

Strategy Research Project

Evaluating U.S. Military Engineering Efforts In East Africa

by

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USAWC STRATEGY RESEARCH PROJECT

Evaluating U.S. Military Engineering Efforts In East Africa

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Some states or regimes in Africa in the 21st century possess many of the same challenges as Afghanistan did in 1989 when the Soviet Union pulled out. These regimes have weak or failing governments, high poverty and disease rates, porous borders, and serious security issues. Therefore, it is in the U.S.'s strategic interest that Africa does not follow the same path as Afghanistan. This paper analyzes what capabilities the U.S. has available from a military engineering perspective to assist Africa, what the U.S. is currently doing with that capability in East Africa, and whether that effort is accomplishing U.S. strategic objectives there.

Evaluating U.S. Military Engineering Efforts In East Africa

The United States is winding down a 12-year war in Afghanistan. It has spent billions of dollars and thousands of American lives killing terrorists hiding there and establishing a government that does not harbor terrorists. This entire effort likely would have been considerably less costly in lives and in treasure had the U.S., and other nations, assisted the nascent Afghan government develop legitimacy and strong institutions when the Soviet Union pulled out in 1989. Instead, this lack of assistance enabled Afghanistan to be taken over by a regime hostile to the U.S. and become a safe haven for terrorists. The U.S. is now striving not to make that mistake again. Wherever asked, the U.S. is attempting to assist countries with struggling governments or large ungoverned regions overcome these problems. The continent of Africa has many such countries. It is in the U.S.'s interest not to allow these countries to become like Afghanistan in the 1990's, where early intervention could possibly have prevented the September 11th terrorist attacks and the war that followed.

There are two ways to assist struggling governments. The first, statebuilding, is to build up a state's institutions, enabling it to function more efficiently and effectively.¹ The second, nation-building, is to build up the government's legitimacy in the eyes of its people.² Statebuilding is easier to quantify, but may not be effective. Nation-building, which may include institution building, is difficult to quantify, but is more effective in the long run. The U.S. engages in both types of assistance with foreign governments. Countries which are stable, but do not have a strong enough military or social systems, may benefit from statebuilding. Whereas, countries that have weak or unstable central governments may benefit more from nation-building than statebuilding.

The current U.S. effort in the Philippines to counter the Abu Sayyaf is an example of statebuilding. The Philippine government utilized U.S. assistance to develop special operations capabilities to counter terrorists on the southern Philippine Islands. U.S. efforts in Iraq and Afghanistan are examples of nation-building. The U.S. assisted in building governmental institutions, but it also tried to help develop capabilities within the government to improve the governments' legitimacy in the eyes of their people.

Both statebuilding and nation-building are likely to have a military component to them. The military component can take several forms, some of which require an engineering effort. The primary military means are stability operations, of which building partner capacity (BPC) and humanitarian assistance (HA) are the two most likely to have an engineering effort. The following paper will briefly describe the strategic environment in Africa and the U.S. strategic goals for improving Africa. It will depict what part of those goals can be accomplished by military and engineering efforts. It will lay out what means the military is currently using to accomplish its part of the engineering effort. Finally, it will articulate whether those efforts are an effective way of accomplish U.S. strategic goals in East Africa.

Strategic Environment in Africa

One of the future primary recipients of U.S. Military stability operations is the continent of Africa. Africa is a vast, underdeveloped continent. It contains 53 countries and over 2,000 languages.³ Approximately 40% of its population lives in extreme poverty.⁴ Over 500 million people, about half the population, do not have electricity.⁵ Thirty-five percent of the population does not have safe drinking water and 50% does not have proper sanitation.⁶ By 2050, Africa is projected to possess one quarter of the

world's population,⁷ but remain last on the Human Development Index (HDI), which "combines information on life expectancy, schooling, and income."⁸ This projection is a result of Africa's many struggling governments and high communicable disease rate.⁹ Additionally, armed conflict throughout the continent, most especially in East Africa has had a significant detrimental effect on development.

