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MASTER OF MILITARY STUDIES

TITLE:

OPERATION UNIFIED RESPONSE: A CASE STUDY OF THE MILITARY'S ROLE
IN FOREIGN DISASTER RELIEF OPERATIONS

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Executive Summary

Title: Operation UNIFIED RESPONSE: A Case Study of the Military's Role in Foreign Disaster Relief Operations

Author: Mr. Tucker D. Hughes, United States Army Center for Army Analysis

Thesis: There are important lessons about the military's role in disaster relief efforts to be learned from Operation UNIFIED RESPONSE despite America's long history of responding to natural disasters around the world. Among these are the areas where the Department of Defense (DoD) can best support the U.S. Agency for International Development Office of Foreign Disaster Assistance (through the Department of State), which has the authority and responsibility to lead the United States' foreign disaster relief efforts.¹ The size, training, and specialized equipment of the DoD make it uniquely suited to focus on certain parts of the initial response effort; specifically expeditionary emergency medicine, vertical lift (for transportation/evacuation, logistics, search and rescue, and command and control), command and control communications, and logistics.

Discussion: The military has an important role to play in disaster relief efforts. Looking across the spectrum of doctrine, organization, training materiel, leadership, personnel, facilities, and cost; it is clear that in virtually any disaster relief response that the United States participates in, there will be a demand for some aspect of military capabilities. It may be a need for doctrinal knowledge that resides in the military, such as the efficient logistical distribution of supplies. It may be the massive amounts of disciplined manpower that the military can quickly bring to bear. It is likely to include the use of military materiel, from helicopters to generators.

Conclusion: Operation UNIFIED RESPONSE demonstrated much that is good about America's ability to provide foreign disaster assistance following a major natural disaster. The military contributed very successfully to the efforts by allowing the civilian experts in the ground to set priorities and operational plans. However, Haiti also illustrated that the traditional roles that the military plays in disaster relief (emergency medicine, vertical lift, logistics, and communications/command and control) are unlikely to change. These roles are well suited to the use of the military, at least in the immediate aftermath of a disaster, and replacing the military in them would be difficult and cost ineffective.

Preface

I would like to acknowledge the following people for their support, time, and mentorship throughout this process:

My mentor: Dr. Jonathan Phillips,

Others: Colonel Michael Carter, United States Marine Corps

Lieutenant Colonel (Retired) James Ware, United States Army

INTRODUCTION

Just before 5pm on January 12th, 2010, a massive 7.0 magnitude earthquake struck less than twenty miles from Port-au-Prince, the capital of Haiti, and its 700,000 residents. The earthquake collapsed entire hillsides full of houses as well as many private and government buildings. More than two hundred thousand people were killed, and another three hundred thousand were injured.² This was the deadliest earthquake in U.S. Southern Command (USSOUTHCOM) history, the fifth deadliest in worldwide history, and it struck a country and a people already struggling to provide for themselves.³

Calls for aid from the international community were immediate. The United States, among many other nations, responded quickly with a whole-of-government effort that involved the military, Department of State, and a host of non-governmental organizations. The coordination of all of these assets was a challenge for the United States, and there are important lessons about the military's role in disaster relief efforts to be learned from Operation UNIFIED RESPONSE despite America's long history of responding to natural disasters around the world. Among these are the areas where the Department of Defense (DoD) can best support the U.S. Agency for International Development Office of Foreign Disaster Assistance (through the Department of State), which has the authority and responsibility to lead the United States' foreign disaster relief efforts.⁴ The size, training, and specialized equipment of the DoD make it uniquely suited to focus on certain parts of the initial response effort; specifically expeditionary emergency medicine, vertical lift (for transportation/evacuation, logistics, search and rescue, and command and control), command and control communications, and logistics.

After providing a brief background of the events leading up to Operation UNIFIED RESPONSE, this paper will use the political, military, economic, social, information, infrastructure (PMESII) framework to describe the issues facing and the goals of the relief efforts. After this PMESII description; a doctrine, organization, training, materiel, leadership, personnel, facilities, and cost (DOTMLPF-C) analysis will be conducted to determine the capabilities and capability gaps in the DoD and whole-of-government's ability to respond to disasters like that in Haiti. Finally, the PMESII and DOTMLPF-C analyses will be integrated to develop recommendations on how to improve future disaster relief efforts on the scale of Operation UNIFIED RESPONSE.

BACKGROUND

The United States has a long history with Haiti. These include an occupation from 1915 until 1934 and an intervention (Operation UPHOLD DEMOCRACY) in 1994 to restore the democratically elected Jean-Bertrand Aristide to the presidency. There have also been many disaster relief efforts in response to the tropical storms and hurricanes that regularly strike Hispaniola (in 2008 four consecutive hurricanes struck the island; Fay, Gustav, Hannah and Ike). During the 2008 hurricane season's disaster relief efforts, the military contributed to the disaster relief efforts primarily through the presence and efforts of the Wasp-class amphibious assault ship the USS Kearsage. For three weeks in September of 2008, it provided equipment (primarily vertical lift), food and water, basic medical care, and engineers (damage assessment) to assist the USAID-led relief efforts.⁵

Beyond Haiti, USSOUTHCOM has a long history of planning for and executing humanitarian assistance, disaster relief, and interagency operations. Beginning in 2006

and running through 2008, USSOUTHCOM, under the command of Admiral James Stavridis, reorganized itself away from the standard military staff organization. To facilitate better its standing missions and interactions with other agencies, USSOUTHCOM created six functional directorates augmented by three standing joint task forces (JTFs).⁶

This structure proved useful for smaller operations, but the Government Accountability Office and others criticized it in the aftermath of Operation UNIFIED RESPONSE for lacking a Future Operations division and for not being able to support large-scale logistics operations.⁷ The military's plan entering Haiti was to support the efforts of USAID, the lead federal agency.⁸ However, the small USAID staff on the ground was quickly overwhelmed by the sheer magnitude of requests and tasks; for example, the three-man USAID cell was not able to develop a common operating picture of Haitian medical facilities, and thus the XVIII Airborne Corps Surgeon cell had to do it themselves to determine where they would be most effective.⁹ The United States embassy staff also struggled at times to lead the interagency response; for example, the Embassy staff was unable to develop a central location for the accountability of non-governmental actors entering the country until later in the effort.¹⁰ The response effort would clearly need massive military support, but it was not immediately clear what form this would need to take.

PMESII-PT OVERVIEW

The PMESII framework has become a common method to describe and understand the major aspects of a complex situation. Due to the nature of the operating environment in Haiti, the expanded PMESII-PT will be used. In a typical analysis,

physical terrain and time can be addressed based on their effects on the standard PMESII factors, but in the context of a natural disaster, they both represent primary 'enemies' that hinder smooth operations and cause civilian deaths. Because of this, their elevation in the methodology to a status equivalent to the original five factors is appropriate.

