CENTER FOR EXCELLENCE
IN DISASTER MANAGEMENT & HUMANITARIAN ASSISTANCE

LESSONS FROM

CIVIL-MILITARY DISASTER MANAGEMENT AND HUMANITARIAN RESPONSE TO

TYPHOON HAIYAN (YOLANDA)

Sponsored by the Center for Excellence in Disaster Management & Humanitarian Assistance

Joint Base Pearl Harbor-Hickam, Hawaii

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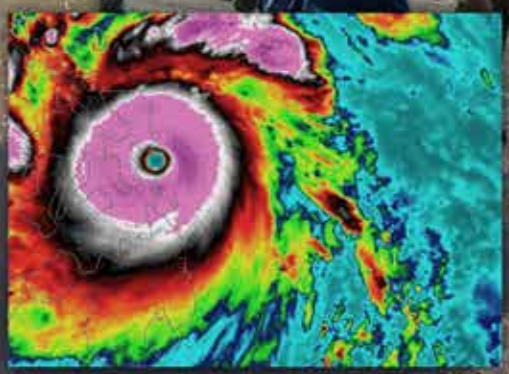

With contributions from:

HARVARD HUMANITARIAN INITIATIVE

PACIFIC DISASTER CENTER

On the cover:

More than two million homes were destroyed or damaged after Typhoon Haiyan ripped across the central Philippines; U.S. Marine Lance Cpl. Leah Anderson carries a bag of supplies alongside Filipino civilians during relief operations Nov. 15. (U.S. Navy photo by Mass Communication Specialist 3rd Class Paolo Bayas); a satellite image of Typhoon Haiyan as it sweeps across the Philippines.

One of the hardest hit cities, the sign to Tacloban welcomes relief workers.

Message from the Director

24 January 2014

Our thoughts and prayers remain focused on the Philippines as the country continues to recover from the devastation caused by Typhoon Haiyan (Yolanda), the strongest typhoon in recorded history. The remarkable and compassionate international response to this disaster leaves the disaster management community questioning what can be done to better prepare to withstand future storms and to consider steps we can take to ensure a well-coordinated and effective response. Tasked with improving and enhancing civilian-military response for international disaster management and humanitarian assistance operations, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE) has undertaken this rapid response assessment for Typhoon Haiyan. This report should be considered an initial quick look at the response efforts and should supplement other after action and lessons learned reports to provide the fullest picture of relief operations and recommendations for future improvements.

The structure and content of this report was informed by the recent RAND report, Lessons from Department of Defense Disaster Relief Efforts in the Asia Pacific Region (2013). Jennifer Moroney and her team looked at key lessons from DoD involvement in disaster relief operations with regard to U.S. coordination with the affected nation, U.S. coordination with international and regional humanitarian actors, and U.S. coordination with its interagency partners. That structure was maintained in this report to build on RAND Corporation's work and to provide the Office of the Undersecretary of Defense for Policy and the Commander of U.S. Pacific Command with consistent and then comparable information over time and events.

The CFE team on the ground interviewing a wide range of victims and responders was a dynamic team of civilian, military, and humanitarian professionals. They looked at the response operation from many angles to capture observations and make recommendations for improved military to military engagements, improved civilian to military coordination, and improved government to government relations. The team made 28 observations resulting in 40 recommendations for improvements focused on enhanced training and exercises, standard operating procedures, improved joint and combined media support and operations, expanded civil-military humanitarian response training, and the appropriate utilization of liaison officers to enhance response operations.

I hope you find this report useful and actionable. The Center for Excellence is committed to making available high quality disaster management and humanitarian assistance to improve disaster response operations by facilitating collaborative partnerships, conducting applied research, and developing education, training, and information sharing programs. Our hope is to enhance U.S. and international civil-military preparedness, knowledge, and performance in disaster management and humanitarian assistance.

Warmest Regards and Aloha,

PAMELA K. MILLIGAN, Director

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Abbreviations and Acronyms

3D MEB	Third Marine Expeditionary Brigade
AAR	after action report
AB	Air Base
ACF	Action Contre la Faim (Action Against Hunger International)
AFP	Armed Forces of the Philippines
AHA	ASEAN Coordination Centre for Humanitarian Assistance
APAN	All Partners Access Network
APOD	Aerial Port of Debarkation
ASEAN	Association of Southeast Asian Nations
CAD	Canadian Dollar
CCCM	Camp Management and Camp Coordination
CENTCOM	U.S. Central Command
CONOPS	concept of operations
CMOC	Civil Military Operations Center
CSG	Carrier Strike Group (CSG)
CTF 70	Command(er) Task Force 70
DAP	Development Academy of the Philippines
DART	Disaster Assessment Response Team
DFID	UK Department for International Development
DMHA	Disaster Management and Humanitarian Assistance
DoD	U.S. Department of Defense
DOH	Department of Health
DOS	Department of State
DSWD	Department of Social Welfare and Development
DTM	Displacement Tracking Mechanism
GRP	Government of the Philippines
GSC	General Staff College
HA/DR	humanitarian assistance and disaster relief
HART	Humanitarian Assistance Response Team
HC	Humanitarian Coordinator
IASC WG	Inter-Agency Standing Committee Working Group
ICT	International Coordination Team
IDPs	Internally Displaced Persons
III MEF	Third Marine Expeditionary Force
IMC	International Medical Corps
IOM	International Organization for Migration
IRP	Increased Rotational Presence
ISAT	Internal-departmental Strategic Assessment Team
ISDT	Interdepartmental Strategic Deployment Team
ISR	Intelligence, Surveillance, and Reconnaissance
ISST	Interdepartmental Strategic Support Team
JFMCC	Joint Forces Maritime Component Commander
JICA	Japan International Cooperation Agency
JTF	Joint Task Force
LGU	local government units
LNO	Liaison Officer(s)
LOs	non-U.S. designation of liaison officers
MARFORPAC	U.S. Marine Forces Pacific
MCDA	[UN] Military and Civil Defense Assets
MDT	Mutual Defense Treaty

MEB	Marine Expeditionary Brigade
MHE	materials handling equipment
MIRA	Multi Needs Initial Rapid Assessment
MITAM	Mission Tasking Matrix
MNCC	Multinational Coordination Center
MNF SOP	Multinational Forces Standard Operating Procedure(s)
MNSA	Masters in National Security Administration
MPAT	Multinational Planning Augmentation Team
MPM	Masters in Public Management
MSF	Médecins Sans Frontières
NDRRMC	Philippines National Disaster Risk Reduction and Management Council
NFIs	Non-Food Items
NGO	nongovernmental organization(s)
NOAA	U.S. National Oceanic and Atmospheric Administration
NPR	National Public Radio
NRDC	Naval Research and Development Center (Philippines)
OCD	Office of Civil Defense
OFDA	Office of Foreign Disaster Assistance
OSOCC	On Site Operations Coordination Center
PA	Public Affairs
PDRRMS	Philippines Disaster Risk Reduction and Management System
PHT	Philippine Time
PHTO	Public Health Technical Officer
RAND	Rand Corporation
RDRRMC	Regional Disaster Risk Reduction and Management Council
ROKAF	Republic of Korea Armed Forces
RP	Republic of the Philippines
SCHR	Steering Committee for Humanitarian Response
SITREP	Situation Report
SMO	Senior Medical Officer
SMS	short message service
SOP	standard operating procedure
TF	Task Force
TOG	[AFP] Tactical Operations Groups
UAV	unmanned aerial vehicle
UK	United Kingdom
UN	United Nations
OCHA	[UN] Office for the Coordination of Humanitarian Affairs
UNDAC	United Nations Disaster Assessment Coordination
UNDSS	[UN] Department of Safety and Security
UNICEF	[UN] Children's Fund
U.S.	United States (of America)
USAID	United States Agency for International Development
USD	United States Dollar
USG	U.S. Government
USPACOM	United States Pacific Command
VFA	Visiting Forces Agreement
WASH	Water, Sanitation and Hygiene (Monitoring Program)
WFP	World Food Program

Executive Summary

The rapid response efforts with regard to Super Typhoon Haiyan (Yolanda) have been widely acclaimed and deemed successful by many observers and aid workers. Many humanitarian and military leaders noted that civil-military coordination during the Haiyan response was some of the best they had seen. Yet, the effectiveness of the coordination varied by location and method, and much of the credit given to coordination was likely due more to the fact that there was reduced "competition" between the major responders because the actors restricted their actions to their appropriate duties during the response.

Several observations of previous complex disasters resurfaced: during the initial days of response, the lack of situational awareness and delayed implementation of standard operating procedures and pre-planned responses did not support the optimal use of resources, particularly in terms of logistics; communication between the military and the humanitarian community remained a challenge; and the use of liaison officers to address some of these gaps was not widely adopted or fully maximized with the exception of some foreign military efforts in the province of Capiz.

Additionally, information sharing never matured to a more advanced stage due to resource limitations and the rapidity with which the operations were completed. The lack of a commonly accepted information-sharing platform among all major actors continues to confront relief

Even when the need for goods peaked after the typhoon, stores in Roxas City treat shoppers fairly and refuse to raise prices.

Within weeks of Typhoon Haiyan striking the Philippines, local citizens do their best to return to a "normal" life.

efforts in emergency response. While information sharing occurred in separate coordination mechanisms such as in humanitarian mechanisms (e.g., cluster meetings, On Site Operations Coordination Centers (OSOCC), donor briefings and meetings), in affected state mechanisms (e.g., the government clusters and disaster risk reduction and management councils) and between militaries (e.g., at the Multinational Coordination Center) that were established to support cooperation and coordination among the major actors, there was a need to develop more operationally synchronized efforts that bridged the gaps between the government, humanitarians, and militaries. Planning assumptions and products for a multinational relief effort need to be reviewed for cases where the first line of defense—affected-state responders—are themselves victims of a disaster.