Whether governments lack the capacity to assist their peoples or the legitimacy to rule their peoples; these conditions present a security challenge to the U.S. as possible future locations for serious conflict, genocide, and terrorist sanctuary and training. In East Africa alone, nearly all of the fifteen countries in the region have either weak institutions or a lack of legitimacy and are prime targets for instability, as the recent split of South Sudan from Sudan shows; and therefore in need of some form of foreign assistance, either statebuilding or nation-building. U.S. assistance can help these governments.

The first major issue African governments' need assistance with is high communicable disease rates. African governments' weak and insufficient institutions and high poverty are the two major contributors to the high disease rate. "The World Health Organization reports that 72 percent of all deaths across Africa are directly attributable to infectious diseases, compared to 27 percent in all other of the organization's regions combined."¹⁰ Disease, lack of adequate food, and limited and poor health care are a few of the deficiencies in East African countries owing to weak institutions and poverty.¹¹ The significant lack of health care in some countries can even cause problems in neighboring countries as refugees and other people possibly carrying diseases cross the borders. In 2006 and 2009, Kenya had polio outbreaks, which were

a direct result of outbreaks occurring in Somalia and Sudan respectively.¹² Nations with adequate health care systems need to detect these outbreaks early and introduce effective medical intervention to prevent much greater public health catastrophes.¹³ “More specifically, several Eastern African governments and international public health organizations have identified a lack of laboratory capacity to confirm diseases due to inadequate manpower, training, equipment, and supplies in the region.”¹⁴ Additionally, several significant diseases endemic to East African, e.g. Ebola, are cause for concern as possible bioterrorism weapons, as laboratory security and capacity are not sufficient to ensure public safety.¹⁵ U.S. efforts to develop indigenous health care capacity, a statebuilding endeavor, throughout Africa could significantly reduce the infectious disease risk and its bioterrorism offshoot.

The next major challenge to African governments is how to deal with and recover from conflicts. New and festering conflicts play a significant part in the continued poverty in Africa, as pervasive hostilities across several East African countries hinder the chances of economic development and diversification.¹⁶ Armed conflicts in East Africa have forced millions of people to abandon their homes, leaving them without housing, food, and water for considerable lengths of time. These refugees become progressively more susceptible to the growing threat from terrorist organizations assaulting not only Western targets in the East Africa, but also innocent indigenous populations.¹⁷ The result of all the turmoil in East Africa is that Burundi, Ethiopia, Kenya, Somalia, and Uganda have over 2 million internally displaced persons.¹⁸ The displaced persons are at risk to disease and further mistreatment. Additionally, their displacement “ruins any sense of security or more importantly, hopes for a brighter future.”¹⁹ Dealing with both

the causes and results of conflict in Africa will require both statebuilding and nation-building efforts to be successful.

The final significant result of Africa's underdevelopment is the considerable gaps in governance, border control, and policing that are exploited by terrorist organizations for sanctuary and bases of operations. To a large extent East Africa's deficient national financial systems, poor border control, insufficient specialized knowledge of and ineffective controls over sensitive materials, and lack of will to enact more exacting standards due to concern over damaging economic and development objectives, have resulted in an environment ripe for terrorist groups to thrive and for the illicit transfer of sensitive WMD materials and technologies.²⁰ Adding to this problem is the Kenyan, Tanzanian, and Ugandan governments' ineffective security and criminal justice systems.²¹

This lack of governmental control offers an opportunity for terrorist groups, including Al Qaeda, which are experiencing increasing obstacles to operations in Afghanistan and Pakistan, to relocate their operations to Africa where opposition is less. There is evidence that this is occurring in Somalia already.²² Additionally, East African states' cash-based economies increase the likelihood that terrorist financing will transpire through trans-border exchanges of currency or other financial means or via "informal transfers of money and value through alternative remittance systems."²³

Considering the political instability in parts of East Africa and the growing menace of piracy, better cooperation between militaries and law enforcement personnel is essential to reducing the significant challenge that porous land and maritime borders present to Governments of the sub-region. Moreover, "all States should strengthen

cooperation and take more stringent measures to implement the latest international best practices and arms control standards.”²⁴