There are certainly criticisms of the use (or abuse) of PMESII-PT for understanding complex and fluid systems, namely that it is a reductionist description of a situation rather than a holistic method for truly understanding a system.¹¹ Despite these criticisms, the PMESII-PT framework represents a widely known and comprehensive method for describing the operating environment. In so far as this study only uses PMESII-PT to describe the operating environment, it is an appropriate method to address all of the major aspects of the situation confronting Operation UNIFIED RESPONSE. Each of the aspects of the framework will be addressed in turn, but potential links between aspects will be noted to increase understanding of the operating environment.

POLITICAL SITUATION AND GOALS

Although independent for more than two hundred years, Haiti has struggled through multiple revolutions and forms of government.¹² With elections looming in late 2010, the democratic system seemed to have achieved a tenuous grip on power and society in Haiti, albeit with a "cult of presidentialism."¹³ However, this does not imply that the government was considered effective. Rightfully so, "many [Haitians] associate state power with political corruption, pure and simple," as Haiti ranked 146th of 178 countries in Transparency International's Corruption Perceptions Index for 2010.¹⁴ The situation confronting the United States as it pondered a disaster relief effort was exacerbated by the death of as much 30 percent of the civil servants and leaders.¹⁵

The goal for the United States' disaster relief efforts in Haiti would be simply to continue to support the democratic process and democratically elected leaders without appearing to support any specific candidates or reinforcing the practices of predation, corruption, and repression.¹⁶ As in any disaster relief effort, the overarching goal was to save lives, but in doing so, the United States would not want to damage what precious, fragile progress Haiti had made toward improving its governance.

MILITARY SITUATION AND GOALS

In most disaster relief operations, the military of the impacted country is one of the strongest assets for the relief operations as it represents a mobile, self-contained, self-sufficient capability that can be brought to the site of the disaster from the rest of the country. For example, in Nicaragua following Hurricane Felix in 2007 the Nicaraguan military airlifted vital supplies into the affected area, as the Pakistani military did in Kashmir following the 2005 earthquake in that country.¹⁷ In the case of Haiti, the military was largely disbanded in 1995.¹⁸ In place of a military, Haiti operates a National Police force. But despite having a larger population than New York City, the Haitian National Police, with 9,000 officers, is only a quarter of the size of the 34,000-strong New York City Police Department.¹⁹ Thus the National Police did not represent the capability and force that militaries have in similar disasters.

This was mitigated by the presence of the United Nations Stabilization Mission in Haiti (MINUSTAH), a multi-national peacekeeping/stabilization force that has been in Haiti since 2004. At the time of the earthquake, MINUSTAH was authorized 9,100 military and police personnel from 57 countries (this has since been raised to more than 13,300).²⁰ Having lost more than 100 staff members to the earthquake, including the

United Nations Special Representative and Deputy Special Representative, much of the initial leadership on the MINUSTAH effort fell to Major General Luiz Eduardo Ramos Pereira, an experienced Brazilian Army officer.

MINUSTAH played a key role in the overall disaster relief effort, providing many capabilities and detailed knowledge of Haiti. However, there is a world-wide shortage of helicopters in United Nations peacekeeping operations, and MINUSTAH was not set up to provide mass emergency medical care.²¹ In the immediate aftermath of the earthquake, MINUSTAH focused its own efforts on supporting the Haitian National Police in providing safety and security, a decision that did receive some criticism.²² However, in addition to assisting the Haitian National Police with safety and security issues, MINUSTAH headquarters also assisted in the overall command and control of relief efforts in concert with the United States and other responding nations.²³ The lack of a Haitian military meant there was no goal for the United States' disaster relief effort to interact or support a true host-nation military, but the presence of MINUSTAH forces as a de facto host-nation military provided a capability and a partner to work with, through, and in support of.²⁴

ECONOMIC SITUATION AND GOALS:

While Haiti had no real industry or production to speak of, the earthquake caused massive damage across Port-au-Prince, the primary market for any small goods, services, or foodstuffs.²⁵ In a largely subsistence and frequently barter economy, and with a per capita gross domestic product of less than \$400 per year, Haitians had little if any savings.²⁶ As a result, even a short halt in production and the flow of good and services can cause massive problems, a problem seen worldwide following disasters.²⁷ Once

goods and services begin flowing again, it is possible producers cannot get the supplies they need, or that farmers have lost their seeds or mature crops.

Given the state of the Haitian economy prior to the earthquake, it would not have been reasonable to expect the relief efforts to turn Haiti into a fully functioning economy. However, the relief effort needed to plan and execute carefully with the long-term effects on the economy in mind. In particular, the overall relief effort needed to have as a goal support for the continued viability of existing Haitian businesses. For example: giving away food indefinitely would be an effective way to alleviate hunger, but this would destroy the farmers who sell their excess product at the market. Similarly, outside doctors providing free preventive health care would endanger the livelihood of the existing Haitian doctors (in contrast, the emergency medical care provided by the military portion of the response is a vital part of the response effort).²⁸

This highlights the need to minimize the use of “push” relief efforts and to maximize the use of “pull” efforts whenever possible.²⁹ In Haiti, efforts would need to be made to understand the local economy and to design the relief effort to minimize the negative effects on it while still providing the immediate relief that Haitians needed.

SOCIAL SITUATION AND GOALS

It is difficult for a country to develop a stable and functioning civil society in such a politically and economically unstable situation, and Haiti has struggled with to develop a working civil society. Following the earthquake, Haitian society faced tremendous social challenges.³⁰ Looting and some violence is not uncommon following such a severe natural disaster, but in Haiti this was augmented by the presence of powerful and coordinated gangs.³¹ In most stable and developed countries, civil society provides

important augmentation in responding to natural disasters. Within the United States, natural disasters spur responses from not just the Federal Emergency Management Agency, but also from the Red Cross, Salvation Army, and a host of other religious and secular organizations. In Haiti, these organizations were struggling to meet even the most basic needs of the people before the earthquake.³²

It would not be reasonable to ask the relief efforts to build Haitian society into the stable and safe society that we would like it to be. "Despite intentions of 'doing good,' humanitarian and development aid may only be able to apply a superficial bandage to psychosocial wounds that are deep."³³ However, the relief effort needed to restore enough stability to Haiti to allow its existing mechanisms to resume their functions. The efforts of the relief organizations to achieve this goal were complicated by the tense relations between the Haitian government and Haitian civil society.³⁴

INFRASTRUCTURE SITUATION AND GOALS

The earthquake heavily damaged the Haitian infrastructure, but much of it had been in disrepair even before the disaster. The primary points of entry into the country were the Toussaint L'Ouverture International Airport outside Port-au-Prince, and the harbors at Port-au-Prince, Saint-Marc, and Cap-Haitien. The runways at Toussaint L'Ouverture International Airport were not damaged by the quake, but the control tower was destroyed, rendering the airport temporarily unusable, and the damage to the existing facilities limited their use once flights were resumed.³⁵