At the same time, key lessons learned from previous disasters improved the speed and quality of overall interagency coordination. Most notably, personnel with previous disaster response experience who had personal connections with other major players in the relief efforts considerably expedited interagency and transnational relief efforts. The informal professional networks among relief workers built during common training and exercising greatly facilitated the trust needed for effective and efficient cooperation particularly early in the response phase. Disaster preparedness efforts of the Philippine government such as evacuation of citizens from the most dangerous areas and the prepositioning of goods saved many lives and mitigated the impact of the storm.

Finally, some of the more notable characteristics of the Haiyan relief efforts include the remarkable resilience of the Filipino people. Despite the magnitude of the damage and its wide reach across multiple islands, recovery began two weeks after Haiyan's first landfall, occurring simultaneously with ongoing relief efforts. Contributing to this national resilience is the emergence of local informal networks and kinship systems that augmented the relief efforts of established institutional response mechanisms. New technologies such as social media enabled grassroots-driven relief efforts, as well.

The commitment of assisting actors who came to the aid of the Philippines clearly demonstrated the increasingly globalized nature of disaster response. In coming years, the challenge remains to find ways to increase investment in disaster preparedness and to better integrate and leverage local capabilities and capacities with international response.

Introduction

Tropical Depression 31W formed in the western Pacific on 3 November, headed west toward the Philippines, and quickly became the most powerful storm ever recorded.

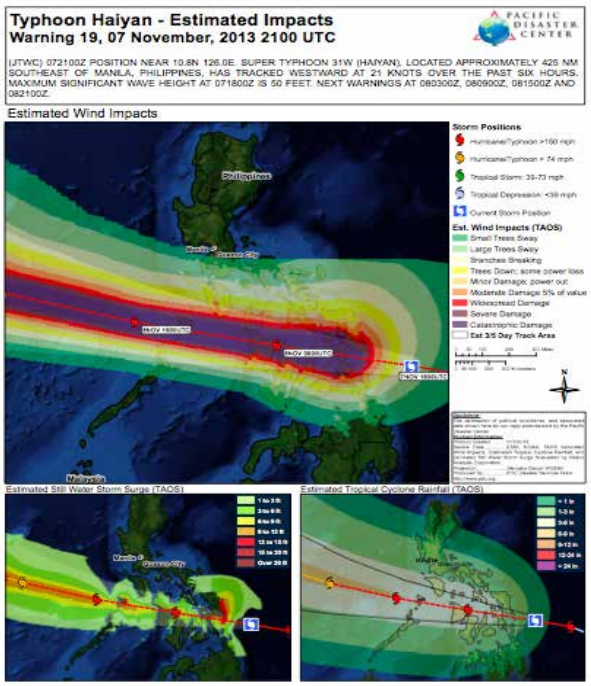
On 5 November as the storm approached Palau, the Philippines National Disaster Risk Reduction and Management Council (NDRRMC) began issuing public advisories alerting local authorities to monitor the situation and disseminate early warning information to communities.

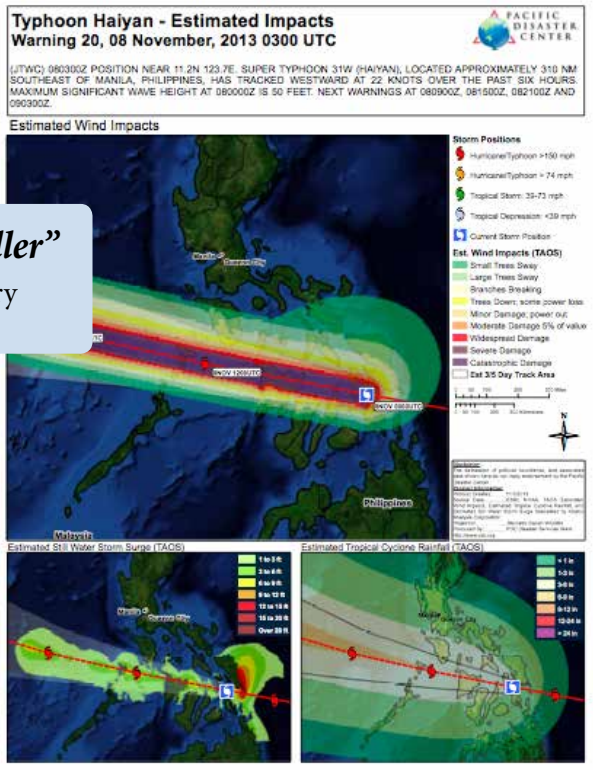
On 6 November, Haiyan, known locally as Yolanda, strengthened more to become a Super Typhoon. According to the U.S. National Oceanic and Atmospheric Administration (NOAA) Haiyan had powerful winds up to 200 mph (320 km/h) with gusts up to 225 mph (360 km/h). NDRRMC was in Red Alert Status—members met to discuss emergency response capabilities and issue the first Situation Report (SITREP) regarding preparations for Haiyan's arrival. Other government agencies were also on high alert, distributing personnel, equipment, and supplies to potential impact areas. Local governments were advised to conduct evacuations in coastal areas, including the relocation of 70,000 people from Central Visayas Region (Bohol Island) who were already living in evacuation shelters and tents due to a magnitude-7.2 earthquake, which occurred on 15 October. The Philippine Red Cross alerted local chapters, deploying a team to Cebu, and inventorying available resources and assets in advance of the typhoon making landfall.

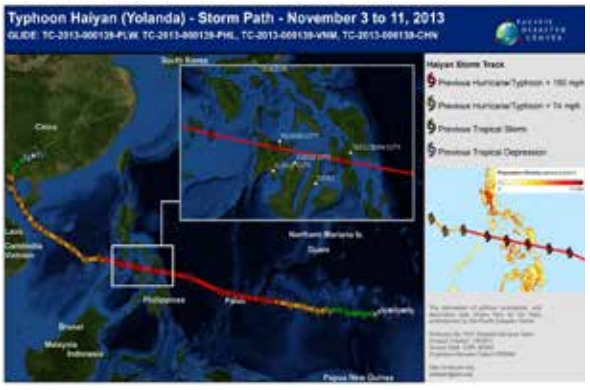
> ***"Super Typhoon Haiyan was a city killer"***
>
> *Michael Marx,* Senior Civil-Military Coordination Advisor OCHA

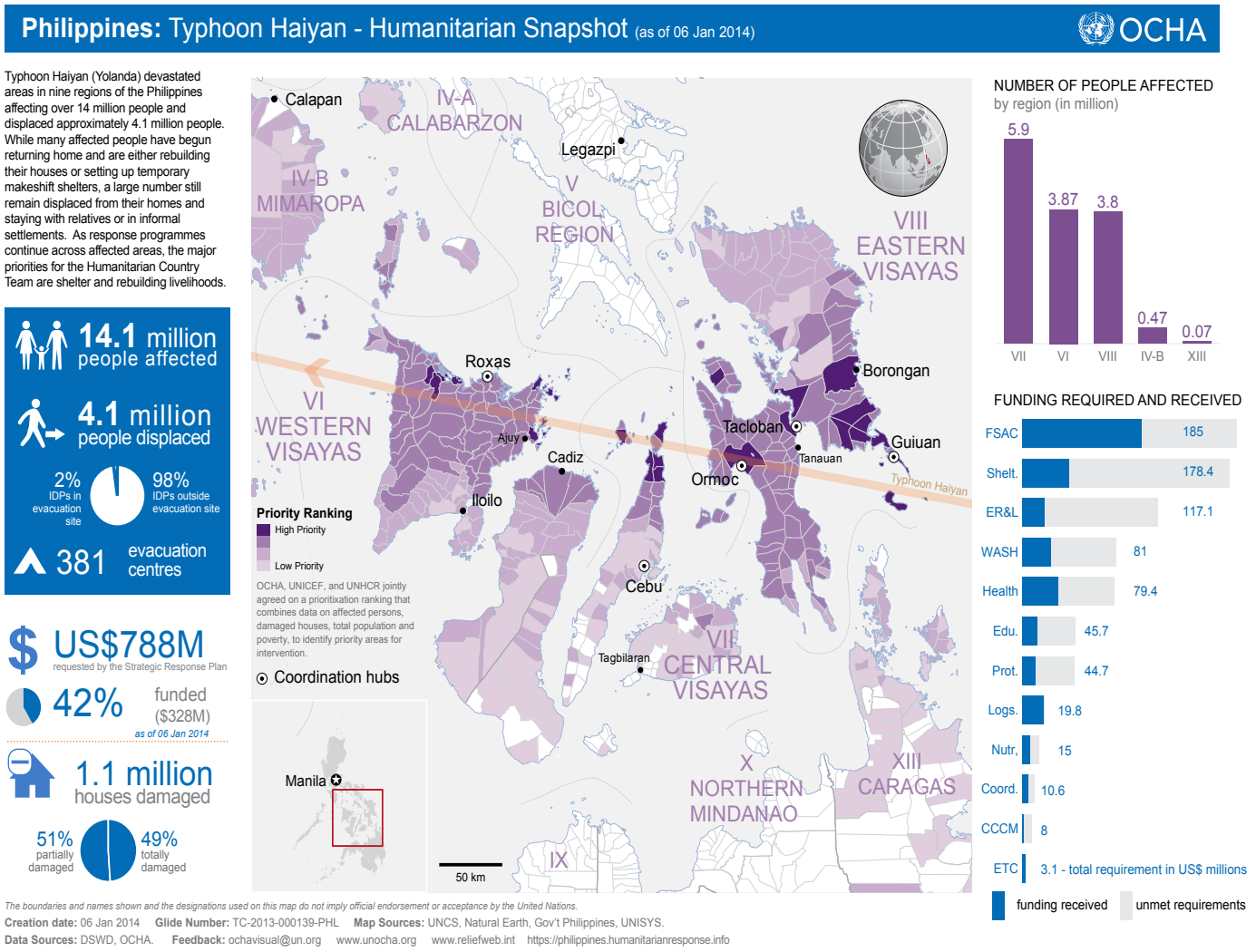
After crossing over Palau on 7 November, Haiyan continued to approach the Philippines. NDRRMC issued Public Storm Warnings, and local authorities alerted east coast residents about possibly massive impacts of Haiyan. All domestic and international flights were cancelled and seaport traffic halted. Widespread rainfall was forecast across the country and wind speeds were expected to cause catastrophic damage. Haiyan was predicted to affect an estimated 18 million people.

