconstruction planning, coordination, preparation, and execution. The directive also states that other agencies shall coordinate with the Department of State lead office, the office of the Coordinator for Reconstruction and Stabilization (S/CRS). The full potential of the S/CRS is yet to be realized. In addition, the directive did not change the role of the U.S. Agency for International Development (USAID), an independent agency which remains the lead non DOD agency for foreign development and economic assistance.<sup>10</sup>

Supporting NSPD- 44 guidance, Department of Defense Instruction (DoDI) 3000.05, *Stability Operations*, issued in September 2009, requires the military to maintain the capability to restore/provide essential services and repair critical infrastructure.<sup>11</sup> Recognizing the importance of unity of effort, DoDI 3000.05 further stated that these actions, along with those which foster economic stability and development, may be conducted in coordination with other U.S. agencies, international governments and forces, international governmental organizations (IGOs), nongovernmental organizations (NGOs) and even private sector firms.<sup>12</sup>

These two documents are the policy basis for U.S. capacity building and associated infrastructure construction in support of nations in crisis, and failing or failed states. Supporting this policy, joint doctrine states that relief and reconstruction activities are one of the four broad types of military activities which seek to restore essential civil services.<sup>13</sup> The Army has lead the nation's efforts in executing this guidance, particularly in terms of infrastructure as seen in Iraq and Afghanistan.

Unfortunately, there is considerable confusion in what is critical versus basic infrastructure which can impede policy execution.

## Defining Infrastructure

Terms such as “essential”, “critical”, “basic”, “social”, “humanitarian assistance” and “economic” infrastructure are used both interchangeably and indiscriminately in written and verbal prose. Policy and guidance documents refer to these terms without fully defining their meaning. Often the distinction is vague or unknown, leading to great difficulty in defining requirements, managing expectations, assigning priority, and providing limited resources for assistance. Infrastructure is holistically defined as the facilities, systems and services needed for a society to function.<sup>14</sup> The term “infrastructure” may be associated with a facility, a system, or a service, either singularly or in combination with the other two.

Infrastructure is most often associated with the services provided. Kids in school, women and infants receiving care at a health clinic, a clean street bustling with commuters and commerce, a busy airport, and a city lit at night are all indicative of a nation’s infrastructure. A facility or structure often resides in multiple categories depending on the circumstance, audience, and intent.

## Basic, Essential, Critical, and Economic Infrastructure

Basic needs infrastructure or facilities are those which allow the population to have access to adequate food, water, shelter and medical care.<sup>15</sup> These same facilities are often deemed essential and may be associated with the provision of humanitarian assistance. Critical physical infrastructure is defined as the assets, systems, and networks so vital to a nation or region that their loss could have a significant national impact on security, economy, health, or safety.<sup>16</sup> A power plant, port, airport or even the only bridge spanning an expansive river along a major route are examples of critical

infrastructure. Critical infrastructure differs only in context and may not be independent from basic, essential, or economic infrastructure.

Economic infrastructure may collectively include the structures associated with transportation (road, rail, sea, and air), government administration, water and sanitation systems, energy, and associated facilities.<sup>17</sup> As a nation moves beyond crisis, transitioning into greater stability and economic development, the level and sophistication of the infrastructure must transition as well. For example, water being trucked in may be replaced by neighborhood water wells which later transitions into a well field, centralized water treatment plant, and a pipeline distribution grid.

Given the large capital required to repair or construct infrastructure facilities, a coordinated effort between those rendering aid and the beneficiaries must be achieved to avoid duplicity and a waste of resources. Whether prioritizing assessments, providing guidance, allocating resources, or establishing policy, a level of specificity must be provided as to what type of infrastructure is in question. Categories aside, physical infrastructure construction as a part of stability operations and capacity building has significant effect for both the U.S. government and that of the host nation. These effects transcend across all elements of national power and lines of governance.