The ports at Saint-Marc and at Cap-Haitien did not suffer substantial damage, but provided limited throughput.³⁶ The port at Port-au-Prince is substantial, with several piers and a number of cranes and a holding area for shipping containers. However, even

before the earthquake much of the equipment was non-functional, and it suffered heavy damage during the quake.³⁷ The United States Army and Navy sent engineering units to assess the condition of the port, which had been rendered useless for large operations.³⁸

The road network within Port-au-Prince suffered extensive earthquake damage, and collapsed buildings left the roads covered in debris. The electrical grid was also heavily damaged, where there had been an electrical grid at all. Because of the prevalence of cell phones, telecommunications networks were less damaged. However, Haiti's only undersea cable comes ashore at Port-au-Prince, and was heavily damaged.³⁹

The immediate disaster relief efforts goals for the Haitian infrastructure were not ambitious, but were simply to reopen the aerial and sea ports of debarkation (APODs and SPODs) to allow relief supplies to flow into the country. The military could contribute to this goal both by working to open the APOD and SPOD, but also by using their own assets to create their own APODs and SPODs through logistics over the beach and vertical replenishment into helicopter landing zones. As necessary to reduce the loss of life and suffering, the road networks would need to be cleared and the electrical and communications grids repaired. However, as discussed above referring to the Haitian economy, the repair efforts had to be coordinated with other actors and undertaken in such a way that they supported the medium and long-term growth of domestic efforts.

INFORMATION SITUATION AND GOALS

While general news about the disaster was available quickly, the detailed ground level information needed for the effective distribution of supplies was lacking. The Haitian government was not effective prior to the disaster, and the loss of so many government personnel and so much infrastructure meant that the host-nation government

was not going to be able to provide the timely and accurate information and planning needed.⁴⁰ Thousands of non-governmental and other groups have been active in Haiti for years, and could typically provide a great deal of information through their networks.⁴¹

Generally, the military response relies heavily on these organizations. As stated in Sandra Newett's *Planning for Humanitarian Relief Efforts*: "The relief community in theatre and/or the host nation can provide information, such as the culture of the host-nation population, the level of health that the population is accustomed to, the technology that the population is capable of sustaining, and so forth."⁴² Unfortunately, many of these groups lost their headquarters and key personnel to the quake, and others are hesitant to work with the military in any context at all on principle (e.g. OXFAM and Médecins Sans Frontières).⁴³ The United Nations mission to Haiti lost its headquarters and over 100 of its staff were killed by the quake, and while it made every effort to rebuild its capabilities quickly, in the immediate aftermath of the quake it was not the information source that it would otherwise have been.⁴⁴

The challenge and the goal for the relief effort was to gather sufficient information about the needs of the Haitian people, and to ensure that information about where to go for relief supplies was distributed to those Haitians in need. Additionally, information about the efforts of other relief actors would assist in the coordination of efforts so that the military could focus on "meeting the requirements that need to be met by the military forces."⁴⁵

PHYSICAL ENVIRONMENT SITUATION AND GOALS

The island of Hispaniola is a rough mountainous environment. There are several mountain ranges that run roughly east west, with peaks in Haiti reaching over 8,000 feet.

Even with deforestation, tropical forests remain in the highlands. The climate is tropical, with the risks of malaria, dengue, leptospirosis, and other diseases that tropical climates carry amplified by the lack of health care and sanitation.⁴⁶ The disease danger was exacerbated by the introduction of cholera into post-earthquake Haiti, likely by Nepalese United Nation aid workers, which caused the death of more than 1,000 people.⁴⁷

The primary physical environment factors for the disaster relief efforts were the tropical environment (which increased the risk of diseases) and the mountainous terrain (which contributed to the damage as hillsides collapsed). The goal of the effort in these respects was to address the disease threat and to address the devastation on the hillsides, especially around Port-au-Prince.

TIME SITUATION AND GOALS

As in any major disaster relief effort, time is the key factor. In the short term, basic human needs must be met. Food, clean water, shelter, and medical care are vital to minimize the loss of life. In the medium term, debris must be cleared, basic services reestablished, and plans made for returns to normalcy. In the long term, damage must be repaired, infrastructure rehabilitated or replaced, and the fabric of the economy and society repaired. In Haiti, the short-term concerns were food and water, particularly around Port-au-Prince. Clean water had never been widely available, and without water treatment plants, the unburied bodies in the rubble would quickly spread disease. Emergency rations could be quickly distributed, but were not always accepted due to cultural factors, namely a strong preference for home cooking using dietary staples.⁴⁸

The goal of this relief effort, and any disaster relief effort, is to act as quickly as possible during the emergency period to get food, water, and medical care to the affected

areas. The 1994 Oslo Guidelines for the use of military assets in humanitarian efforts encourage the use of military assets in disaster relief and humanitarian assistance efforts only as a last resort. However, the Stockholm International Peace Research Institute suggests that military assets may be crucial in the initial aftermath of a natural disaster because of their ability to self-deploy rapidly.⁴⁹ Once the most basic human needs are met, medium and longer terms goals such as clearing rubble, repairing infrastructure, and restoring the economy can begin. However, “given the short duration of the American military deployment, a conscious effort must be made to recognize the continuum of effort: to help but not to create dependency and false expectations.”⁵⁰

DOTMLPF-C OVERVIEW

Having defined the situation confronting the disaster relief efforts, this study turns to the capabilities of the United States government and other actors to respond to the situation. In order to bring the full power of the United States and the international community to bear on a disaster relief effort, all elements of national power should be considered, as should the abilities and capabilities of other actors. The doctrine, training, organization, materiel, leadership, personnel, facilities, and cost (DOTMLPF-C) framework is a way to ensure that all types of solutions to a problem are considered. For each aspect of the framework, the available military, other governmental, non-governmental, and international options will be considered. These options will focus on the issues and goals for the disaster relief effort raised above in the PMESII-PT analysis.

DOCTRINE

United States military doctrine for dealing specifically with humanitarian assistance and disaster relief missions is limited to DoD Directive 5100.46 Foreign

Disaster Relief (December 1975), and Joint Publication 3-29 Foreign Humanitarian Assistance (March 2009).⁵¹ While there is not a great deal of military doctrine specific to disaster relief, there is a great deal of related doctrine and an increasing amount of knowledge within the military that is applicable to these situations. Most of the tactics, techniques, and procedures that the military would need in a disaster relief effort are ones that are already present in other doctrine (e.g., the provision of clean water and food).⁵² There is already doctrine within the service logistics communities on the provision of these, and so while there is not a collection of these slices of doctrine dedicated to disaster relief missions, there is, in fact, doctrine on most of the missions that the military might be asked to perform.

This dispersion of doctrine can be a problem, but it is certainly mitigated by the knowledge that has been built in the military over the last ten years of war. The shift in focus from conventional combat to counter-insurgency has left the military with an entire cohort of Soldiers, Marines, Airmen, and Sailors who are extremely knowledgeable in determining how to use military forces for non-kinetic civil affairs operations.⁵³ The same skills used to determine what projects would best pacify a community in Diyala Province can be used to assess how to help a village after an earthquake.