As the storm approached the Philippines, NDRRMC









warned local residents of possible storm surge, flash floods, and landslides. In the early morning hours of 8 November Haiyan made its first landfall in Guiuan, Eastern Samar, around 0430. Estimated to cause catastrophic damage, the storm packed a punch with 200mph (320 km/h) winds, heavy rains (10-30mm per hour) and a storm surge of more than 23 feet (7 meters). According to NDRRMC, as of 0600 PHT 8 November, 125,604 people had been evacuated.

After the storm passed it became clear that the damage was extreme, perhaps unparalleled in terms of typhoon impacts in the Philippines. The islands of Leyte and Samar were hardest hit with 90 percent of the infrastructure destroyed in Leyte's largest urban center, Tacloban City. Haiyan passed through the Philippines and entered the West Philippine Sea late on 8 November and continued on, heading westward towards Vietnam.

Path of the Typhoon

The Philippines is a collection of more than 7,000 islands separated into 81 provinces. Since the early 1970s, cities and provinces have been organized into larger regions for administrative purposes based on cultural and geographical characteristics. All regional leadership reports directly to the President (with the exception of one region in the south). This streamlines national governmental action, from the President down to the smallest local government units, the barangays.

Currently, there are 17 regions within the Philippines moving numerically from north to south. In total, nine regions of the Philippines were affected by Typhoon Haiyan, however the storm tracked from the east directly across Western, Central and Eastern Visayas, regions VI, VII and VIII, respectively.

Region VI includes the following provinces: Aklan, Antique, Capiz with the capital of Roxas City, Guimaras, Iloilo, and Negros Occidental. Region VII includes Bohol, Cebu with Cebu City as its capital, Negros Oriental, and Siquijor. Lastly, Region VIII is composed of Biliran, Eastern Samar, Leyte with the capital of Tacloban City, Northern Samar, Southern Leyte, and Western Samar.

Information on the development and projected path of Haiyan was issued by the Joint Typhoon Warning Center (JTWC) from the United States, as well as the Philippines Atmospheric, Geophysical and Astronomical Services

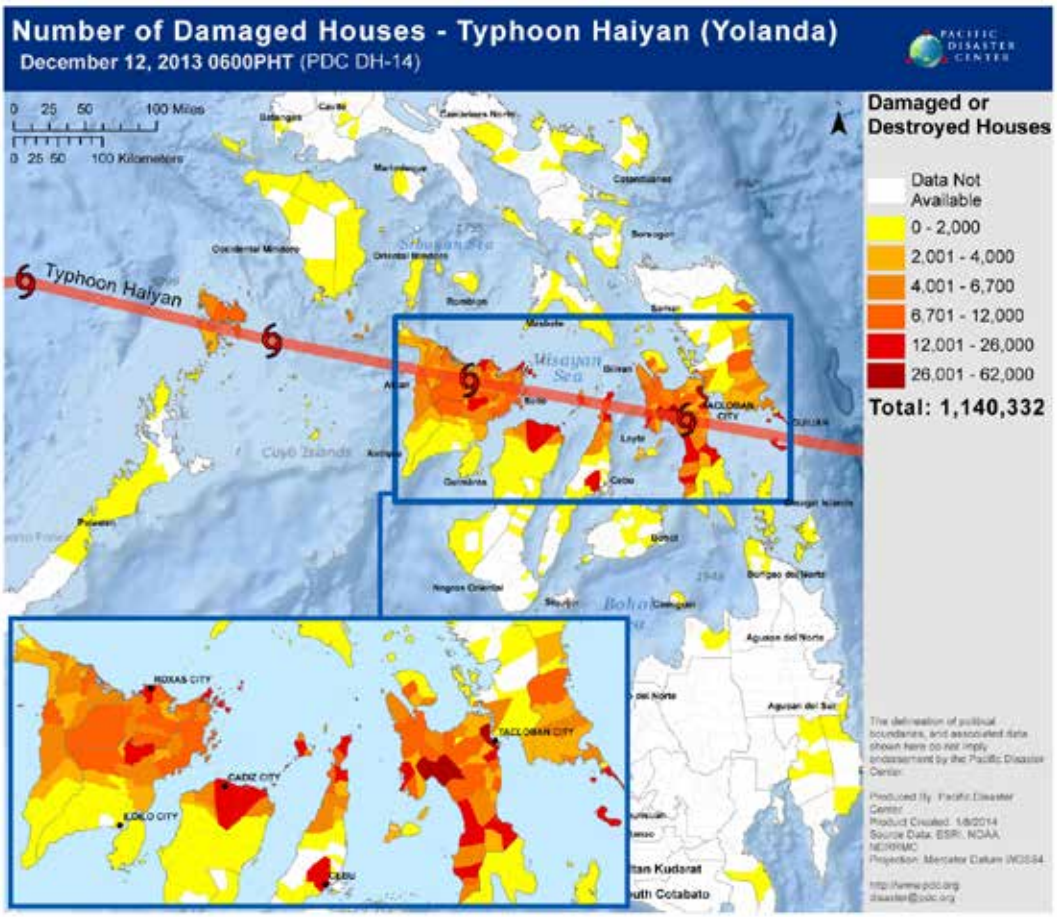
Administration (PAGASA). This information was disseminated to the public and disaster management organizations in multiple formats. Automated hazard information and impact models were made available through the Pacific Disaster Centers DisasterAWARE platforms (EMOPS and RAPIDS). The availability of this information to both partner nations and the U.S. Department of Defense assisted in anticipating response needs and supported information sharing. Post-impact information was shared through traditional agency situation reports and newer forms of information exchange such as social media and information sharing platforms (e.g., DisasterAWARE, APAN).

Super Typhoon Haiyan Impacts NDRRMC Situation Report 104, 29 January 2014 0600 PHT	
Number of People Dead	6,201
Number of People Injured	28,626
Number of People Missing	1,785
Number of Families Affected	3,424,593
Number of Persons Affected	16,078,181
Number of Families Served by Evacuation Centers	890,895
Number of Persons Served by Evacuation Centers	4,095,280
Number of Totally Destroyed Houses	550,928
Number of Partially Damaged Houses	589,404
Total Number of Damaged (Totally/Partially) Houses	1,140,332
Total Cost of Damages (Agriculture)	$445,766,612 USD
Total Cost of Damages (Infrastructure)	$430,306,341 USD
Total Cost of Damages	$876,072,953 USD

Haiyan Impacts

On 11 November, President Benigno Aquino issued Presidential Proclamation No. 682 declaring a state of national calamity. NDRRMC authorities estimate that over 16 million people had been affected and at least 6,201 people were confirmed dead.[1]

Despite pre-staged relief supplies in the region (Philippines and Southeast Asia), the movement of goods and resources into the affected area was difficult due to the extensive infrastructure damage. According to responders on the ground, visible signs of relief began approximately three to five days after impact.



Organizations and countries outside of the Philippines activated in response to Haiyan. The U.S. military, in support of the Armed Forces of the Philippines (AFP) and the U.S. Agency for International Development's Office of Foreign Disaster Assistance (USAID OFDA), played a critical role in clearing airports and roads to quickly allow much needed humanitarian assistance to be delivered. UN agencies were also quick to respond, sending three United Nations Disaster Assessment Coordination (UNDAC) teams into the affected areas to conduct initial rapid assessments.

1 Data based on the NDRRMC Situation Report 104, 29 January 2014

The Need for Military Support in Haiyan Response

The Philippine government issued a request for humanitarian assistance on 10 November. The early participation by militaries of assisting states addressed the immediate, acute humanitarian needs of survivors, and was pivotal in the success of the subsequent relief operations. The humanitarian professionals we spoke with offered three reasons why the military's contribution was important to the overall success of relief efforts.

First, the storm destroyed key infrastructure that was essential to support relief operations including airports, sea ports, roads, communication systems, power distribution networks (electrical and fuel), and other key resources. Enabled by the initial efforts of the AFP, the heavy lift capability of the U.S. and other foreign militaries were necessary to swiftly restore transportation routes and provide access to affected populations.

Second, the typhoon destroyed large swathes of territory spread across a number of different islands and displaced millions of people. Haiyan was the strongest typhoon to ever hit the Philippines, and military capabilities enabled access to remote and difficult to reach locations.

Third, tactical military forces responded very rapidly and provided life-saving relief to survivors in the initial days while the government and humanitarian community organized and prepared capabilities to deploy.