### Infrastructure and Governance

During capacity building and stability operations there are perhaps no other actions by the United States that have greater impact across the lines of governance than the construction of infrastructure facilities. As mentioned previously, the lines of governance for a nation and its citizens may be defined as: a safe and secure environment, rule of law, stable government, sustainable economy, and social well being.<sup>18</sup> Infrastructure construction efforts have a direct or indirect effect along each line

of governance. Assistance efforts in Iraq to provide greater access to potable water is an excellent example of the cross cutting impact of physical infrastructure construction. Since 2004, the United States has committed over \$2.6B towards Iraqi water and sewage treatment projects.<sup>19</sup> One project alone, the Qurmat Ali Water Facility, has the potential to impact 2.5 million people.<sup>20</sup> The availability of water to meet social and economic needs is paramount and must be secured and regulated by a functional government.

“Governance extends beyond the role and actions of public sector institutions, structures, and processes. It concerns how societies organize to pursue collective goals and interests.”<sup>21</sup> Developing and strengthening a host nation’s ability to legitimately rule, protect, provide essential services, and allow the population to flourish should be the goal of any capacity building assistance. Attending to the population’s urgent requirements such as food, water, shelter and health related issues alleviates the most pressing of needs of a nation in crisis.<sup>22</sup> A nation’s people are going to care little about roads and even power if they cannot sustain themselves and have access to potable water and medicine. Often the United States provides assistance for the infrastructure that relates to food, water, emergency shelter, and health in response to imminent and short term needs. The immediate disaster relief effort in Haiti is a prime example. Other non U.S. government organizations may be better postured to support humanitarian assistance (HA) infrastructure allowing the U.S. government to focus on economically related infrastructure.

Construction of infrastructure stimulates the host nation economy. Construction spurs a plethora of other activities across the economic and social sector. These



activities, if well planned and executed, put a population to work in such a way that it can provide huge benefits at the local, regional and national levels. Infrastructure spurs the opportunity for education and technical training of the population as well. A working population provides the government stability and enables it to generate income to sustain and expand the services it provides. This stability and the promise of economic activities draw private and international investment and loan opportunities.

Executing actions through the host nation government establishes legitimacy and reinforces the rule of law. People place their trust in those entities that can at least enable them to care for themselves and their families. The battle for control of the supplies, services and infrastructure may well equate to the control of the population. A host nation government that is ineffectual, lacks the ability, or is corrupt cannot gain popular support in any endeavor. Failures on the part of the government provide further opportunities for hostile detractors, such as insurgents or transnational terrorists, to gain both in strength and legitimacy. Popular support is the lynch pin in establishing and maintaining credibility. That support is the goal of both the host nation government and its enemies. Successful execution or at least the credit for the effort is critical.

Today's information age allows for the dissemination of all kinds of messages, tactical through strategic. The opportunity to utilize the reconstruction or establishment of social and economic related infrastructure for this purpose is obvious. A host nation government can further its own credibility, strengthen legitimacy, and discredit hostile opposition through successful propagation of humanitarian, social, or economic infrastructure actions and undertakings. The United States also stands to benefit

domestically and internationally with a coordinated effort to publicize its assistance with the nation in question.

A nation in crisis may have the most difficulty in providing security for its population. Provision and control of services and the accompanying infrastructure frequently provides the greatest battleground between the host nation and insurgents.<sup>23</sup> Communication towers, power plants, distribution grids, and transportation infrastructure such as bridges and airports, are often subject to attack since they show, both in reality and symbolically, a nation's stability, prosperity, and promise for the future. A host nation, with or without security assistance, must be able to provide adequate protection for at risk infrastructure. This further demonstrates the ability of the host nation government to successfully govern and protect the population.

#### Providers of Capacity Building

*U.S. Department of State.* The U.S. Department of State (DOS) is the leading agency for the nation's foreign affairs. Its activities are often defined in terms of foreign policy, diplomacy, and foreign assistance. Despite the emphasis placed on the non-military elements of power, it is unfortunate that the foreign affairs budget is only ~1% of the total budget for the nation.<sup>24</sup> By comparison, the Department of Defense baseline budget last year was roughly ten times that of DOS (\$534B vs. \$53B).<sup>25</sup> The DOS does not have the capacity to execute stability operations and nation building on a wide scale, such as what is required in Iraq and Afghanistan without significant assistance. Most often that assistance must come from the Department of Defense.