Additionally, other organizations focus solely on disaster relief, and are likely to be even more knowledgeable. Within the United States government, the Agency for International Development's Office of Foreign Disaster Assistance (OFDA) is the primary focus point for disaster relief efforts abroad. These experts are focused on disaster relief, particularly at the high levels of operational planning. At the lower levels of tactics, techniques, and procedures they may not be staffed to provide the depth of

knowledge on all potential actions that could be needed in a disaster zone, but they have a tremendous knowledge of the that the military lacks. Additionally, they are prepared to contract for or otherwise arrange for these skills to be made available, but these other skills are not organic to the organization and they are not codified in doctrine.

Outside of the United States government there are a tremendous number of non-governmental and international organizations with doctrine and knowledge of disaster relief operations. The United Nations has its Disaster Assessment and Coordination team, which is a standing team of disaster relief professionals who can deploy to provide planning and coordination for United Nations disaster relief efforts.⁵⁴ Many non-governmental entities also regularly participate in disaster relief efforts, including the International Committee of the Red Cross, International Federation of Red Cross and Red Crescent Societies,⁵⁵ Médecins Sans Frontières,⁵⁶ and others.

In an ideal situation, all of these organizations would join to develop a coherent set of doctrine and tactics, techniques, and procedures for responding to natural disasters. In reality, a single set of doctrine would be impossible to develop. In light of this, military disaster relief will always face a fractured doctrinal environment, but this should not distract the military from leveraging these other sources. The military has the tactical doctrine to perform virtually any task required in a disaster relief effort, but it does not have the operational doctrine that these other organizations do to ensure that the overall effort achieves its goals.

ORGANIZATION

The military's primary Title 10 responsibilities are national defense (warfighting), not disaster relief, and the military is organized accordingly.⁵⁷ While there are no units

organized specifically for disaster relief, there are many units whose wartime missions are also appropriate for disaster relief. Examples of these include:

logistics/transportation, vertical lift, communications, and medical units.

Beyond these units, the key organizational feature of the military regarding disaster relief operations is their flexibility for task organization. Task organization has become more and more of a reality for the Army, as it has been for the Marine Corps for decades.⁵⁸ The Marine Corps has stressed the flexible task organization of the Marine Air Ground Task Force (MAGTF) in its doctrine since the publication of Marine Corps Order 3120.3 in 1962. The ability to adapt its deployed organization is a hallmark of the strength of the United States military, and is a strength that carries over into disaster relief efforts.

Other governmental and non-governmental disaster relief organizations are organized better for many or most aspects of disaster relief missions. The United Nations and USAID's OFDA are both organized with small forward elements that spend years in countries developing contacts. These country teams can quickly be supplemented by subject matter experts deployed within hours of a disaster. This lends itself well to smaller and to medium efforts and to long-term relief efforts because the country team's contacts and local knowledge allow the relief efforts to meld with the host nation's own efforts. However, in the short term these organizations lack the mass that the military carries and are at risk if the disaster strikes in the wrong place. When the capital of a country is hit as hard as Port-au-Prince was, the entire country staff is at risk. Without the local knowledge and the detailed situational awareness to overcome their lack of

mass, these other governmental and non-governmental may (in the short term) lose their advantage over the mass that the military can provide.

TRAINING

The United States military, with some exceptions (e.g. USSOUTHCOM's Beyond the Horizon and New Horizons exercises), does not train for disaster relief operations, even though they execute one to three per year.⁵⁹ As described above, there are basic tasks that are trained to for combat operations that are used in disaster relief operations, but these are trained to only in so far as they are useful for the combat missions. Despite this lack of formal training, the United States military is currently quite well prepared for disaster relief operations for a number of reasons.

The first of these is the presence of the National Guard (particularly the Army National Guard and the Air National Guard). These troops have a dual role under both Title 10 and Title 32. In their Title 10 role, they train and execute operations overseas with their active duty comrades. Under Title 32 however, they act as state militia under the control of their respective governors. In this role, they train and execute disaster relief operations and other military assistance to civil authority operations.⁶⁰ In addition to the presence and training of the National Guard, current operations have well prepared United States forces for the roles and responsibilities of disaster relief operations.⁶¹

Finally, there are some military skills that were useful in Haiti that are not as readily available in large quantities outside of the military. These included expeditionary emergency medical care, logistics in austere environments via rotary wing aviation, and rigorous crisis action planning. These skills can be found elsewhere in the government or can be contracted for in the private sector, but not at the speed that can be provided by the

military, or with the military's deployable self-sufficiency. They also included air controllers operating in austere environments. With the extent of the damage to the air traffic control tower at the international airport, the only way to reopen it quickly for relief operations was to use United States Air Force controllers operating on a folding table with several radios. With their specialized training and radar information from United States Navy ships offshore, these controllers were able to open a major APOD quickly and safely.

As discussed above, there are many other governmental and non-governmental organizations that train specifically for disaster relief operations, such as the International Federation of Red Cross and Red Crescent Societies, which train Emergency Response Units and Field Assessment Coordination Teams. Some of these perform roles that even our experienced troops cannot fill, such as urban search and rescue. However, these organizations do not have the large quantity of trained individuals that the military has, and as in Haiti, there is the risk that some or all of their local capability will be degraded by the disaster at hand.

MATERIEL

Of the capabilities that the military can provide to a disaster relief effort, materiel is one of the most important. The United States military is budgeted to procure vast quantities of equipment ruggedized beyond civilian standards, built to operate in austere environments, and designed to be deployed either by air or, in the case of Marine Corps materiel, over the shore. Because of the expertise that OFDA has in disaster relief, the military should allow them to pull its specialized equipment as necessary to supplement what is otherwise available.

Of particular use in disaster relief efforts are materiel assets that are expensive enough to be beyond the reach of most other budgets, and those not found widely in the civilian sector. For example, vertical lift assets were valuable in Haiti because the damage to and debris in the roadways hindered the ground transport of supplies. Vertical lift assets also provide search and rescue and intelligence gathering capabilities. However, the expense of these assets makes them cost ineffective for virtually any organization but the military to procure in substantial numbers. In addition, the relative difficulty of transporting these large and expensive assets quickly makes it impossible for organizations to centralize them until needed. While USAID and other organizations can and do contract for some of these assets, the ability of the military to deploy their own organic assets quickly and in large numbers is unique.⁶²

While the military has tremendous amounts of useful materiel, it may not always be appropriate to use it. The use of military equipment is not free; the use degrades it and means that it will need to be maintained again before it could be used for combat.⁶³ The use of military materiel also risks creating a dependency on it; anything from water purification, to transport, medical, and particularly vertical lift. Whenever possible, locally available materiel should be used in place of military equipment in order to keep the local economy functioning during the relief efforts, and to ensure that it remains viable after the operations end.