Overview of the Relief Effort in Response to Typhoon Haiyan

By most accounts, humanitarian relief in response to Haiyan was fairly well coordinated among national government agencies, the AFP, 57 countries, 29 foreign militaries, United Nations agencies, and international nongovernmental organizations. The effectiveness of relief efforts in the first month of the response testified to the preparedness of the Philippines government, effective collaboration and coordination among the U.S. and foreign militaries, the host government, the international humanitarian community, the Philippine government disaster relief and preparedness agencies, and the Philippine military.

There are a variety of consistent themes that emerged from our study that help explain why coordination worked so well. These included the substantial capability of national, provincial, municipal, and barangay (the lowest governmental administrative unit) level agencies; the prepositioning of relief assets including UNDAC teams and government response teams before the disaster hit, the preexisting network of seasoned disaster response experts across all the major responding agencies, and the participation of these experts in a variety of recent training exercises.

Though difficult to calculate with precision, it is likely that the steps taken in the days just before the storm all saved countless lives. These steps included Filipino grass-

Despite the rubble, shoes are washed and let to dry in the sun.

A sign in Roxas City urges citizens to "rise up," speaking to the resiliency of the Filipino people.

roots relief efforts, informal kinship and nationwide support systems enabled by social media and short message service (SMS), as well as the prepositioning of following resources:

- Philippine national disaster response teams
- Doctors to the Barrio
- Masters in Public Management (MPM) Health Systems
- Development alumni from the Development Academy of the Philippines (DAP)
- Department of Health (DOH) who were the first to deploy and arrive in many inaccessible areas,
- UNDAC teams and Disaster Assessment Response Team (DART) teams.

The ability of the U.S. and other militaries to airlift in enormous amounts of aid and the ability of the Philippine government to track and distribute aid also kept morbidity and mortality relatively low given the magnitude of the storm and the number of people displaced. According to witnesses on the ground, the AFP and the interagency Task Force (TF) made heroic sacrifices extricating themselves from the rubble to clear the initial runway, allowing the first group of U.S. forces to arrive, despite losing family members and being victims themselves.

Local communities impacted by the typhoon displayed remarkable resilience, as did the local government units, municipal and provincial disaster management agencies. The move from relief to recovery took place within two weeks of the storm hitting. Given the magnitude of the damage, its geographic spread across multiple islands, and the series of disasters that have hit the Philippines in the past two years, most notably the recent Bohol earthquake, it is remarkable just how quickly domestic government and civil institutions transitioned from provision of immediate relief to a focus on livelihoods and shelter.

This is testament to the formidable capability of the Philippine government, the resilience of its citizens, the nationwide "people power" and bayanihan (culture of volunteerism originated from bayani, meaning hero or heroine, and bayan, community or nation) and the impressive level of disaster preparedness when supported by international military and humanitarian support. Even in Tacloban, the most severely hit of the major population centers, local businesses were reopening and transportation system was functioning within two weeks of the storm.

Most of the relief experts we interviewed suggested that civil-military coordination was probably some of the best, if not the best, seen in such a relief operation. The effectiveness of this coordination varied by location and looked somewhat different between the tactical/field level and those at operational/managerial/oversight levels. There were exceptionally few voices that were critical of the relief operations, coordination of national and international actors, and the way the operation played out in the opening weeks.

The response by foreign militaries was widely viewed as critical to success, especially in the earliest days after the disaster, enabled in large part by the immediate response of the AFP, interagency Task Force, government officials on the ground at the heart of their cities when Haiyan hit. Relief efforts looked quite different at the Manila command and control level and the field/tactical level where distribution of relief goods to the affected population took place.

Understanding the Overall Relief Coordination

There were two very "separate" relief operations, with the tactical/field activities playing an essential role in the success of the operation. Some of the experts interviewed were not convinced that the coordination efforts made at the Manila command and control level were necessary to the achievement of an effective response. This bifurcation echoes the generally decentralized governance structure of the Philippines, in which the local government units (LGU) exercise local autonomy, while the President provides general supervision.[2]

Where Manila was the focal point for national level information sharing amongst the major responding organizations, the cities of Cebu, Roxas, and Tacloban were the centers for coordination of the response to the disaster affected areas. Roxas was relatively spared from the worst of the typhoon, though outlying villages and neighboring small islands were very badly affected. With its major port and airport all in the vicinity of the hardest hit areas, Cebu served as the primary logistics hub for relief efforts.

This study covers the four main hubs of the response--the capital Manila; Roxas; Cebu; and Tacloban. The national government agencies, the multinational command center for the international military response, the major donor agencies and the national-level headquarters offices for the OCHA, and other UN agencies and foreign embassies are all based in and around Manila. Tacloban, located on the island of Leyte, Cebu City on Cebu Island, and Roxas City, on Panay Island, are the three other major areas affected by the typhoon and the principal centers of the relief efforts.

Of the three most affected areas, Tacloban is the largest and was the hardest hit of the major urban areas. A number of those interviewed suggested that too much attention was focused on Tacloban because of the international media attention there. Because so much media attention was focused on Tacloban, it is not surprising that many major international nongovernmental organizations and UN agencies responded here.

It was in these areas that cluster meetings were being used to the greatest effect to coordinate the activities of local government agencies, international militaries, international NGOs, and UN agencies. The international humanitarian community's response to the typhoon was coordinated by the Humanitarian Country Team led by the Humanitarian Coordinator and supported by the Office for the Coordinator of Humanitarian Affairs (OCHA).

2 http://www.gov.ph/the-philippine-constitutions/the-1987-constitution-of-the-republic-of-the-philippines/the-1987-constitution-of-the-republic-of-the-philippines-article-x/

The daily cluster meeting in Roxas brings together the Armed Forces of the Philippines, the UN OCHA, international humanitarian organizations and foreign militaries to coordinate relief efforts.

OCHA coordinated the international humanitarian response to the crisis on behalf of the Humanitarian Coordinator. The UN does this through the cluster system, which is a functional way of organizing international humanitarian agencies and nongovernmental organizations by sector.

The clusters also serve as the focal point for the UN humanitarian agencies and international nongovernmental organizations providing services to communities—shelter, water and sanitation, logistics, emergency telecommunications, and others. OCHA managed the cluster system with each of the clusters co-led by a UN agency or NGO and a representative of one of the Philippines' disaster agencies. The basic purpose of the cluster is to serve as the main interagency organizational platform for sharing and receiving information about the disaster and for identifying gaps in service or challenges to delivery of aid.

The international humanitarian response to the typhoon was organized around base operations in Manila with the OCHA and other major UN agencies operating offices in the capitol with cluster coordination meetings taking place routinely. The clusters were also setup in each of the major cities in areas affected by the disaster including Roxas, Cebu, and Tacloban, with each organized somewhat differently by city.

Manila was the central seat of national political and military cooperation for the national government, militaries, and UN agencies. While UN cluster meetings and donor meetings were routinely held in Manila, in many ways, Manila was "an artificial construct to the entire operation." The real coordination was happening at the central locations in the disaster-affected areas, namely Philippines government Regions VI, VII, and VIII, respectively coordinated from Roxas City, Cebu City, and Tacloban.

Civil-Military Coordination

Like previous humanitarian emergencies, Typhoon Haiyan posed challenges in information management, coordination, and evidence-based decision making. The picture that emerged in this rapid assessment is that the level of coordination and good communication and information management depended largely on the preexisting relationships experienced actors held and the training the actors had received, as the RAND study by Moroney, et al. predicted.

In this emergency, all of the clusters were stood up, with the logistics and emergency telecommunication clusters established first, on 10 November. These two clusters are also the most relevant with respect to civil-military engagement among U.S. military forces, the Office of Foreign Disaster Assistance (OFDA), DART, and the humanitarian system. When it is involved in humanitarian assistance and disaster relief operations, the U.S. military often plays a strong role in logistics and coordination.

To coordinate relief efforts at the field level, OCHA set up On Site Operations Coordination Centers (OSOCCs) where UN cluster meetings were held. The OSOCC provides a space for UN agencies, international nongovernmental organizations, local government agencies (in this case the Office of Civil Defense (OCD), and the Department of Social Welfare and Development (DSWD) as well as other local government officials to meet, plan, coordinate, and share information on the response. How these cluster meetings are run (and how effective they are in coordinating relief) depends in part on the experience and personality of the individual running the meeting, the level of experience of the representatives attending the meetings, and the diversity and numbers of organizations represented.

Within two weeks, the humanitarian crisis was essentially over and the international community and government agencies were coordinating around shelter and livelihoods. The U.S. military ceased major operations on 25 November. The international response has shifted entirely from a Philippine government, Philippine military and international military response to a National Philippine Government and International Humanitarian Response.

Just how successful the overall response and ultimate recovery will depend in large part on the legal status of the millions of Filipinos, who lost their property and livelihoods, and the ability of the local government authorities to ensure adequate protection for the most vulnerable and a plan for resettling Internally Displaced Persons (IDPs) who are restricted from returning to their homes in no build zones. The Philippines, however, while capable of handling major disasters, remains significantly degraded in terms of capacity.

Purpose of this Report

Intent of the Study

The goal of this research is two-fold; first to document the immediate pre-crisis actions and post-impact emergency response to Super Typhoon Haiyan and second, to examine the multinational response in a supporting role to the Government of the Philippines and the humanitarian community. Specifically, the objectives of this research are to provide a better understanding of:

- The role of the U.S. Department of Defense as an HA/DR provider in an effort to build efficiency and determine if advances in training and exercises have translated into improved performance and service delivery.
- Interagency coordination in response to Haiyan.
- Coordination of the U.S. Government with the affected country.
- The effectiveness of the U.S. Government to work with the United Nations and other local and international non-governmental organizations.