The ability to deploy qualified United States Government (USG) civilian expertise to other countries can be extremely challenging. There are simply too few in the civil service with the requisite skill sets coupled with the adequate language and cultural

training necessary. The deployment durations, austerity conditions, and lack of security in post conflict regions or COIN environments are additional factors that hamper interagency operations abroad. By one account, there were only a combined total of 300 personnel in Afghanistan from DOS and two other agencies.<sup>26</sup>

*Office of the Coordinator for Reconstruction and Stabilization.* As mentioned earlier, NSPD-44 directed that the DOS take the lead for coordinating USG efforts “to prepare, plan for, and conduct reconstruction and stabilization assistance and related activities in a range of situations...”<sup>27</sup> The Office of the Coordinator for Reconstruction and Stabilization (S/CRS), under the Secretary of State, is responsible for these actions. Created in August 2004, the organization is hampered by a lack of direct authority vice coordination authority. S/CRS has taken the lead in a number of initiatives to include the publication of a matrix of essential tasks which provides guidance to be used for stability operations and/or post conflict environments.<sup>28</sup> Other initiatives include: the Interagency Management System (IMS), designed to serve as a guide for a whole of government approach for reconstruction and stability assistance; and the development of a civilian response corps, giving the USG a civilian capacity to deploy qualified and trained personnel for assistance operations.<sup>29</sup> The creation of a civilian response corps is a direct result of recognizing the criticality of non-military civil servants with the appropriate interagency and lines of governance skill sets able to deploy and work with governments in crisis or post conflict. Funding has been requested for 250 full time members with additional personnel as part of a standby and reserve force.<sup>30</sup>

*U.S. Agency for International Development.* Perhaps the most critical non DOD agency for nation building efforts is the U.S. Agency for International Development

(USAID). Although an independent agency, USAID operates under the Secretary of State and serves as the USG lead for nearly all of the nation's foreign assistance efforts, especially in terms of economic development.<sup>31</sup> USAID's efforts are significantly hampered by the same challenges addressed previously both in terms of budget, qualified personnel, and the environment they must operate in. The agency does partner with other government agencies to make-up for expertise shortfalls. Additionally, much of USAID's capacity is outsourced to non governmental agencies and contractors.<sup>32</sup> USAID must work in conjunction with host nation, national, international agencies and organizations, both governmental and private. The complexity of infrastructure construction and the necessity for close coordination with the military, especially in a COIN environment, is exemplified by the use of 4000 coalition troops to deliver a new turbine to USAID's Afghanistan Kajaki Dam renovation project in September 2008.<sup>33</sup>

*Other entities.* Aside from U.S. governmental agencies, there are a bevy of other organizations involved with nation building and stability operations. International organizations, such as the World Bank, Asian Development Bank, Japan International Cooperation Agency, and the United Nations, to name a few, are recognized around the world as a legitimate entities involved in the capacity building of other nations. The United Nations agencies that specialize in nation building and associated development also understand the importance of working with a host nation government. Furthermore, the United States often plays a significant role in UN sponsored operations in terms of funding, physical supplies, and transportation capabilities. Thus the United States gains

an ancillary benefit while supporting what amounts to a global effort in supporting U.S. nation building efforts.

Additionally, there are an estimated 40,000 international NGOs in existence today and over 650 U.S. based foundations involved in international grants.<sup>34</sup> Other nation's governments play an active role in foreign assistance as well. Many of these organizations have the expertise, ability, and desire to provide for humanitarian assistance, governance, social, and economic development along with associated infrastructure. There is more difficulty in coordinating the efforts of multiple entities and a struggling host nation government. If done properly, the legitimacy and acceptance of that government is strengthened in the eyes of the people. This allows the U.S. to concentrate limited resources on specific areas of concern within a host nation for nation building efforts.