LEADERSHIP

The military leadership style is high-tempo, action oriented, largely predicated on having clear chains of command and command relationships, and lends itself well to producing results in a crisis situation. Military leaders are trained and experienced in

rapid and decisive decision making in ambiguous environments. They are promoted based on their ability to produce results in complex, and fast-paced environments in a manner that is sometimes lacking in organizations headed by political appointees.⁶⁴

While this leadership style brings benefits to disaster relief efforts, it can also cause conflicts. While military leaders come into these efforts expecting to work with a similar method of leadership, chains of command in them are “complicated by the many additional participants in [humanitarian relief and disaster assistance operations], compared to a combat operation.”⁶⁵ The number of other actors, combined with their very different leadership styles (less command oriented and more consensus based), means that for the military leaders, there sometimes appears to be a leadership vacuum insofar as there is no single commander in charge of the military, other governmental, and non-governmental actors. In this case the military leadership may be tempted to step up to try to establish a chain of command to enhance the response, but non-governmental actors (such as Médecins Sans Frontières) can take this as a military takeover, and pushback can ensue.⁶⁶

Fortunately, many of the current junior and field grade officers have spent much of their military career operating with non-military and non-governmental actors during counter-insurgency operations. This experience level makes these military leaders more comfortable and more effective at integrating with other actors during disaster relief operations. Additionally, both USSOUTHCOM and USPACOM work regularly with other governmental and non-governmental organizations to establish relationships to mitigate the potential for leadership clashes.

Despite these mitigating factors, military leadership and expectations about it are deeply ingrained. The emergency period immediately after a disaster is “the time frame of greatest military involvement and greatest challenge for military-civil relations.”⁶⁷

After this period of emergency the urgency of action declines, and the military leadership style becomes less appropriate as it disengages from the longer-term aspects of the relief operations.

PERSONNEL

As with materiel, personnel are one of the key factors that the military brings to disaster relief operations.⁶⁸ As discussed above, while other organizations frequently have more expertise in disaster relief operations than the military, they also tend to lack a deep bench due to constrained resources. The military, in contrast, has tremendous depth distributed worldwide.⁶⁹ There are more than 100 pilots in an Army combat aviation brigade, a combat surgical hospital can deploy more than 500 medical professionals, and there are thousands of highly capable planners across the military who can assist in logistics planning, communications, command and control, and other critical tasks.

In the wake of a disaster like that in Haiti, general-purpose troops may not be the best trained first-responders, but they are ready, disciplined, and self-supporting. With appropriate guidance and leadership more knowledgeable disaster relief operations actors can leverage these military personnel to assist with everything from route clearance to ration distribution or security provision. Military troops also represent very visible “goodwill ambassadors” of the disaster relief efforts.⁷⁰ While many people may be responding their efforts and status may go unnoticed if they are not wearing a uniform.

This visibility is both a positive (it shows tangible efforts are being made) and also a negative (foreign military with weapons can be unwelcome).

The availability and use of uniformed military personnel is an asset for disaster relief operations, both at practical and strategic messaging levels. However, they are not a panacea, and there are risks associated with their use for any extended amount of time.

FACILITIES

This paper does not address domestic disaster relief efforts (military support to civil authorities within the United States are heavily regulated and outside the scope of this paper). Because most major military facilities are within the United States, there is not a large role for them in overseas disaster relief efforts except as power projection platforms. The same facilities allow the military to project military power can play a role in projecting disaster relief support overseas as well.

COST

There are two aspects to the cost of disaster relief operations to be considered: the effectiveness and the efficiency of the efforts. Effectiveness considers the ability of the effort to react quickly because as discussed above, time is of the essence in disaster relief operations. Efficiency addresses the overall cost, and potential ways to reduce it.

The military response is effective in that the military has a very large discretionary budget with the ability and authority to shift money around during a fiscal year. In contrast, most other governmental actors have little discretionary money in their budgets. Congress will almost certainly reimburse these organizations for their disaster relief expenditures, but in the short term they do not have enough flex in their budgets to

act as decisively as the DoD can. While non-governmental organizations may be able to shift funds more easily, they do not have the volume of funding available to the DoD.

A military response may be the most immediately effective way to cover the costs of a disaster relief effort, but it is far from the most efficient. To some extent the military can be written off as a sunk cost and thus free to use, in reality the military is extremely expensive to maintain and operate. To use the military for disaster relief operations is like hiring staff under a sole-source contract; you may get tremendous capabilities, but if you take the time to use competitive contracting and only ask for what you need, you will pay a much lower price.

RECOMMENDATIONS

The system that the United States government has established for executing foreign disaster relief efforts using a whole-of-government approach generally works quite well. USAID's Office of Foreign Disaster Relief, in concert with country staffs, United Nations Staff, and non-governmental organizations, supports the host nation government following a disaster. For most of these responses in any given year, these organizations are able to respond with sufficient assets to support the host nation. However, periodically a disaster strikes that is sufficiently large to overwhelm the host nation or nations and requires additional support beyond what USAID may be able to provide on short notice.

In disasters of this magnitude, the military often plays a vital role in the immediate aftermath, and it should be prepared to do so again on short notice. In order to improve the speed and effectiveness of the overall United States' response to the next disaster, the role that the military played in Haiti should be considered. The doctrine and

organization of the other participants showed some weakness in Haiti; the disaster itself struck down many of the highly knowledgeable forward-postured staff that these organizations rely on to enhance their effectiveness, and the lack of formalized doctrine could make the replacement of lost staff more difficult. While the potential for the loss of life of the critical responders could be a weakness in major disaster relief efforts, it is not clear that the military is in a position to improve the overall response in this area. The overarching doctrine for the military's role in disaster relief was updated in 2009, and the military's ability to quickly task-organize mitigates the fact that as the nation's warfighting organization, it should not be organized for disaster relief operations.

In contrast, USSOUTHCOM showed the importance of an active role for the military in disaster relief training. USSOUTHCOM has focused a great deal of their attention recently on preparing for disaster relief and humanitarian assistance missions. It has trained with other nations, with U.S. embassy country teams, and with other non-governmental organizations. Because of this persistent training, USSOUTHCOM had not just extensive training on the conduct of disaster relief efforts, but also had well developed relationships with other key responders, including MINUSTAH commanders and country staff members.

While USSOUTHCOM may represent an economy of force effort relative to the other combatant commands, it is still resource rich relative to many other actors. It also has the military mindset that stresses constant training. As such, USSOUTHCOM and the other combatant commanders are ideally positioned to act as a catalyst for interagency disaster relief training and exercises. Ideally the military's cultural proclivity and resources for constant joint and interagency training and exercises would be found in

the interagency. Unfortunately, the State Department faces the same budgetary pressures that the Department of Defense does, but from a lower baseline level. Additionally, the State Department faces a harder sell to the American public for a higher level of expenditures than does the military, which is one of the nation's most respected institutions at this time.