The increase in terrorism in East Africa has created significant negative results. Terrorist are no longer just targeting Western objectives, but also the local populace. “[In Somalia] from June 2009 to June 2010, 556 terrorist incidents were reported to have killed over 1,400 people and wounded 3,400.”²⁵ Porous borders have enabled Al-Shabaab, the anti-Somali Transitional Federal Government Islamist insurgent group, to expand its operations outside of Somali. The terrorist group professed responsibility for two attacks, one in July 2010 in Kampala, Uganda and one in December 2010 in Nairobi, Kenya, killing over 75 people and wounding even more.²⁶ Unfortunately, al-Shabaab is not the only regional terrorist threat in East Africa. Groups such as the Janjaweed, the Justice and Equality Movement, the Lord’s Resistance Army, and unnamed groups in Ethiopia have all also committed terroristic acts.²⁷

Additionally since the mid-1990s, Al Qaeda has been active in the region, having success in Kenya because of the prevalence of Western targets such as embassies and tourism locations.²⁸ The most well known and deadly of their attacks were the dual 1998 bombings of the American embassies in Nairobi, Kenya and Dar es Salaam, Tanzania. Using weapons and explosives smuggled in from neighboring Somalia the attacks resulted in more than 220 dead and thousands wounded, most of whom were Kenyans and Tanzanians.²⁹

In addition to the threat to the local populace, terrorism threatens economic development projects and harms the region’s tourism industry. In 2002, Al Qaeda cells in Kenya launched two separate attacks then escaped back into Somalia. The first cell

launched a surface-to-air missile, procured in Yemen and smuggled through Somalia, at an Israeli passenger jet taking off from the Mombasa Airport. The other cell exploded a bomb outside an Israeli owned hotel in Mombasa, killing 15 and injuring 35. As with the embassy bombings, the majority of the victims were locals. However, the hotel bombing had the additional injurious effect of upsetting “regional economic development efforts across Eastern Africa.”³⁰ Because of those attacks and others, governments in East Africa are concerned that subsequent violence could hamper international business investments and “regional tourism and, by extension, regional economic growth.”³¹ As is evidenced above, African governments need assistance expanding their security capacity to successfully deal with terrorist elements throughout the region.

U.S. National Strategy

The United States National Security Strategy (NSS) is broken out into four enduring national interests: “Security,” “Prosperity,” “Values,” and “International Order.”³² Each of these national interests references initiatives the U.S. needs to pursue in Africa to ensure national security. The U.S. Strategy toward Sub-Saharan Africa (SSA) reinforces those national interests with four “independent and mutually reinforcing objectives: (1) strengthen democratic institution; (2) spur economic growth, trade, and investment; (3) advance peace and security; and (4) promote opportunity and development.”³³ The four objectives outline additional initiatives for assisting Africa and securing the U.S. Some of NSS and SSA initiatives are characterized as statebuilding, others as nation-building. Many of these initiatives have a military component and some have a military engineering component to them.

The first NSS delineated national interest, “Security,” lays out several actions that relate directly to Africa. The first action set forth in the NSS with an explicit mention of Africa is to “Deny [Terrorists] Safe Havens and Strengthen At-Risk States.”³⁴ This requires both statebuilding, building local military and police capacity to deny terrorist safe havens, and nation-building, strengthening the local government’s legitimacy with their populous to deny terrorists sanctuary. There is a military, but not a direct military engineering, aspect to this. The NSS continues with additional measures that directly and indirectly reference security goals to be accomplished in Africa. The next one, “Counter Biological Threats,”³⁵ is a statebuilding action, in developing local capabilities in bio-safety, and has a direct military, securing existing threats and destroying developing ones, and an indirect engineering aspect to it, building secure facilities to study and to develop counters to biological threats. The final venture in the “Security” section of the NSS is “Foster[ing] Security and Reconstruction in the Aftermath of Conflict.”³⁶ This is a military action backstopping nation-building efforts, including engineering efforts, to ensure local governments can rebound after a conflict has concluded.