*U.S. Department of Defense.* Documents such as DODI 3000.05, originally issued as a DOD directive in the mid 90's, established stability operations as one of the core competencies for the military.<sup>35</sup> The military has always had an important role in international affairs that go well beyond fighting wars and protecting vital interests. Often, the DOD finds itself in the lead or playing a key role during stability operations and nation building efforts. Obviously, no other element of national power has the capability in terms of resources to execute such missions. Leadership, manpower, organization, and equipment coupled with the innate ability to secure and sustain itself, makes the military an attractive and necessary force in such efforts. No other U.S. governmental agency is resourced in this way.

There is a certain necessity within the DOD to have an active role in stability and reconstruction efforts. Post conflict regions almost always are in need of infrastructure assistance for a combination of humanitarian, social, and economic interrelated reasons. The military, at the very least, may only be providing security which enables others to provide assistance. The opposite end of the spectrum, however, may find the military not only providing security but also leading physical infrastructure construction efforts along with a host of other governance issues. Most often, the military role crosses the entire spectrum while varying with location and the short, mid, and long time periods within a host nation or region. As security improves and governance is restored, other U.S. and international agencies are able to operate more effectively in conjunction with the host nation government to provide assistance.

Perhaps intuitively obvious, the infrastructure required to support military operations is similar in nature to that which is required by a nation's population as a whole. Due to this duplicity of requirements, a community gains ancillary benefits from the actions of a deployed force to operate and sustain itself. For example, the restoration of a main supply route, often a national highway, allows for both military and civilian use and benefit. The conflicts in Iraq and Afghanistan are replete with such examples.

### U.S. Army

The U.S. Army, as the land component of the military, plays the largest role in DOD's contribution to stability efforts and nation building. As noted previously, the most important role is that of providing security so that critical stabilization and developmental programs can occur.<sup>36</sup> While non-military solutions for capacity building are preferable, they may not be feasible due to the security conditions of a region or nation. Obviously

it is preferable that the host nation military and law enforcement provide security for both the existing infrastructure and that which is under construction.

Any infrastructure, especially that which is allowing the government to function and the nation to prosper is a target for a nation's enemies. Infrastructure security may be provided either unilaterally or by some combination of the U.S. Army, a coalition force, and host nation forces. It is essential, as soon as feasible, for host-nation security (military and police) forces to be responsible for protecting critical infrastructure as it adds to the legitimacy of the government.<sup>37</sup>

This has second and third order effects in promoting host nation governance, reinforcing popular confidence in the authorities, and providing media/information opportunities as well. Should the host nation be unable to provide security, the U.S. Army in coordination with host nation military and/or law enforcement forces, as part of a coalition, or singly, may be required to not only secure existing critical infrastructure but also protect infrastructure project sites and those rendering that assistance.

Often, the Army finds itself as the only viable force to render both security and conduct capability building/stability operations. This is especially true following a war, military conflict or, in the case of Iraq and Afghanistan, as the United States and others seek to conduct stability and nation building in support of COIN operations. There is no "flick of a switch" where non-military entities flood in to render both humanitarian assistance and begin to rebuild basic infrastructure and initiate economic development projects. As discussed previously, security conditions aside, civilian agencies are also restricted by a lack of capacity and resources to operate abroad in such environments on a wide scale for any duration. The post conflict period immediately after combat

operations cease is deemed the “golden hour” and provides intervening forces with an all too brief period to set the stage for the future.<sup>38</sup> This period can serve as the tipping point balanced between restoring order, calm, and forward progress vice sliding back into a chaotic state. Here is the most critical juncture in such operations and perhaps the Army is uniquely qualified to begin select reconstruction tasks.<sup>39</sup>