Cluster meetings are used to coordinate local and foreign security forces with international nongovernmental and humanitarian assistance organizations.

Assessment Questions

This assessment sought to answer the following key questions:

- How did the U.S. Military respond to meet the needs of the affected population?
- Who are the key actors that partnered to address optimization of resource allocation in disaster affected areas?
- Were local communities at the forefront of disaster response? Which actors facilitated or supported local communities?
- How were needs prioritized and what steps were taken to implement and sequence distribution?
- How were geo-spatial assessments being used to assess humanitarian needs? How were these linked to ground response?
- Which technologies were being used and how were requisitions for aid on the ground being received and acted upon?
- How did U.S. military command coordinate with humanitarian agencies?
- How, or if, response was shaped by experiences in previous disasters?
- Which major international NGOs were on the ground, and what level of communication was there between them, the Resident Coordinator, and OFDA?
- What kinds of assessments were undertaken by the Philippines government and U.S. military early on? Were these assessments shared with the humanitarian community?

Focus of the Study

There was significant involvement by foreign militaries in the response to Typhoon Haiyan. This report aims to primarily inform U.S. military forces on how coordination and cooperation was accomplished with:

- Civil response organizations (civil-military coordination and cooperation), and
- With other militaries from the Philippines and abroad (military-to-military coordination).
- In addition, a number of observations made during this assessment mission provide important insights into civil military coordination and some of these observations point to areas worthy of further investigation.

Application of the Study

Building on the initial RAND study by Jennifer D. P. Moroney, et al., Lessons from Department of Defense Disaster Relief Efforts in the Asia-Pacific Region,[3] this study examines the effectiveness of the rapid response phase. In particular, it looks at U.S. DoD coordination with all key actors, not just at the state level but also at regional and local level.

This study aims to inform future engagements on training and operations based on best practices and capability gaps identified and provide insights on how to best organize in future responses. Some of the insights found in the various discussion sections would hopefully improve DoD's effectiveness and efficiency as an HA/DR provider and capability to build goodwill with its partners and allies during times of need.

3 http://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

Methodology

Scope of the Study

The data collection in the field occurred from 4 November to 1 December 2013. This timeframe covers two distinct periods of time: the first is the initial period from the formation of the storm into a named system, on 4 November until it made landfall on 8 November at approximately 0430[4]; and the second is the initial response efforts from 8 November until 1 December marked by the completion of U.S. military operations.

- Examining the preparedness activities prior to landfall can provide useful clues as to why the storm resulted in a relatively low number of casualties when compared to the projected magnitude and impact. Additionally, it offers an opportunity to look at pre-crisis response options that may yield some lessons on how future response efforts can be improved in situations where there is warning of an impending disaster.
- The second period of time encompasses the bulk of the initial response efforts and covers what is generally considered to be the emergency response phase of the operation until a point around which the response transitions from relief to recovery.

This report should be considered an initial "quick look" of the response efforts. Additional interviews and data collection will be required to provide a more comprehensive picture of the response. The information was compiled in a very short period of time, from the formal commencement of the collection efforts starting on 22 November 2013, when the team arrived and met in Manila, 14 days after Typhoon Haiyan made landfall in the Philippines, until 3 December 2013 when the initial data was combined to draft this initial report. Most data was collected in the nine days from 22 to 30 November.

Research Team Composition

The authors represent a variety of areas of professional and academic experience, meaning they bring a more holistic approach to the assessment and are able to provide solid historical and contextual analysis, familiarity with domestic and international disaster response, knowledge of local and national government authorities and of the United States military, and U.S. doctrine.

Imes Chiu, Ph.D., Chief of Applied Research, Center for Excellence in Disaster Management and Humanitarian Assistance

Dr. Chiu has twenty years of professional and academic experience related to stability and support operations in Asia. Prior to working at the U.S. Department of Defense, Dr. Chiu conducted needs assessments for private industries in 36 countries. With 10 years of teaching experience at Cornell University, the University of Washington, and Ateneo de Manila University, she co-teaches the Advanced Security Cooperation Course elective on disaster risk management at the Asia Pacific Center for Security Studies. Dr. Chiu established and developed the academic and governmental collaborative partnerships at CfE. She published her first book on U.S.–Philippine military history that garnered the 2008–2009 Global Filipino Literary Award for Nonfiction and was recommended by CHOICE, a premier scholarly research journal used by 35,000 academics and librarians. Dr. Chiu is a native of the Philippines and speaks several local dialects fluently. She completed her Ph.D. in Science and Technology Studies at Cornell University.

Vincenzo Bollettino, Ph.D., Executive Director, Harvard Humanitarian Initiative

Dr. Bollettino has twenty years of professional and academic experience in international politics, humanitarian action, human security and peacebuilding. He has spent that past 12 years of his career at Harvard University in administration, teaching, and research. Prior to joining HHI in 2008, Dr. Bollettino worked with the Program on Humanitarian Policy and Conflict Research and taught courses on research design, peace building, and international politics at the Harvard Extension School. Dr. Bollettino came to Harvard University on a post-doctoral fellowship with the Program on Non-violent Sanctions and Cultural Survival at the Weatherhead Center for International Affairs. He completed his Ph.D. at the Graduate School of International Studies at the University of Denver.

4 Republic of the Philippines, National Disaster Risk Reduction and Management Council (NDRRMC) Update SitRep No. 05 Effects of Typhoon "YOLANDA" (HAIYAN), 08 November 2013, 6:00 AM.

Erin Hughey, Ph.D., Director of Disaster Services, Pacific Disaster Center

Dr. Hughey has 17 years of professional and academic experience in the field of international disaster management. She has dedicated her career to the implementation and sustainment of Comprehensive Disaster Management (CDM) programs and currently serves as the Director of Disaster Services for Pacific Disaster Center, a program under the OSD Policy. Prior to working for PDC, Dr. Hughey served as the Director of Operations for GW Associates International, Research Associate and Instructor for the Global Center for Disaster Management and Humanitarian Assistance, and Disaster Specialist for the American Red Cross. In these capacities, Dr. Hughey worked with elected officials and heads of state worldwide to help develop policies and programs to support coordinated disaster response and recovery. Dr. Hughey has a PhD in Geography with a focus on Natural, Technological Hazards and Health from the University of South Florida. Dr. Hughey's research focuses on the policies, programs and procedures that facilitate more disaster resilient communities with a specific interest in the mechanisms that allow nations to effectively respond to and recover from disasters.

Mr. Scott Weidie, Chief of Multinational Training with oversight of the Multinational Planning Augmentation Team (MPAT) Program and Global Peace Operations Initiative (GPOI)

Mr. Weidie joined the U.S. Navy after graduating from Millsaps College (1985). He is a graduate of the U.S. Naval Postgraduate School (1993), Naval War College (1997), and Joint Forces Staff College (2000) and has served in aviation squadrons, aboard ship, and numerous staff assignments. Mr. Weidie has significant experience in military support to humanitarian assistance and disaster relief operations and multinational military operations. He served as the Deputy Director of the Coordination Center for disaster relief operations for the December 2004 Indian Ocean Tsunami. He has planned disaster relief operations in the Philippines (February 2006) and served as Joint Task Force Liaison Officer to the United Nations for relief operations in Myanmar (May 2008). Mr. Weidie has an MA in National Security Affairs from the U.S. Naval Postgraduate School.

Data Collection

A mixed methods approach for data collection was undertaken and included: stakeholder interviews largely through convenient sampling, participant observation, archival research (open-source collection) and media analysis. During the interviews the team asked questions about the breadth, scope, sequencing, and perceptions of the response operation to include the effectiveness of coordination at all levels.

Stakeholder interviews were conducted with major Philippine government agencies active in disaster management, United Nations agencies and programmes and several humanitarian non-governmental organizations, the United States Agency for International Development (USAID) Office of Foreign Disaster Assistance (OFDA) Disaster Assistance Response Team (DART) personnel as well as civilian governmental response personnel from other assisting states, as well as U.S. and foreign military personnel.

Limitations of the Study

This report is designed as an initial quick look at response efforts related to Haiyan. As such, additional interviews and data collection will be required to provide a more comprehensive picture of the response.

It is important to note that most interviewees were still actively involved in the relief efforts at the time of this study. Other key players were not available.

To ensure that response and recovery operations would not be impacted, we have chosen to identify response by organization, not by individual.

Data was interpreted and analyzed utilizing a triangulation design, the purpose of which was to obtain different but complementary data points and to validate findings.

A critical limitation of the study involves the selection of sites, which largely revolved around the road line towns, areas close to cleared highways. Issues on inaccessible barangays deep into the hinterlands of the affected areas came from secondary sources.

Organization of the Report

The main part of the report is divided into three major categories based on Moroney's RAND study:

- DoD coordination with the affected state
- DoD coordination with the international organizations and regional actors
- DoD interagency coordination
- Each category is subdivided into various themes with three basic components.
- Observation consists of events witnessed, original documentation, and other primary sources of data.
- Discussion expands on observations made.
- Recommendation provides concrete suggestions on potential areas of improvement.

Conclusions summarize the various recommendations of the study with an emphasis on future engagements, training, and exercises. Suggestion for Future Study section points readers to other areas of studies which the report was not able to cover.