The second NSS delineated national interest, “Prosperity,” lays out measures to assist Africa, which additionally will secure the U.S. The next two actions are “Pursue Sustainable and Responsible Security Systems in At-Risk States”³⁷ and “Prevent the Emergence of Conflict.”³⁸ They are both statebuilding efforts and have clear military facets in capacity building of foreign militaries and in the physical security of their population. The subsequent two goals that relate to Africa are “Increase Investment in Development” and “Invest in the Long-Term Development.”³⁹ They are both

statebuilding and nation-building efforts and have an engineering component to them. An example of why development is necessary is Sub-Saharan Africa has the lowest road density in the world,⁴⁰ which severely limits trade and commerce. Additionally, the development of natural resources, water security, and physical infrastructure all require engineering efforts for the successful long-term development of African nations.

The third NSS delineated national interest, “Values,” adds additional initiatives to assist Africa, promote U.S. values abroad, and ensure U.S. security. The first action listed in this section, “Ensuring that New and Fragile Democracies Deliver Tangible Improvements for Their Citizens,”⁴¹ is a nation-building venture with only a small military security piece. The next measure, “Pursuing a Comprehensive Global Health Strategy,”⁴² is a statebuilding evolution to increase the health care capacity of foreign governments, which includes construction of health care facilities.

The third action with applicability to Africa is “Promote Food Security.”⁴³ It too is a statebuilding effort with engineering elements. Currently, Africa produces about as much food as the U.S., but has over three times as many people.⁴⁴ Better agricultural procedures and water security play significant roles establishing food security. Water security is a two-fold endeavor; it encompasses finding sufficient quantities of water, either through surface runoff or through subterranean aquifers, and purifying the water to make it safe for use. Both parts of water security require engineering efforts.

The final initiative under the “Values” section of the NSS is “Leading Efforts to Address Humanitarian Crises.”⁴⁵ It is both a statebuilding and nation-building endeavor, as humanitarian crises are as likely to result from a government collapse as a natural disaster. This goal has both military and engineering dimensions to it. Whether

manmade or natural most humanitarian crises devolve into security and logistical challenges that are most effectively overcome with military units that can both move the needed supplies and secure the areas affected. Additionally, most natural disaster caused humanitarian crises require some form of engineering effort, whether removing debris to get to survivors or building temporary shelters.

The fourth and final NSS delineated national interest, “International Order,” depicts several initiatives to further world stability, thereby furthering U.S. security. The first action described in this section, “Strengthen Security Relationships,” is both a statebuilding effort and a nation-building one. The U.S. works to strengthen foreign partners, increasing their legitimacy at home and reducing the resources the U.S. must commit to stabilization efforts. Another U.S. goal for Africa is to help develop “Emerging Centers of Influence.”⁴⁶ This statebuilding endeavor works toward improving governance and reducing corruption while working with Africans on “infrastructure development, improving reliable access to power, and increased trade and investment.”⁴⁷ This goal has a considerable engineering element to it in both infrastructure development and power generation. The next initiative, “Invest in Regional Capabilities,”⁴⁸ is a regional statebuilding and nation-building effort with a military cooperation component to develop regional institutions and increase the legitimacy of the regional bodies with their constituents.

Another goal and one of its sub-goals that relate to the “International Order” national interest associated with Africa are “Peacekeeping and Armed Conflict”⁴⁹ and “Prevent Genocide and Mass Atrocities.”⁵⁰ Both of these endeavors include both statebuilding and nation-building efforts and have a clear-cut military effort, but little

direct engineering required. The next initiative, preventing “Pandemics and Infectious Disease,”⁵¹ is a statebuilding initiative that requires an engineering effort to build secure facilities to study diseases and develop their counters. The final two NSS goals that directly relate to Africa are “Transnational Criminal Threats and Threats to Governance”⁵² and “Safeguarding the Global Commons.”⁵³ The first one has components of both statebuilding and nation-building, while the second is a statebuilding effort. Both have more of a policing role than a military one, but because of the environment, military units may accomplish those policing functions. Military assistance to border and cyber security is crucial to defeating transnational criminals. Finally, the military is essential in ensuring the global commons remain open, especially that the freedom of the seas is ensured.