Operation UNIFIED RESPONSE also highlighted that the traditional demands for military equipment in a disaster relief mission still apply; vertical lift, emergency medicine, logistics, and communications/command and control. All of these equipment sets were requested in Haiti, and all were provided by the United States military. If these sets of equipment are generally known to be required in major disaster relief efforts, then it may appear to be logical to request that USAID be budgeted to procure enough of them that the military materiel would not be required. However, this is not as straightforward as it appears because of utilization rates and second-order costs. While major disasters do require military materiel, these major disasters are relatively infrequent, and so a major, and expensive, set of USAID materiel would likely spend a great deal of time sitting idle. Meanwhile, military materiel is already used regularly, but can be diverted easily for short-term disaster relief operations, thus effectively covering two mission sets with one set of equipment. Beyond the utilization rate, there are very large second-order costs associated with a large stock of military materiel, including maintenance, fuel, deployment assets, and depreciation. Because the military already covers the high fixed costs associated with these for its own equipment, it would not make financial sense for USAID to duplicate them.

The military leadership style, action oriented and decisive, is valuable in crisis action planning, and in disaster relief efforts. However, with the lack of institutional knowledge in the military relative to those expert civilians on the ground, the decisive and action oriented military officer could just as easily lead the response in the wrong direction. By ensuring civilian leadership of the overall response effort, the United States can best harness the action-oriented military leadership to move the efforts in the right direction. While military commanders might resent civilian tactical control in major combat operations, in disaster relief efforts they have taken, and should continue to take, a supporting role. This will likely be important for the foreseeable future, as the military is likely to maintain a far larger force structure than the civilian agencies. Barring major budgetary reprioritizations, the State Department, USAID, and OFDA are unlikely to receive sufficient personnel authorizations to supplant the role of that large numbers of military personnel can play in the immediate aftermath of a major natural disaster.

CONCLUSION

Operation UNIFIED RESPONSE demonstrated much that is good about America's ability to provide foreign disaster assistance following a major natural disaster. The military contributed very successfully to the efforts by allowing the civilian experts in the ground to set priorities and operational plans. However, Haiti also illustrated that the traditional roles that the military plays in disaster relief (emergency medicine, vertical lift, logistics, and communications/command and control) are unlikely to change. These roles are well suited to the use of the military, at least in the immediate aftermath of a disaster, and replacing the military in them would be difficult and cost ineffective.

¹ Authority for providing foreign disaster assistance is derived from the Foreign Assistance Act of 1961, as amended, and from the Memorandum for the Heads of Executive Departments and Agencies (dated September 15, 1993). The act provides both legal authority and in some cases funding for specific operations. It does not limit the ability of the President of the United States to delegate these authorities as he sees fit with another Memorandum for the Heads of Executive Departments and Agencies.

² "Haiti Raises Earthquake Toll to 230,000," *Associated Press*, 10 February 2010.

³ United States Geological Survey, Earthquakes With 50,000 or More Deaths, 29 March 2010, available from http://earthquake.usgs.gov/earthquakes/world/most_destructive.php; Internet; accessed 15 March 2011.

⁴ Authority for providing foreign disaster assistance is derived from the Foreign Assistance Act of 1961, as amended, and from the Memorandum for the Heads of Executive Departments and Agencies (dated September 15, 1993). The act provides both legal authority and in some cases funding for specific operations. It does not limit the ability of the President of the United States to delegate these authorities as he sees fit with another Memorandum for the Heads of Executive Departments and Agencies.

⁵ United States Southern Command, Disaster Relief in Haiti, 26 September 2008, available from <http://www.southcom.mil/appssc/factfiles.php?id=72>; Internet; accessed 18 February 2010.

⁶ These directorates were largely mission-oriented (Stability Directorate, Partnering Directorate, etc.) rather than functionally oriented (J-1 Personnel and Administration, J-2 Intelligence, etc.). The standing joint task forces were formed to execute ongoing detention operations in Guantanamo Bay (JTF Guantanamo), counter-narcotic operations in Honduras (JTF Bravo), and region-wide counter-narcotics operations (Joint Interagency Task Force South). For more information see Donna Miles, "SOUTHCOM Transformation Promotes New Approach to Regional Challenges," *American Forces Press Service*, 26 August 2008.

⁷ Government Accountability Office, *U.S. Southern Command Demonstrates Interagency Collaboration, but Its Haiti Disaster Response Revealed Challenges Conducting a Large Military Operation*, July 2010. Pages 26-27.

⁸ USSOUTHCOM's AAR noted that planning this was complicated by an "absence of higher-level guidance" from the lead federal agency [USAID] and National level policy. See USSOUTHCOM AAR briefing dated 10 May 2010, or Joint Lesson Learned Information System entry 13654.

⁹ U.S. Army Center for Army Lessons Learned, *Operation Unified Response XVIII Airborne Corps Jan-Apr 2010 Initial Impressions Report*. Page 15.

¹⁰ LTC James Ware (US Army, Retired), interviewed by Tucker Hughes, 18 January 2011. See also U.S. Army Center for Army Lessons Learned, *Operation Unified Response XVIII Airborne Corps Jan-Apr 2010 Initial Impressions Report*. Page 17.

¹¹ In a complex non-linear system, various factors will interact, often strongly, and using PMESII-PT to try to predict the effects of an action will miss the effects of these interactions. For example, in many free market countries, there is an interaction between politics and the economy such that a change in the economy can cause an upheaval in the political realm. In these situations, using the PMESII-PT framework to predict effects may miss these spillovers. For more information on this argument see MAJ Brian

Ductoe, *Challenging the Application of PMESII-PT in a Complex Environment* (Fort Leavenworth, KS: School of Advanced Military Studies, March 2010).

¹² For the thirty years prior to 1987 the Duvalier family ran Haiti as a dictatorship. Francois Duvalier (1907-1971), also known as “Papa Doc” ran Haiti from 1957 until he died in 1971. His son Jean-Claude (“Baby Doc”) then ran Haiti from 1971 until 1986. From 1986 until January of 2011, Jean-Claude lived in exile in Paris. After the earthquake he returned to Haiti and was promptly arrested. The country suffered under military régimes from 1987 until the election of Jean-Bertrand Aristide in 1990. Jean Bertrand Aristide is a former priest who became the first democratically elected president of Haiti after being a leader in the pro-democracy movement under Baby-Doc Duvalier. Aristide led Haiti for less than two years before a coup d’état forced him into exile while Boniface Alexander led the country. Boniface Alexandre was the chief justice of the Supreme Court in Haiti and was sworn into power under the succession process laid out in Haiti’s Constitution. In 1994 the United States secured Aristide’s return to power in Operation UPHOLD DEMOCRACY. Rene Preval was Aristide’s handpicked successor, running for election in 1996 as the head of Mr. Aristide’s political party. He had served as Prime Minister for Mr. Aristide in 1991, but had never held elected office before becoming President. After Aristide won reelection in 2001, Preval was reelected in 2005 to serve a second five-year term. For more information see Lydia Polgreen, “The Aristide Resignation: Exile; Haiti President Forced Out; Marines Sent to Keep Order,” *New York Times*, 1 March 2004. See also Larry Rohter, “Haitian Taking Office, With Daunting Job Ahead,” *New York Times*, 7 February 1996.