Issues, Observations, and Recommendations

DoD Coordination With the Government of the Republic of the Philippines (GRP)[5]

> ***"You know, one of our core principles is when friends are in trouble, America helps. As I told President Aquino earlier this week, the United States will continue to offer whatever assistance we can."***
>
> *President Barack Obama, on Typhoon Haiyan*[6]

> ***The commitment of the United States to the Philippines was "very categorical and very clear."***
>
> *President Benigno "Noynoy" Aquino III*, on U.S. support after Typhoon Haiyan[7]

Unbreakable Bond: Philippine-U.S. Bilateral Relationship

During his visit to Malacañang Palace two months before Haiyan struck, U.S. Defense Secretary Chuck Hagel affirmed the Department of Defense commitment to one of its oldest Asian partners hailing the "…unbreakable alliance between the United States and the Philippines."[8] Hagel further described the relationship as "…forged through a history of shared sacrifice and common purpose…"[9] echoing a similar statement President Aquino made during the 8 June 2012 bilateral meeting with President Obama, "Ours is a shared history, shared values."[10]

The Philippines-U.S. relations could be traced back to the late nineteenth century with the Spanish-American war. The emphasis on shared history and values most likely alludes to the time when the Philippines and the United States fought side-by-side in World War II. After the war, the Philippines and the U.S. signed the 1951 Mutual Defense Treaty (MDT) committing to defend each other when attacked by an external party.

Despite the closing of U.S. military bases in the Philippines in 1991, including the Benito Ebuen Mactan Air Base in Cebu currently serving as the international logistical hub for the Haiyan relief efforts, U.S.-Philippine relations continue to mature overcoming several tumultuous periods.[11] Following the signing of the Visiting Forces Agreement (VFA) in 1998 allowing for the temporary presence of U.S. forces in the Philippines,[12] ongoing debates on the benefits of the Filipino people from these agreements persisted.[13] The current negotiation on the Increased Rotational Presence (IRP) defining and listing the activities of the increased U.S. forces in the Philippines under the MDT and VFA agreements [14] faced gridlock when Haiyan entered Philippine territorial waters.[15]

Issue 1: GRP-U.S. Bilateral Relations

Observations

- U.S. assistance to typhoon victims demonstrated U.S. commitment to the Philippines.
- The resulting goodwill has the potential to ease the gridlock with the ongoing IRP negotiations.
- Relief efforts further improved U.S.-Philippine relations.

Discussion

Two days prior to Haiyan's first landfall, Secretary Voltaire Gazmin, Philippines Department of National Defense, confirmed that the U.S. and the Philippine government found themselves in a standoff after months of negotiations

5 Content from this section was taken directly from commentary provided by AFP personnel
6 http://www.usaid.gov/news-information/videos/president-obama-speaks-typhoon-haiyan
7 http://globalnation.inquirer.net/94611/aquino-hails-john-kerry-assurance-of-us-support
8 http://www.defense.gov/news/newsarticle.aspx?id=120696
9 http://www.defense.gov/news/newsarticle.aspx?id=120696
10 http://www.whitehouse.gov/photos-and-video/video/2012/06/08/president-obama-s-bilateral-meeting-president-aquino-philippines#transcript
11 http://www.mindanews.com/special-reports/2012/04/24/a-decade-of-us-troops-in-mindanao-revisiting-the-visiting-forces-agreement-2/
12 http://www.vfacom.ph/content/article/USS%20George%20Washington%20Arrived%20in%20Manila
13 http://www.globalresearch.ca/philippines-senate-calls-for-cancellation-of-visiting-forces-agreement-vfa-with-washington/14957
14 http://www.gov.ph/2013/08/16/faqs-on-the-proposed-increased-rotational-presence-framework-agreement/
15 http://www.gov.ph/2013/08/16/faqs-on-the-proposed-increased-rotational-presence-framework-agreement/

regarding the Increased Rotational Presence (IRP).[16]

The media reported several contested issues, such as access to and control of temporary U.S. facilities in Philippine military camps;[17] however, roughly two weeks after the U.S. relief efforts began, Foreign Affairs Secretary Albert del Rosario made a public statement that the relief and rescue operations demonstrated the need for IRP in the country.[18] When the media asked Secretary del Rosario about how the level of U.S. military assistance regarding Haiyan impacted negotiations about the Increased Rotational Presence (IRP), he stated,

> ***"I think this demonstrates the need for this framework agreement we're working out with the U.S., because it accentuates the purposes of the framework [one of] which is to make humanitarian assistance and disaster relief and response a very major aspect of the agreement."***[19]

University of Hawaii Professor Patricio Abinales stated that some segment of the Philippine population might construe U.S. military aid to Haiyan survivors as "the return of big America," in his interview with National Public Radio (NPR) that the overall reaction to U.S. assistance at the community level was one of gratitude.[20] During U.S. Secretary of State John F. Kerry's recent visit to the Philippines, 17–18 December 2013, he met with the people in Tacloban:

> ***"And in the past few weeks, the Philippines and the United States, joining together, have answered one of the worst challenges that Mother Nature provides, and in doing so they have shown the best of humanity."***[21]

The media reported on the "increased momentum in Philippine-U.S. relations" after Secretary del Rosario and Secretary Kerry's bilateral meeting.[22] On 11 November, three days after Haiyan first made landfall, Secretary Kerry assured Secretary del Rosario of the U.S. "full commitment" in providing all the necessary assistance to the Philippines.[23] Following Secretary Kerry's visit in Tacloban on 18 December, he announced an additional $24.6 million to the $62 million aid already provided.[24]

President Aquino announced during Secretary Kerry's visit at the briefing for Philippine development partners on the Reconstruction Assistance on Yolanda that the super typhoon caused $12.9 billion (USD) in total damages and losses. [25] At the dinner hosted for Secretary Kerry, President Aquino categorically put to rest any doubts on his administration's position regarding the current state of its relations with the U.S. stating, "the historic friendship between our countries will only grow deeper and more meaningful."[26]

The media consistently reported on the revitalized relations between the two allies.[27] The Filipino people in all levels of the society and government clearly appreciated the immediate response of the U.S. government during its time of distress. However recent update of a good demonstration of commitment can be seen from the Republic of Korea government when it decided to deploy for a full year over 500 Republic of Korea Armed Forces (ROKAF) personnel to repair and build roads, shelter and other infrastructure during the reconstruction and rebuilding period.

For the Philippines, they saw this effort from the Korean government as a demonstration of a lasting commitment. Creative approaches that can be at par with this can be conceptualized by other nations if the effort will be in consonance with the U.S. national interests.

Recommendation

Sustain a strong bilateral relationship and a robust HA/DR engagement program with GRP.

Issue 2: Government of the Philippines (GRP) Disaster Preparedness

Observation

- Disaster preparedness measures taken before the storm saved many lives and mitigated the impact of the storm.

Discussion

Philippines government officials co-led every cluster with the UN except the communications cluster. Most national and local government agencies involved, directly and indirectly, in the relief efforts such as the National Crisis Management Committee were well organized, coordinated, and well supplied. Government and international humanitarian community supplies, systems, and responders were prepositioned to respond to the antici-

16 http://www.gmanetwork.com/news/story/334245/news/nation/phl-us-talks-on-increased-rotational-presence-hit-deadlock-gazmin;
17 http://www.gmanetwork.com/news/story/334245/news/nation/phl-us-talks-on-increased-rotational-presence-hit-deadlock-gazmin;
18 http://www.rappler.com/move-ph/issues/disasters/typhoon-yolanda/44566-dfa-us-reps-yolanda-increased-rotational-presence
19 http://newsinfo.inquirer.net/534439/del-rosario-eyes-larger-us-military-presence
20 http://www.npr.org/2013/11/15/245369744/philippines-has-a-love-hate-relationship-with-u-s
21 http://iipdigital.usembassy.gov/st/english/texttrans/2013/12/20131218289155.html#axzz2qPEuqR00
22 http://news.pia.gov.ph/index.php?article=1781387274357
23 http://www.state.gov/secretary/remarks/2013/11/217432.htm
24 http://www.state.gov/r/pa/prs/ps/2013/218871.htm;http://www.nytimes.com/2013/12/19/world/asia/typhoon-haiyan-philippines-aid.html?_r=0
25 http://www.gov.ph/2013/12/18/speech-of-president-aquino-at-the-briefing-on-reconstruction-assistance-on-yolanda/
26 http://www.bcs.gov.ph/index.php/10-latest/792-meeting-with-us-secretary-of-state-kerry-fruitful-strengthens-us-phl-ties-says-aquino
27 http://www.interaksyon.com/article/77000/photo--aquino-kerry-offer-toast-to-revitalized-special-ties

A commander from the Armed Forces of the Philippines presents a brief during the cluster meeting in Roxas City. The meeting provided the opportunity for the UN OCHA, NGOs, local and foreign militaries and other humanitarian groups to coordinate relief efforts.

pated disaster and were able to begin delivering essential food, water, and plastic sheeting even while the initial UNDAC, OFDA, DSWD, and local government assessments were underway.

In Region VI, the Department of Social Welfare and Development (DSWD) handled the distribution of relief goods throughout Western Visayas, though they were limited in capacity due to the extent of the destruction. As in other regions, goods were prepositioned in anticipation of the storm. When the storm hit, all levels of DSWD were activated and assessments and relief distribution began. Region VI DSWD learned about the cluster setup in Roxas City and joined it two weeks after the storm hit. On 24 November, DSWD Region VI attended and was assigned to the food security, livelihoods, child protection, and shelter clusters. This is the first time the region participated in the cluster system. Cluster meetings were helpful in identifying gaps in service. Cluster serves as a means to identify and address duplication in effort.