The U.S. Strategy toward Sub-Saharan Africa both expands on the NSS and adds additional strategic objectives for the U.S. effort in Africa. Having said this; neither of the first two objectives, “Strengthen Democratic Institutions”⁵⁴ and “Spur Economic Growth, Trade, and Investment,”⁵⁵ delineate any initiatives with a military or engineering element not previously established by the NSS. The third objective, “Advance Peace and Security”⁵⁶ did add several initiatives with military efforts associated with them. All of the initiatives are statebuilding actions with military components.

The first one, “Counter al-Qa’ida and Other Terrorist Groups,”⁵⁷ adds depth to the first goal espoused in the NSS, “Deny [Terrorists] Safe Havens and Strengthen At-Risk States.” The two additional goals delineated by the SSA are to “Advance Regional Security Cooperation and Security Sector Reform”⁵⁸ and “Support Initiatives to Promote Peace and Security.”⁵⁹ Both of these goals expand on the NSS goal of “Peacekeeping

and Armed Conflict” by ensuring peacekeeping efforts are properly supported and resourced while seeking to include other regional entities and helping create “African solutions for African problems.”

Another SSA goal with a military component is “Prevent Transnational Criminal Threats.”⁶⁰ This statebuilding objective is an amplification of the NSS goals of “Transnational Criminal Threats and Threats to Governance” and “Safeguarding the Global Commons.” The final initiative delineated under the third objective is to “Prevent Conflict and, Where Necessary, Mitigate Mass Atrocities and Hold Perpetrators Accountable.”⁶¹ This statebuilding objective is an amplification of the NSS goals of “Prevent the Emergence of Conflict” and “Prevent Genocide and Mass Atrocities.”

The fourth objective stated in the SSA, “Promoting Opportunity and Development,”⁶² also outlines several initiatives, which expand on NSS goals and have a military or engineering component. The first initiative, “Promote Food Security” is a statebuilding effort that adds specificity to the NSS goal also titled “Promote Food Security.” The next additional goal established by the SSA is “Transform Africa’s Public Health.”⁶³ This builds on and expands the NSS goal of “Pandemics and Infectious Disease.” This will be accomplished both through construction of new medical clinics and through water security and improved sanitation. The final additional goal added by the SSA is to “Respond to Humanitarian Crises While Promoting Resilience.”⁶⁴ This goal amplifies the NSS goal of “Leading Efforts to Address Humanitarian Crises.” This will be accomplished through various construction efforts, as well as through water security.

Military Engineering Capacity

As a result of lessons learned during the operations in Iraq and Afghanistan over the last 12 years, the military has ascertained that “over the long term, the United States cannot kill or capture its way to victory.”⁶⁵ Therefore “soft power” will be equally or even more important than “hard power”. Stability operations, one of the three major missions of the U.S. military, along with offensive and defensive operations,⁶⁶ is the military’s portion of the nation’s “soft power,” of which military engineering is a significant contributor. The Department of State, as well as, other government departments and agencies also play a large role in stability operations.

Stability operations encompass the following mission sets: establishing and preserving a safe and secure environment; performing communications synchronization; instituting representative, capable governance and the rule of law; providing humanitarian assistance; rebuilding critical infrastructure and reinstating vital services; and preserving economic progress.⁶⁷ These mission sets can contribute to either nation-building or statebuilding efforts, depending on which mission is required and the need of the country being assisted. Stability operations also can be used as the umbrella term encompassing both building partner capacity and humanitarian assistance operations, both of which have considerable military engineering components to them. Depending on the country in which the operations are taking place, the military and other government departments and agencies will perform different mission sets. The safer and more secure the environment, the less engagement by the military. The more dangerous the environment, the fewer non-military agencies will be involved.

The tremendous engineering capacity the military has combined with its organic lift capability and ability for self-protection make it the primary force for many stability operations. With over “116,500 tactical engineers and over 49,000 civilian engineers,”⁶⁸ it has the government’s largest and most portable engineering capacity. They have been used for both domestic and international natural disaster recovery. Military engineers have recently helped with the recovery from Hurricanes Katrina and Sandy, the tsunami in Indonesia, and the earthquake in Haiti. The military, between its in-house capacity and its ability to contract through “civil augmentation programs, such as the contingency contracting conducted by [the U.S. Army Corps of Engineers] USACE, the global contingency construction contract program executed by [Naval Facilities Engineering Command] NAVFAC, and the contract augmentation programs of [the U.S. Air Force] AFCAP,”⁶⁹ can bring more engineering capability to austere environments than the rest of the government combined.