¹³ Phillipe Girard, “Underdevelopment in Haiti,” in *Nation Building, State Building, and Economic Development*, ed. S.C.M. Paine (Armonk, NY: M.E. Sharpe Inc, 2010).

¹⁴ Eduardo Alduante, *Backpacks Full of Hope: The UN Mission in Haiti* (Waterloo, ON, Canada: Center for International Governance Innovation, 2010). Page 127. Transparency International, Corruption Perceptions Index 2010, available from http://www.transparency.org/policy_research/surveys_indices/cpi/2010/results; Internet; accessed 21 January 2011.

¹⁵ The United States Department of State estimated that in addition to infrastructure damage to government facilities (including the National Palace, Parliament, courts, and 28 of 29 ministry buildings), as much as 30% of the Haitian civil service perished in the quake. For more information see United States State Department Bureau of Western Hemisphere Affairs, Fast Fact on U.S. Government’s Work in Haiti: Governance and Law, 8 January 2011, available from <http://www.state.gov/p/wha/rls/fs/2011/154150.htm>; Internet; accessed 21 January 2011.

¹⁶ Erica James, *Democratic Insecurities: Violence, Trauma, and Intervention in Haiti* (Berkeley, CA: University of California Press, 2010). Page 7.

¹⁷ MSNBC, “Hurricane Henriette Roars Ashore in Mexico,” *MSNBC*, 5 September 2007. U.S. Agency for International Development Office of Foreign Disaster Assistance, *Fact Sheet #25, Fiscal Year 2006: South Asia – Earthquake*, 17 November 2005.

¹⁸ Jonathan Dworken et al, *Haiti Demobilization and Reintegration Program: An Evaluation Prepared for U.S. Agency for International Development* (Alexandria, VA: Institute for Public Research, 1997).

¹⁹ Tom Cohen, "Haiti Police Ill-Equipped to Handle Crisis", *CNN News*, 19 January 2010. New York City Police Department, Frequently Asked Questions, available from http://www.nyc.gov/html/nypd/html/faq/faq_police.shtml#1; Internet; accessed 23 March 2011.

²⁰ MINUSTAH Facts and Figures. Available from <http://www.un.org/en/peacekeeping/missions/minustah/facts.shtml>; Internet, accessed 3 May 2011.

²¹ For comments on the worldwide shortage of helicopters in United Nations operations see, for example, UN General Assembly press release "OVERBURDENED, UNDERFUNDED, OVERSTRETCHED PEACEKEEPING OPERATIONS CREATE 'YAWNING GAP' BETWEEN EXPECTATIONS, PERFORMANCE, FOURTH COMMITTEE TOLD AT CLOSE OF DEBATE: More than Helicopters, Boots on Ground — Protection of Civilians Needs Practical, Focused Operational Guidance, Proper Pre-Deployment Training." 27 October 2010.

²² Tom Brown, "Haiti Effort Marred by Slow UN Reponse," *The Telegraph*, 4 May 2011.

²³ United Nations. "Report of the Secretary General on the United Nations Stabilization Mission in Haiti." 22 February 2010. Page 7.

²⁴ This may also have made the mission in Haiti easier, as supporting the host-nation military in countries with human rights issues can be problematic as it can imply support for the actions and legitimacy of those forces (e.g. in Aceh, Indonesia following the 2004 tsunami). For more information on potential problems in working with host-nation military see Mary-Jo Good et al, "Complex Engagements: Responding to Violence in Postconflict Aceh," in Didier Fassin and Mariella Pandolfi *Contemporary States of Emergency: The Politics of Military and Humanitarian Intervention* (New York, NY: Zone Books, 2010).

²⁵ Haiti is, and has been, an economic "basket-case." It is the poorest country in the western hemisphere and the unemployment rate is more than 60%. There is virtually no production, manufacturing, or industry; the vast majority of Haitians are engaged in farming (primarily subsistence) and light services/trades. The Haitian economy survives largely on remittances from the Haitian diaspora, which total nearly one quarter of the country's gross domestic product. For more information see Steve Schifferes, "Haiti: An Economic Basket-Case", *BBC News*, 1 March 2004. See also Central Intelligence Agency, CIA World Factbook: Haiti, 16 March 2011, available from <https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html> ; Internet; accessed 28 January 2011.

²⁶ Phillippe Girard (2010).

²⁷ For further description of the savings and natural disaster issue see Stuart Mathison, *Microfinance and Disaster Management*, (Brisbane, Australia: The Foundation for Development Cooperation, 2003). Pages 3-4.

²⁸ LTC James Ware (US Army, Retired), interviewed by Tucker Hughes, 18 January 2011.

²⁹ Pushing relief supplies, where the donor nation or organization determines what it believes will be necessary, or what it can provide, may be needed in the short term, but does not guarantee that the victims receive what they actually need. Pulling relief

supplies, where the victims request what they need and donors meet those requests require greater effort and flexibility on the part of donors, but are less likely to cause problems in the medium and long term to the local economy.

³⁰ These included the collapse of the prison system leading to the release of criminals from jails and the death or incapacitation of many police officers. Bruno Waterfield, "Haiti earthquake: police face return of gangs in Port-au-Prince," *The Telegraph*, 19 January 2010.

³¹ Tim Padgett, "Will Criminal Gangs Take Control in Haiti's Chaos?," *Time Magazine*, 14 January 2010.

³² Lizzette Gonzalez, *Haiti after the earthquake: Civil society perspectives on Haitian reconstruction and Haitian-Dominican bi-national relations* (London, United Kingdom: Progressio, December 2010). Page 7.

³³ Erica James, *Democratic Insecurities: Violence, Trauma, and Intervention in Haiti* (Berkeley, CA: University of California Press, 2010). Page 288.

³⁴ *Ibid.* Page 12.

³⁵ "Aid Bottleneck at Haiti Airport," *Al Jazeera*, 15 January 2010.

³⁶ The port at Saint-Marc did not suffer substantial damage, but as it has only a single small pier and no cranes or other equipment, it could not serve as a primary sea point of debarkation. The port at Cap-Haitien is more substantial than that at Saint-Marc, but has less dock space than Port-au-Prince, only a single large crane, and minimal storage space.

³⁷ During the quake several piers suffered extensive damage, and most of the large cranes were either thrown into the water, or were rendered inoperative. For more information see Patrick Sawyer, "Haiti Earthquake: Rescuers Still Struggling Without Working Airport, Port, or Roads," *The Telegraph*, 16 January 2010.

³⁸ Seth Robson, "Rebuilding Haiti's Demolished Port Is No Small Task For U.S.," *Stars and Stripes*, 28 February 2010.

³⁹ Christopher Rhoads, "Quake Sets Back Haiti's Efforts to Improve Telecommunications," *Wall Street Journal*, 15 January 2010.