In post conflict stability operations, in support of COIN, or in nation building where security cannot be adequately maintained by host nation forces, the U.S. Army not only provides security but must also be able to assist in the provision of basic governance and related services. Whether in support of other U.S. government agencies or while in the lead for stability operations, as discussed previously, DoDI 3000.05 requires the services to have this capability and capacity.<sup>40</sup> Consequently, the U.S. Army maintains the ability to implement infrastructure repair, renovation and construction. Both in Iraq and Afghanistan, the Army has found itself in the lead to first restore critical services and then take the lead, or at least a substantial supporting role, in longer term economic related infrastructure construction as well. Often these actions are executed under the ubiquitous and extremely harsh light of the world-wide media.

The Army does not maintain any forces solely dedicated to stability operations. It is neither practical nor desirable for the Army to do so within the bounds of available resources and assigned missions. The Army does, however, have a limited inherit ability throughout the uniformed force pool whose skill sets can be utilized towards the restoration of essential services infrastructure with civil affairs (CA) and engineers coming to the forefront. Engineer reconnaissance, CA assessments, etc., are among the important sources of information used to determine what may be required.<sup>41</sup>



Obviously, a higher degree of security allows for both earlier and greater interagency involvement in these assessments in order to determine what needs to be accomplished on the ground.

The Army's *Stability Operations* field manual recognizes the necessity to address infrastructure in terms of humanitarian assistance, essential services, and economically.<sup>42</sup> Engineer units, in particular, are often called upon to play a critical role in restoring essential infrastructure and associated services. U.S. Army Engineer unit capabilities go well beyond those tasks associated with combat operations. Specialized engineer units include those with skill sets which allow a deployed force to live, sustain, and operate under austere conditions. This capacity is limited in scope, scale, and expertise but does have some direct applicability toward restoring infrastructure. However, there is a lack of adequate quantity and specific expertise in terms of urban planning and large scale infrastructure facility construction.

Horizontal, vertical, and general construction capabilities reside with specific U.S. Army engineer units. Engineer units, such as dive teams, well drilling detachments, utility teams, and bridging companies can contribute to local, regional and national infrastructure efforts as well. A Forward Engineer Support Team (FEST) is able to conduct technical assessments, develop scopes of work, provide quality assurance, and may also have contracting capabilities.<sup>43</sup> Units with the specialized skill sets and equipment necessary for infrastructure restoration and construction are often low in density and in high demand.

Military requirements may negate the availability of these units to support civil infrastructure assistance efforts. The sheer project numbers, scale, and complexity

necessitate both prioritization and a careful management of assets and resources. Expectation management within U.S. leadership, host nation, and the general population is paramount. While short term solutions can often be found to restore critical or basic humanitarian assistance related infrastructure, seldom is there a quick fix for durable social and economic physical infrastructure. Fortunately, the capabilities of DOD and the U.S. Army extend far beyond those in uniform.

### U.S. Army Corps of Engineers

The greatest physical infrastructure expertise within the USG resides within the U.S. Army Corps of Engineers (USACE). The combined expertise of military members, USG civil servants, and contractors come together under USACE to “provide vital public engineering services in peace and war to strengthen the Nation’s security, energize the economy, and reduce the risks from disaster.”<sup>44</sup> USACE is the nation’s primary government engineer organization. While often thought of in terms of military infrastructure, national waterways, and flood control, USACE is in fact a worldwide organization and is a tremendous asset for the military and other USG agencies in terms of stability operations and nation building related infrastructure requirements.

Working in conjunction with other service engineer organizations, USG agencies, host nation, international governments and private organizations, the USACE has the ability to provide integrated technical engineering expertise, project management, contract acquisition and quality assurance. USACE’s blend of military and civilian engineers and worldwide operational capability give it the unique ability to deploy quickly in support of stability operations and nation building even to post combat regions and those with ongoing COIN operations. Unfortunately, however, there are a limited number of USACE uniformed members, with the necessary expertise to support

infrastructure construction and capacity building requirements. Often, the level of security limits the ability of USACE civilian employees and contractors to deploy and operate. Sustaining those deployed personnel requirements over long periods of time is also problematic. Despite these challenges, the fact that the USACE is part of the U.S. Army does provide a commonality of understanding, synergy, and facilitates coordination efforts especially in Iraq and Afghanistan.