The military uses this engineering capability to complete critical missions, especially in unstable and unsafe environments. Military engineers were critical to Forward Operating Base (FOB) construction in both Iraq and Afghanistan. One of the military’s primary missions in stability operations is to ensure “the life support needs of the indigenous population”⁷⁰ by reconstructing critical infrastructure such as the reestablishment “of power, transportation, communications, health and sanitation, fire fighting, education system, mortuary services, and environmental control.”⁷¹ Military engineers accomplish this work throughout the Middle East, Caribbean, Southeast Asia, and other parts of the world by restoring critical infrastructure after natural disasters and conflict.

The military also conducts deliberate engineering efforts that are delivered through several vehicles. The primary vehicles are Minimal Cost projects (MC), Humanitarian Civic Assistance (HCA), Overseas Humanitarian, Disaster and Civic Aid (OHDACA), and Exercise Related Construction (ERC).⁷² MC projects are limited to less than \$10,000 and completed with military labor. These are typically small jobs to assist a host nation military. HCA, OHDACA, and ERC projects are limited to \$500,000. These projects are generally planned well in advance of execution and worked extensively with the Country Team at the U.S. Embassy to assist in either statebuilding or nation-building, depending on the project. While HCA projects require US forces to complete 51% of the work, both host nation contractors and military forces are authorized to complete OHDACA and ERC projects. Additionally, ERC projects have an extra stipulation that they must be related to a specific CJCS sponsored exercise.⁷³ These engineering efforts along with contingency response actions accomplish the military engineering portion of stability operations.

One of the major military efforts in stability operations is building partner capacity (BPC). Building partner capacity is the name given to a series of efforts to improve the capabilities and capacity of a DoD partner. The U.S. military uses BPC as a means of assisting allies and friends develop their militaries to either integrate better in a coalition or operate more effectively on their own. As indicated in the 2006 BPC Roadmap, which resulted from the Quadrennial Defense Review (QDR) of 2006, some U.S. objectives can only be accomplished “by working with and through foreign partners include defeating terrorist networks; preventing hostile states and nonstate actors from acquiring or using WMD; conducting irregular warfare and stabilization, security,

transition, and reconstruction operations; and enabling host countries to provide good governance.”⁷⁴

The successful U.S. government BPC strategy requires the military to concentrate on several key items. First, it should focus on core security-related skills. Then, it should help civilian partners enhance their operational ability. Next, the military should draw on its partner’s skill when its own capacity is deficient and support the work of others, when those others are successfully completing a task. “Specifically, DoD’s new emphasis on working “by, with, and through” partners requires further developing the list of essential BPC for stability operations capabilities.”⁷⁵ The military needs to develop a “holistic approach to BPC for stability operations that: is planned and resourced over a period of several years; involves all relevant U.S. military and civilian agencies and allies; targets multiple countries throughout a region; and employs a variety of security cooperation “tools” that are packaged and sequenced for each partner country.”⁷⁶ Several characteristics are common throughout successful BPC engagements. They are in U.S. national interests. They are with the most relevant partner and within their national interests. BPC is undertaken with an understanding of the effects it has on the entire region, as well as, its long-term impact on U.S. interests. They are a reasonable capacity for the partner nation to develop. Finally, BPC is integrated with the cognizant Theater and Country Campaign Plans.⁷⁷

Several additional considerations must be addressed for a BPC effort to be successful. The first consideration is that diplomats must originate and complete BPC efforts. The next concern is the partner nation must accept ownership of the new capability which enables it to overcome a vulnerability and fill a national need. An

additional issue is ensuring the historical and cultural perspectives are understood as part of the “Big Picture.” The final concerns are unity of effort and legitimacy. The BPC effort must be integrated on multiple levels to include regionally. There need to be measurements of progress to ensure the effort is on track. And finally, multiple sources of multi-year funding must exist to ensure the continuance of the effort until completion and oversight after turnover.⁷⁸