⁴⁰ In 2009 the World Bank ranked Haiti as the 11th least effective government in the world, below Turkmenistan, Sudan, and Sierra Leone among others. World Bank, *Worldwide Governance Indicators 2010*, available from <http://info.worldbank.org/governance/wgi/index.asp>; Internet; accessed 23 March 2011.

⁴¹ United States Institute of Peace, *Haiti: A Republic of NGOs?*, 26 April 2010.

⁴² Sandra Newett, *Planning for Humanitarian Assistance Operations* (Washington, DC: Center for Naval Analysis, April 1996). Page 37.

⁴³ Didier Fassin and Mariella Pandolfi, *Contemporary States of Emergency: The Politics of Military and Humanitarian Intervention* (New York, NY: Zone Books, 2010). Page 14.

⁴⁴ United Nations Security Council, *Report of the Secretary General on the United Nations Stabilization Mission in Haiti*, 22 February 2010.

⁴⁵ Sandra Newett (1996). Page 33.

⁴⁶ Centers for Disease Control, Health Information for Travellers Online: Haiti, 18 January 2011, available from <http://wwwnc.cdc.gov/travel/destinations/haiti.aspx>; Internet, accessed 23 March 2011.

⁴⁷ Matt Gutman, "Haiti: As Cholera Spreads, Frustration Builds," *ABC News*, 18 November 2010.

⁴⁸ LTC James Ware (US Army, Retired), interviewed by Tucker Hughes, 18 January 2011.

⁴⁹ Stockholm International Peace Research Institute, *The Effectiveness of Foreign Military Assets in Natural Disaster Response* (Stockholm, Sweden: SIPRI, 2008). Page 32.

⁵⁰ Chris Seiple, *The U.S. Military/NGO Relationship in Humanitarian Interventions* (Carlisle, PA: Peacekeeping Institute of the U.S. Army War College, 1996). Page 87.

⁵¹ Department of Defense doctrine specific to disaster relief operations has been thin for decades. The primary references are Department of Defense Directive 5100.46 Foreign Disaster Relief (issued 4 December 1975), and the capstone doctrine publication for these missions, Joint Publication 3-29 Foreign Humanitarian Assistance (issued in March 2009). However, there is virtually no service-level doctrine nested underneath these documents. Unlike most warfighting functions, the services have not developed lower level doctrine specific to humanitarian assistance and disaster relief operations. Given that humanitarian assistance and disaster relief are not primary Title 10 missions of the military, this is not surprising. For more information see also LTC Frank Cook et al, *The Defense Department's Role in Humanitarian and Disaster Relief* (Boston, MA: Harvard University John F. Kennedy School of Government, 1993). Page 15.

⁵² See, for example: Army Tactics Techniques, and Procedures Publications 4-15 *Army Water Transport Operations*, Army Field Manual 10-52 *Water Supply in Theaters of Operations*, and Marine Corps Warfighting Publication 4-11.6 *Petroleum and Water Logistics Operations*.

⁵³ American forces have long engaged in civil affairs and other non-kinetic operations, but not on the scale of the current counter-insurgency operations.

⁵⁴ For more information see the United Nations Office for the Coordination of Humanitarian Affairs at

<http://ochaonline.un.org/OCHAHome/AboutUs/Coordination/UNDACSystem/tabid/5963/language/en-US/Default.aspx>

⁵⁵ See the IFRC web site for additional information on IFRC efforts in response to the 2004 Indian Ocean tsunami, 2010 Haiti earthquake, 2011 Japan earthquake, and previous IFRC efforts.

⁵⁶ See the Medecins Sans Frontieres website for additional information on their efforts in response to the 2004 Indian Ocean tsunami, 2005 Kashmir floods, and other efforts.

⁵⁷ U.S. Code Title 10, Subtitle A, Part I, Chapter 20, §404 provides the President with the authority to direct the Secretary of Defense to provide disaster assistance outside the United States, however it is one subsection out of the thousands which comprise Title 10.

⁵⁸ The Army's Modularity initiative was, in part, a push to make more robust and to standardize smaller units and combat enabler units in order to make the Army more agile, versatile, and deployable. For more information see Richard Bugler, *Case Study in Army Transformation: Creating Modular Forces* (Washington, DC: Center for Technology and National Security Policy, National Defense University, April 2008). Page 1.

⁵⁹ Bruce Pirnie and Corazon Francisco, *Assessing Requirements for Peacekeeping, Humanitarian Assistance, and Disaster Relief* (Santa Monica, CA: RAND Corporation, 1998). Page 8.

⁶⁰ Within the United States, these troops are often shared between governors when a major disaster strikes under emergency management assistance or National Guard mutual assistance compacts. While these compacts to share National Guard troops under Title 32 do not apply overseas, the ability of the military to selectively mobilize to get specific skill sets makes these trained troops a useful tool.

⁶¹ The vital role that civil-military operations and non-combat missions play in our recent counter-insurgency fights has left the military with a deep bench of officers and enlisted troops (particularly within the Army and Marine Corps) who understand how to rebuild a village, protect the population, provide essential services, mediate, interact with non-governmental actors and allied militaries. All of these are critical to the effective performance of a disaster relief operation.

⁶² Other valuable military assets in Haiti were water purification systems, motor transport, and the set of materiel that allowed the Marine Corps to deploy and then to offload and distribute emergency supplies from ship to shore. With the damage to the dock facilities at Port-au-Prince, the only effective ways to get people, equipment, and supplies into the country were by air (run by military controllers using military materiel), over the shore, and by land through the Dominican Republic (which required augmentation from military transport as the locally available transport was insufficient). The presence of the USNS Comfort was also valuable in providing medical care to injured Haitians.

⁶³ This is especially true for vertical lift assets, which can log substantial flight hours in a disaster relief operation and which are maintenance-intensive.

⁶⁴ It is crucial to note that this in no way takes away from the professionalism of the vast majority of employees of USAID and other organizations, but is simply a reflection of the vagaries of the political appointment process.

⁶⁵ Karen Smith, *Command and Coordination in Humanitarian Assistance Operations* (Washington, DC: Center for Naval Analysis, April 1996). Page 7.

⁶⁶ Nellie Bristol, "Military Incursions into Aid Work Anger Humanitarian Groups," *The Lancet*, Volume 367, Issue 9508, 4 February 2006.

⁶⁷ COL Edward Kelly, *The U.S. Military and Disaster Response* (Carlisle, PA: U.S. Army War College, April 1992). Page 6.

⁶⁸ MG Ricardo Toro (Chilean Army, Former Acting Commander U.N. Peacekeeping Force in Haiti), interviewed by Mr. Owen McCauley and Mr. P. Keith Warman of the U.S. Army Center for Army Lessons Learned, 22 June 2010.

⁶⁹ A Marine Expeditionary Unit, of which there are seven with at least two afloat at all times, consists over more than two thousand disciplined and flexible Marines. In addition, the Army keeps at least one brigade on ready standby for rapid deployment: a light, self-sustaining, and small-footprint force of two to four thousand prepared to deploy worldwide within hours.

⁷⁰ LTC Frank Cook et al (1993). Page 9.

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