Since 2003, the United States has spent almost \$12B on Iraq infrastructure rehabilitation projects, primarily focused on energy, water, transportation, and communication sectors.<sup>45</sup> Working in Iraq, USACE has completed over 5200 projects, valued at ~\$9B.<sup>46</sup> Certainly the collaborative efforts taken to plan, develop, and execute these projects has improved over time. Despite improved security conditions in Iraq, whether in the lead, or in a strong supporting role, the DOD remains heavily engaged in stability operations and nation building. USACE is the only USG agency able to manage and execute infrastructure projects, to this scope and scale, which impact all lines of governance and bring all aspects of the national elements of power to bear.

Many of the frustrations and successes found in Iraq can also be found in Afghanistan and there is no lack of lessons learned. However, the direct application of lessons learned in Iraq to Afghanistan is not practical. There are significant differences in that landlocked Afghanistan: has little existing infrastructure; what physical infrastructure that did exist was failed or failing; is extremely limited in resources, among the economically poorest of nations; is geographically challenged; does not have a strong national identity; and does not have strong national or regional system of governance. Additionally, there is an ongoing COIN operation which precludes or

significantly impedes U.S. efforts towards stability operations and capacity building. Again, the contributions of the military, specifically the USACE have been crucial towards any reconstruction and construction efforts of physical infrastructure.

According to the Special Inspector General for Afghanistan Reconstruction July 30, 2009 report, the U.S. has provided over \$38B towards reconstruction efforts in Afghanistan.<sup>47</sup> As a result of the scale and project magnitude, USAID and USACE have partnered on numerous projects throughout the country. USAID has contracted with the USACE to help reduce capability shortfalls within their own organization and provide technical expertise.

#### Other Services

The capabilities of the other service components, both uniformed and civilian also contribute to the military's stability operations and nation building efforts. The Air Force, Navy, and the Marine Corps all bring unique skill sets, often peculiar to their roles and responsibilities, which are integral to DOD's physical infrastructure reconstruction efforts. For example, the Air Force's technical experts and engineers are capable of assessing host nation airfield infrastructure then conducting both rapid and long term repairs, as necessary. Both the Navy Facilities Engineering Command (NAVFAC) and the Air Force Center for Engineering and Environment (AFCEE) have made significant contributions in Iraq and Afghanistan and other regions around the globe. Often it is the combined efforts of USACE, NAVFAC, and AFCEE which enable DOD to so successfully execute necessary infrastructure construction under less than ideal circumstances such as found in a COIN environment.

Iraq and Afghanistan have provided opportunities for the DOD and the nation as a whole to learn, albeit sometimes painfully, from mistakes, no matter how good the

original intentions. Infrastructure efforts have not been without criticism.

Mismanagement, graft, corruption, poor coordination amongst the numerous national, international, and host nation stakeholders, failure to understand life cycle requirements, inability to operate and maintain infrastructure, lack of ability to protect worksites and completed facilities, have all been cited in U.S. infrastructure efforts overseas. While highlighting the complexity of stability and nation building, these experiences also point towards a greater requirement for planning and unity of effort in such endeavors.

### Recommendations

The United States assistance in terms of physical infrastructure construction for capacity building should first focus only on those minimum requirements for essential infrastructure that enable a country's government to establish a basic level of services. Any facilities built should be modest in scope with an eye towards functionality and feasibility. The rebuilding of the electrical production and distribution system for an entire city, such as Kabul, Afghanistan (estimated population of ~1.78M), is not a short term or even midterm venture.<sup>48</sup> While electricity for the entire population is desirable, power for select industrial zones may be a more reasonable goal as an important first step in jump starting an economy while adding to the legitimacy of a fledgling government and managing expectations at home and abroad. Immediate humanitarian assistance aside, U.S. capacity building efforts should focus on economic related infrastructure while leveraging humanitarian infrastructure assistance of non U.S. agencies to continue to support basic and essential services. This division of labor provides the best opportunity both for governments in crisis and United States nation building efforts.