Moreover, a RAND Corporation study delineated ten different types of actions, subdivided into levels of difficulty: introductory, intermediate, and advanced, that aid BCP goals.⁷⁹ The actions in the introductory category are needs and capabilities assessments, training, conferences/workshops/information exchanges, defense and military contacts. Education, exercises, and equipment/infrastructure fall into the intermediate category. Finally, personnel exchange, experimentation, and research, development, test, and evaluation (RDT&E) fall into the advanced category.⁸⁰ Most African militaries fall in the introductory category level of sophistication, with some intermediate actions added as appropriate.

One successful engineering example and a good first step in the BPC process is U.S. Navy Seabees and USACE soldiers training and assisting Kenyan Corps of Engineers (KCOE) personnel develop their new and growing force. This project displays a unified effort between the two militaries, while adding capacity and legitimacy to KCOE. Additionally, it encompasses two of the RAND Corporation study denoted actions, training and equipment/infrastructure, that aid BCP goals.

Another method the military utilizes to meet stability operations’ objectives is humanitarian assistance, which can result from either manmade or natural disasters.

The majority of humanitarian missions to Africa are a result of manmade, generally conflict induced, disasters, e.g. Somalia and Liberia. The military can take one of six approaches depending on the level of local capacity: top-down, directed decentralization, directed devolutionary, limited –participation, participation, and full-partnership.⁸¹ The majority of military disaster relief efforts are of the top-down approach (all assistance is provided and handed out without local input). The majority of the Seabee effort after the Haitian earthquake fell in this category. However, directed decentralization (all assistance is organized and delivered by the military, but distribution is conducted by locals) was used for the Seabee and Marine efforts after the tsunami in Indonesia. The full-partnership approach (assistance is planned and executed with significant local input) is most often used during non-crisis periods.⁸² U.S. well drilling efforts in East Africa is an example of the full-partnership approach of humanitarian assistance.

U.S. Military Engineering Efforts in East Africa

Currently the military is involved in approximately 40 engineering projects, valued at over \$10 million, to build partner capacity or aid in humanitarian assistance in five East African nations. East Africa is a focus area because its fifteen nations make up some of most populous, but poorest nations in Africa. Additionally, there are several semi-stable to unstable governments in the region, which need statebuilding and/or nation-building assistance, leading to issues such as a rise in both piracy and terrorism. Moreover, assisting the nations of East Africa meets part of every single U.S. security strategy goal for Africa. The majority of the construction projects, approximately \$6 million worth, are contracted with host nation contractors, thus building local capacity.

The remainder of the projects, just under \$4 million worth, is being constructed with U.S. military labor.

In Djibouti, military labor is renovating several medical clinics, while contractors' construction efforts are renovating several more clinics and a few schools and working on two water projects. These projects are nation-building efforts to supply a central government presence in remote areas and provide medical and educational services where they have previously been lacking. Additionally, these projects are working towards the NSS goals of "Counter Biological Threats," "Invest in the Foundations of Long-Term Development," "Pursuing a Comprehensive Global Health Strategy," "Promote Food Security," preventing "Pandemics and Infectious Disease," and "Transform Africa's Public Health." In Ethiopia, the U.S. military is working towards several strategic goals by having Seabees drilling several water wells, while contractors are renovating a clinic and two schools. The water well projects are U.S. military efforts to assist the Ethiopian government in nation-building, by bringing "people to one area where stable community services, infrastructure and government services could unite the people."⁸³ The schools projects are statebuilding efforts to increase the Ethiopian government's capability to educate their people.