DSWD worked closely with the Philippine army, navy, grassroots agencies, and Philippine state universities through their informal linkages with the Development Academy of the Philippines (DAP), a government owned and controlled corporation mandated to professionalize civilian and military leaders, and local government units to provide relief goods throughout the region.

Assessment data were acquired using the Disaster Response Operations Monitoring Information Center form. Municipal level DSWD offices collect the data and report results out to the regional office. The DSWD Planning Unit is responsible for information and data management and the database is updated every six hours. This information is fed back to Office of Civil Defense (OCD) and into the humanitarian system. These data become the basis for decision making about the distribution of relief goods.

In the first days of the storm, DSWD supplied the entire affected population with a three-day supply of food and water. Goods were turned over to the municipalities and the local social welfare office and the mayor. Local government units sometimes come directly to DSWD. Regional DSWD validates that goods are reaching intended beneficiaries and they setup a hotline where people could register complaints using SMS.

In Region VII, DSWD ran the shelter and camp management clusters, with IOM providing support and training in Cebu. Just ahead of the storm, DSWD prepositioned family food packs for distribution. These included rice and canned goods. DSWD augments local government units. In disaster response, DSWD issues Family Assistance Access Cards. They identify whether housing units are totally or partially destroyed. Local Government Units provided needs assessment information in affected areas to DSWD.

At the DSWD-led Philippine government interagency Camp Management and Camp Coordination (CCCM) meeting, DSWD decided to assist in the transfer of survivors from Tacloban to evacuation centers in Cebu

and Manila. Survivors relocated by the Philippine navy to Cebu (numbers do not include those airlifted out), included:

- 18 November: 2,400 survivors
- 20 November: 1,349 survivors
- 22 November: 200 survivors

Survivors were sent to 11 evacuation centers: six in Cebu City and five in Lapu-Lapu City.

DSWD was also the cluster coordinator for Food and Non-Food Items (NFIs). Only DSWD is permitted to receive and distribute relief goods which were flown either into Mactan AB or came in through the naval port. Local Government Units received donated goods from DSWD and then distributed these goods at the barangay level.

The UN shelter cluster was run by DSWD and co-led by IOM. The shelter cluster was used to do evacuee settlement planning. These temporary settlements are supported by IOM, which provided recovery shelters on site. DSWD interviewed IDPs to determine whether they plan to return to Tacloban, stay in Cebu, or go on to Manila. This disaster was the first time where an evacuation area was setup beyond the disaster areas. This required that LGUs coordinate between Tacloban and Cebu.

Recommendation

To facilitate an understanding of countrywide and theater-wide prepositioned assets, incorporate the location and potential/simulated use of these assets in exercise scenarios.

Attorney Jose Oñas Villanueva (right), the Provincial Administrator/Concurrent Acting Provincial Chief Legal Counsel of Capiz, and Provincial Disaster Risk Reduction and Management Officer Esperedion C. Pelaez, work with Capiz Governor to ensure clear communication between the Philippine government and foreign organizations and militaries.

Issue 3: Rapid Needs Assessment

Observation

- A quick situational awareness report provides greater value than a detailed needs assessment in the initial days following wide-scale devastation.
- In Tacloban, imagery proved more effective in conducting rapid needs assessment.

Discussion

Relief workers commented on the need for an overall situational awareness report for the initial 48 hours of relief operations. In areas where debris made roads inaccessible, imagery from satellites and drone technology provided a quick overall picture on the extent of the damage and roughly the number of people affected. The imageries provided an overview of the damage area without the need to walk and drive through the debris. Imageries captured by low-cost drones expendable drones currently being compiled by Ateneo de Manila University has been used by the Philippine Red Cross and World Bank. Several NGOs on the ground noted the importance of quick-assessment drone images when a comprehensive damage assessment has not been completed and they do not have access to military satellite imagery resources.

Imagery for situational awareness should be made available to all agencies, particularly to the NDRRMC, for purposes of decision making and rapid remote assessment. Other agencies were not able to access vital imagery and other relevant information because of the continuing security classification of collected imagery and information. Protocol should be established on the sharing of intelligence, surveillance, and reconnaissance (ISR) products particularly to host nation agencies and units involved in the response.

Due to the wide-scale devastation of Haiyan, life-saving food, water, basic sanitation, and shelter had to be provided immediately in parallel to the needs assessments being conducted. One of the enablers for responding organizations in this disaster was the availability of good quality population data, right down to the barangay level. This data was made available to the humanitarian community and DSWD who were re-

ceiving updates on field conditions every six hours from other agencies.

Recommendation

In the initial stages of response operations for a catastrophic disaster, be prepared to move life-saving food, water, basic sanitation, and shelter before an actual assessment is provided.

Explore possibilities of using UAV/drone images to potentially inform a shared Civilian-Military Common Operational Picture.

U.S. imagery for situational awareness should be made available and assessable to all responding agencies including host government and humanitarian responders.

U.S. should establish protocols on sharing imagery and information products with host nations and humanitarian responders.

Issue 4: GRP Interagency Leadership

Observations

- The AFP struggled to manage, synchronize, coordinate, and de-conflict the operations and efforts of foreign forces who took their orders from their respective embassies in Manila or national aid agencies such as USAID, JICA, etc.
- There was no common operating picture to assist in coordination of relief efforts.

Discussion

With the average of 20 typhoons per year in the Philippines, the AFP maintains and regularly updates contingency planning in disaster response. The military units stationed in the affected areas are assigned as first responders. However, AFP did not foresee a scenario where the designated first responders became victims of the calamity themselves, as experienced by the 8th Infantry Division of the Philippine Army in Leyte and Samar provinces.

With the exception of Capiz, Haiyan degraded the capability of many local government units (LGU) to function, most notably Tacloban, aggravated by the lack of leadership in the NDRRMC, which is mandated by law to direct HA/DR operations. The national government took over NDRRMC, the media reported that there were "too many bosses but nobody makes decision."[28] The lack of ISR capability that could provide basic situational awareness on the overall extent of the damage further aggravated the lack of clear leadership.

The unavailability of a common operational picture hampered the unity of efforts. When the USS Germantown and USS Ashland were stationed in Leyte Gulf for days awaiting instructions from USAID, the AFP did not have the means to avail itself of the engineering and fast sealift capability of these ships. Additionally, delay also occurred when USS George Washington and the Carrier Strike Group lost one day of relief effort due to clearance approval from the GRP.

The Royal Marine Commandos of the United Kingdom's Royal Navy led the relief efforts in isolated communities in Panay and Cebu Islands. The AFP found these unique ambitious capabilities particularly interesting since it eased the geographical constraints of conducting a wide-scale relief effort composed of isolated islands and inaccessible road networks.

The British warship UK HMS Daring, deployed to Cebu, worked closely with the UK NGO Save the Children who led the British military efforts together with other UK agencies such as the UK Department for International Development (DFID) providing a unique "whole of government" approach to a sea-based HA/DR relief operation.

The Philippine Navy developed a similar concept, the "Floating Government Center," where a Philippine Navy vessel carries representatives from all key players in the government and relief agencies to deploy to under-served isolated island communities by island-hopping. However, this concept remains to be fully developed and exercised.

Recommendation

Explore Balikatan joint training scenarios with the AFP to expand national capability to respond to catastrophic disasters when NDRRMC, Regional Disaster Risk Reduction and Management Council (RDRRMC), and AFP leadership may not be available to quickly respond due to devastation/effects of disaster.

U.S. exercise planners should revisit after action reports (AAR) and lessons learned from previous exercises to inform future exercise planning.

Assist GRP with continuity of operations planning including "Floating Government Center" concept.

Develop an ASEAN HA/DR protocol as a mechanism for regional cooperation grounded on the actual capabilities of the affected state. The protocol must include SOP on how to engage with non-ASEAN navies.

U.S. should work with partner nations and humanitarian organizations to develop a common operating picture for disaster response operations. The Singapore joint deployment and distribution system, or OPERA, may be used as a potential example.

Promote future collaboration between the U.S. Marine Forces Pacific (MARFORPAC) Marine Experimentation Center with the Philippine Naval Research and Development Center (NRDC) in testing technologies involving collapsible shelters, solar power, and other low cost technologies.

Continue HA/DR capacity building initiatives with host nation disaster management agencies and the AFP.

28 http://www.rappler.com/newsbreak/44956-ndrrmc-assessment-disaster-management; http://newsinfo.inquirer.net/526877/whos-in-charge-here;

Issue 5: Media

Observations

- Attention to the positive impact of U.S. relief efforts may have sent the wrong message to certain segments of the local population.
- Too little media coverage on the positive AFP relief efforts.
- For the first few days of the relief efforts, international and local media largely influenced government response. Isolated areas were left to fend for themselves as international relief poured into areas where the cameras were rolling.

Discussion

> ***"But none has come close to matching the U.S."***
>
> *Jim Gomez,* Associated Press[29]
>
> ***"U.S. Military 'Godsend' to 'Yolanda' Victims."***
>
> *Philippine Daily Inquirer*[30]
>
> ***"Nobody knows about the sacrifices my brothers made."***
>
> *Armed Forces of the Philippines* (AFP) sergeant
>
> ***"Plan for each contingency what degree of visibility the U.S. response should have in comparison with the affected country's institutions."***
>
> *Jennifer Moroney*, et al, RAND Corporation, "*Lessons from Department of Defense Disaster Relief Efforts in the Asia Pacific Region*"[31]

The world celebrated U.S. military relief efforts in Haiyan; however the media reporting on the overwhelming success of the U.S. military may inadvertently overshadowed the positive relief efforts of the AFP and other Philippine government agencies. The stark contrast in the U.S. and the Philippine military capability may potentially have inculcated in the public's mind a sense of resignation that the Philippine government could never be capable of independently building its own disaster-response capability.