The U.S. military and the Army in particular, must pursue the whole of government approach in the professional development of both military and civilian leadership in interagency operations, specifically with the DOS, S/CRS, and USAID. The military continues to serve in a crucial role with respect to the nation's capacity building and stability efforts. There is often some lament of this role both from within the military institution and other governmental agencies. Regardless, it is the reality that must be faced. The limited capabilities of the lead non-military agencies (DOS, USAID, and S/CRS) necessitate that the military develop greater deployable expertise in planning and coordinating these efforts. DOD has to be able to lead infrastructure construction and capacity building efforts.

To that end, the Army must develop greater expertise in areas such as urban development, city planning, civil engineer competencies, and construction management in order to support infrastructure construction and capacity building. This could be accomplished through advanced education scholarships, distance learning, TDY, and resident courses. Incentives to recruit, develop, and retain these specialties must also be developed. These incentives could be offered in conjunction with Reserve Officers Training Corps (ROTC) scholarship programs at the university level and/or be similar to those incentives offered to military aviation and medical professionals.

Greater emphasis must be placed on understanding the roles, responsibilities, and operations of USG agencies and non USG agencies such as the United Nations and applicable subordinate entities. Necessity for unity of effort and opportunities to effectively use international resources for infrastructure construction and capacity building require a broader understanding. While the importance of civilian involvement is

understood at the senior service schools, such as the Army War College, the civil-military interchange should start at a more junior level. For example, the greater integration of USG civilians at Army training courses, such as the Engineer Captains Career Course (ECCC), would provide for early interaction among the future military and USG civil leaders directly involved with infrastructure as it pertains to stability operations and capacity building. Similarly, regional education in terms of language, cultural understanding, and history also facilitate host nation capacity building and stability operations.

Increasing the number of specialized Army units, such as Engineers should also be considered. Expanding the capabilities of select units in terms of equipment and technical expertise for larger infrastructure facilities, specifically tied to basic services must be considered. This expanded capacity is in recognition of the fact that the military must be able to act directly after hostilities cease or, during on-going COIN operations where the security situation does not permit other non-military entities from operating freely. At one time engineer units and leadership served a primary role in the operations, services, and maintenance at our installations with respect to the infrastructure. That role has been delegated to DOD civilians or outsourced to contractors over the last several decades. As a consequence of these actions, the Army has lost the opportunity to develop deployable expertise in these areas. The Army may stand to gain by placing younger leaders back into installation public works departments for developmental assignments.

### Conclusion

The foreseeable future most likely offers continued challenges for the United States to provide support to failing or failed nation states through infrastructure

construction as a part of capacity building. When civilian agencies cannot operate or require DOD assistance, the U.S. Army is the most viable and logical choice to lead infrastructure construction efforts during both capacity building and stability operations. DoDI 3000.05 clearly directs the U.S. military to conduct and support these tasks either as the lead or in support of other USG agencies. Every aspect of governance is exercised as physical infrastructure is constructed and basic or essential services restored. There is great stability that comes in economic prosperity, with proper governance and distribution of wealth. A constant fact is that some level of security for all activities is critical to the success of assistance efforts and reinforces the legitimacy of the host nation government.

As with any operation, a coordinated effort provides for a better probability of success. The scale and complexity of social and economic infrastructure necessitate and highlight the criticality of a whole of government approach. There is no other USG agency, other than the Army that is able to coordinate and execute these tasks immediately after the end of hostilities or in support of COIN operations. The reality of limited resources calls for informed decisions in any infrastructure construction in support of capacity building and stability operations. The ultimate objective of this assistance must be “to build a host nation’s capacity to maintain itself and progress.”<sup>49</sup>

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