In Kenya, both military and contractors are working on ERCs. The military engineers are lengthening a runway and expanding a base dining facility, while contractors are upgrading a base power system. All three projects are statebuilding efforts to build Kenyan military capacity, thereby assisting it in becoming an "Emerging Center of Influence," a U.S. strategic goal. Additionally, contractors are renovating several schools and constructing several water enhancement projects to assist with

water security, which ties to several other strategic goals. All of which are nation-building projects to expand the Kenyan government's legitimacy by providing services to villages that are distant from the capital. In Tanzania, contractors are building a water catchment and several schools. These projects are nation-building efforts to project central government assistance to remote locations, while meeting the U.S. strategic goals of assisting with "Increas[ing] Investments in Development," "Promot[ing] Food Security," preventing "Pandemics and Infectious Disease," and "Transform[ing] Africa's Public Health." In Uganda, military labor is constructing a water facility, while also conducting Mil-to-Mil training to improve water security and to build partner capacity, a statebuilding endeavor. Currently there are no active construction projects in Burundi, Comoros, Eritrea, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, South Sudan, or Sudan.⁸⁴

However, there are plans for 24 additional projects spread over seven nations to improve water security, enhance public health, and support education⁸⁵ meeting the strategic goals of "Counter Biological Threats," "Invest in the Foundations of Long-Term Development," "Pursuing a Comprehensive Global Health Strategy," "Promote Food Security," preventing "Pandemics and Infectious Disease," and "Transform Africa's Public Health." Of all of the strategic goals established in the NSS and SSA, the ones that rely on better water security are getting the most attention, with water projects underway in five East African countries. Additionally, Djibouti and Ethiopia are getting assistance with their public health, a nation-building effort through institution building in remote locations, with the new clinics being built and old ones renovated and expanded. The remainder of the military led construction is tied to the long-term development and

improved governance goals, nation-building endeavors, established in the NSS and SSA. Additionally, those projects assist in building ties with the locals and the Kenyan and Ugandan projects are building local military capabilities and capacity, statebuilding, through BPC efforts; however neither effort has direct ties to the overarching national strategies.

Analysis

The military engineering effort in East Africa is a tremendous beginning to what the U.S. needs to accomplish to meet the goals established in the National Security Strategy and the U.S. Strategy for Sub-Saharan Africa. However, based on the current semi-permissive environment in East Africa, the engineering effort in most countries should be led by other agencies, especially, USAID, and the military should have only a small supporting role. Nevertheless, in today's fiscally constrained environment, the military will likely remain the major funding source for future engineering projects in East Africa as a little engagement is significantly better than none.

The efforts the U.S. is putting into East Africa today will go a long way towards preventing Africa of the 21st century from repeating the course of Afghanistan in the 1990's. With U.S. assistance in a statebuilding role, many nations in East Africa are improving the health of their populous and their economies and building their militaries. The U.S. military's engineering efforts have begun a beachhead to defeat water security issues in several nations. Military engineering endeavors are providing access to better medical care with new or renovated health clinics and hope for the future with new and renovated schools. These nation-building efforts help boost the legitimacy of the host government, reducing the likelihood of instability and terrorist sympathies. Additionally,

more water and better health and education help a population be more economically productive. The ERC projects underway in Kenya are helping it become a regional “Center of Influence” for stability and launching platform to combat piracy off of the Somali coast. All of these efforts demonstrate that current U.S. efforts while not enough to completely stabilize the region are going a long way towards allowing the countries of East Africa to be self-sufficient.

Conclusion

The U.S. with its focus on Sub-Saharan Africa is striving not to repeat the mistakes it made with Afghanistan. By using both statebuilding and nation-building efforts, where asked, the U.S. is assisting African governments to be better able to meet the needs and requirements of their people. U.S. efforts in East Africa are a significant part of this endeavor. This paper examined the military engineering effort in East Africa. It looked at that effort in light of the U.S. Security Strategy and the strategic environment in Africa. It considered how those engineering endeavors fit into both statebuilding and nation-building efforts. The U.S. is striving to help the countries of East Africa reduce their disease rate, rebuild from previous conflicts, secure their borders, and eliminate terrorism and piracy from their shores. The engineering effort has a significant part in this strategy. Engineering, by focusing on water security and improving health care and education facilities, provides an example of an integrated approach to nation-building that is an excellent start to what the U.S. should do to help Africans in need. Additionally, in this fiscally constrained environment, it is best the U.S. can offer and therefore needs to be continued until either a more effectual effort is developed or more resources are available.

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