The Philippine Daily Inquirer, a prominent Filipino newspaper that, in the past, often published anti-U.S. articles, strongly recommended in its Op-Ed piece, titled "Lessons Learned 'hopefully' from Yolanda," that the Philippines accept its inability to cope with large-scale disaster and instead, make way for a permanent U.S. augmentation solution.

> ***"We need to accept the fact that in general, we do not have enough trained people, resources and equipment (including large electric generators, water desalination equipment, Huey helicopters and C-130s) that are required if we are to cope with disasters of a certain magnitude. Thus, we may have to swallow our pride and consider how other countries can immediately help us. In this regard, perhaps we should consider allowing the U.S. government to install temporary bases or staging areas in selected locations in the Philippines, provided that part of the arrangement is for U.S. troops to commit and maintain adequate disaster relief equipment and capability to augment our government's own disaster-response capability."***[32]

The Philippine government and the AFP lack of projection in Haiyan aggravated the one-sided reporting. The New York Times for instance saw the use of motorcycles as a lack of capability rather than an evidence of Filipino's ingenuity on the best use of technology to navigate the narrow roads of the affected areas.[33] The unfair and inaccurate reporting on the Philippine government response could conceivably be traced to Anderson Cooper's controversial reporting during the initial days of Haiyan, and its one-sided reporting, focusing exclusively on town line roads instead of going to the hinterlands where Filipino efforts were clearly visible.[34]

The media's overall thin knowledge on disaster management further caused unfair criticisms to the affected state. Disaster management expert, Elizabeth Ferris, from the Brookings Institute noted the unrealistic expectations the media imposed on the Philippine government's response.

> ***"Be wary of initial news reports, especially those of inadequate response by the government of the Philippines… When you don't know what's happen-***

29 http://www.washingtontimes.com/news/2013/nov/17/aid-missions-boost-us-troops-image-readiness/?page=all

30 http://globalnation.inquirer.net/91407/us-military-godsend-to-yolanda-victims

31 http://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

32 http://opinion.inquirer.net/65447/lessons-learned-hopefully-from-yolanda

33 http://www.nytimes.com/2013/11/20/world/asia/typhoon-response-highlights-weaknesses-in-philippine-military.html?_r=0

34 http://www.cnn.com/2013/11/13/world/asia/typhoon-haiyan/

ing, it's easy to blame the lack of coordination. The truth is that coordination is always difficult when national and local governments are still assessing and communicating need."

Elizabeth Ferris,
Brookings Institute[35]

Thus while the U.S. military response was recognized worldwide, the presence of mind, ingenious approaches, and self-sacrifices of the AFP and the Philippine interagency task force was lost to many. For instance, there was barely any media coverage on how the AFP and the interagency Task Force (TF) served as enablers for the first group of military responders to arrive.

Despite being victims themselves, the AFP and the interagency TF provided the "initial main door" that allowed the entry of U.S. forces into Tacloban airport. Col. Restituto Padilla Jr., Armed Forces of the Philippines Liaison Officer to the U.S. Pacific Command, and AFP Vice Chief of Staff Lt. Gen. Allan Luga recounted how the AFP and the TF, while less than a hundred strong, "clawed their way back to the airport inch by inch" to assess the conditions for the entry of the responders and relief supplies in Tacloban.

Upon reaching the airport hours after wet/drench, tired, hungry and with minimum of equipment salvaged from the devastation, the AFP and interagency TF mustered the remaining personnel in the airport and linked up with the surviving Philippine Air Force Tactical Operations Groups contingent (whose camp at the airport grounds was totally destroyed) and began to painstakingly clear the runway.

This effort paved the way for the first PAF C-130 flights that brought the initial interagency and NDRRMC assessment team, medical teams from the AFP and limited medical supplies to the city of Tacloban. Their efforts too became the enablers that allowed for the first group of U.S. forces to arrive there the following day. If not for these men and women whose sacrifices got lost when more prominent responders arrived, none of the follow on and similarly critical activities could have happened.[36]

35 http://www.brookings.edu/blogs/up-front/posts/2013/11/12-four-questions-about-typhoon-haiyan

36 Col Restituto Padilla Jr PAF(GSC), Armed Forces of the Philippines Liaison Officer to the U.S. Pacific Command, HPACOM, January 8, 2013.

Despite the damage, Tacloban airport becomes a hub of activity for incoming and outgoing flights, humanitarian aid storage.

There is a persistent international perception, even held by the Filipino public, that the Third Marine Expeditionary Brigade (3D MEB) started, led, and even single-handedly cleared all the roads and airports. Lost are the countless stories of AFP carrying out their duties and unloading relief goods despite having lost their loved ones.

The story of Philippine Navy commander Ramonito Sabang exemplifies the many heroic AFP stories. When Haiyan hit, Commander Sabang rode the first Philippine Navy ship deployed to Tacloban where his wife and three daughters resided. After receiving a text message from his wife that their house in Tacloban has been blown away, he still completed his task of unloading all the relief goods before searching for his family members. Upon learning that his three daughters died from the floods, he became "completely heart broken and was about to throw away the food and medicines he brought for them" when he decided to give them to his neighbors instead.

More than two weeks after Haiyan's first landfall, Interior Secretary Mar Roxas stated his personal lessons learned:

> ***The lesson from Yolanda is that the family of the first responders should be evacuated, secured, so the first responders will not become victims… it is hard to expect responders to fulfill their duty when their mind or attention is focused on evacuating their loved ones (English translation).***[37]

The lack of government and AFP projection could be attributed to the lack of resourcing of AFP Strategic Communication and Public Affairs (PA) offices. The U.S. military has deployable Public Affairs and operationally directed imaging capabilities, primarily Combat Camera (deployed about 40 teams), to provide still and video documentation of U.S. military operations in forward areas, such as HA/DR. USPACOM J39 and components have conducted subject matter expert exchanges for years with the AFP about the importance of establishing and maintaining a Combat Camera-like capability to support their strategic communication requirements. However, AFP PA personnel are not directly linked with each other, making it difficult to develop, synchronize, and communicate consistent messages.

While the U.S. Marine Corps deployed with organic combat camera capability including still and video imagery capable of documenting disaster management and humanitarian assistance (DMHA) operations, the AFP PA does not deploy with its responding forces, nor does it have an overall PA coordinating structure to systematically study and document its accomplishments or respond to damaging rumors. For instance, the growing distrust and disappointment in the Philippine government became aggravated by tabloids and sensationalist online publications that went viral in social media, claiming that the UN has instructed the U.S. Marines to "keep relief goods away from Philippine officials." [38]

The Fukushima nuclear disaster showed the damaging effects of misinformation when rumors are allowed to persist. In the case of Japan, rumors on radiation caused unnecessary fear and panic.[39] The lack of a push for correct, reliable, and credible information to counteract disruptive rumors has complicated relief and recovery operations and, in the case of Japan, resulted in the loss of confidence in the Japanese government.

Recommendations

Increase the priority of Strategic Communication, Public Affairs, and Information Operations during exercises and subject matter expert exchanges focused on DMHA operations.

U.S. needs to "plan to what degree of visibility" its relief efforts compares to the affected country's institutions" [40] and develop public affairs engagement plan for international response operations.

Establish joint DMHA Strategic Communication/Public Affairs training, planning, and coordination including joint training on employment of Combat Camera teams.

Establish a joint/combined information bureau to handle media inquiries, media relations, and distribute acquired imagery products from operations.

Issue 6: Informal "People Power" Grassroots Relief Efforts

Observation

- Informal networks and kinship systems enabled by social media contributed significantly to the relief efforts.

Discussion

The spontaneous demonstration of informal grassroots-driven relief efforts throughout the Philippines significantly augmented the on-going relief operations of the government. For instance, when Philippine and foreign forces evacuated victims from the affected areas to Manila and Cebu, volunteers throughout the country formed Oplan Yakap (meaning "embrace") and Oplan Hatid (meaning "to accompany a person to a destination").

Oplan Hatid was a group of volunteers who provided

37 http://www.rappler.com/move-ph/issues/disasters/typhoon-yolanda/44564-mar-roxas-lesson-yolanda-save-responders-families

38 http://au.ibtimes.com/articles/522107/20131114/united-nations-typhoon-haiyan-yolanda-philippines-tacloban.htm

39 http://www.telegraph.co.uk/news/worldnews/asia/japan/8382504/Japan-earthquake-panic-in-Tokyo-as-radiation-spreads.html; http://www.reuters.com/article/2011/03/15/us-japan-quake-tokyo-idUSTRE72E0ZR20110315; http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=9&ved=0CFsQFjAI&url=http%3A%2F%2Fglobalvoicesonline.org%2F2011%2F03%2F16%2Fchina-salt-radiation-rumors-fuel-widespread-panic-buying%2F&ei=euPNUtrhCtfmoASMyYGgBQ&usg=AFQjCNF0KQE-lF1NHP5Zf6YJYYaEx2RYgA&sig2=OErRBKghOGIpeT6UthH5-g&bvm=bv.59026428,d.cGU

40 http://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR146/RAND_RR146.pdf

free transportation to evacuees arriving in Metro Manila into the neighboring provinces, the majority conducted by working men and women after work hours and on weekends. More than 1,200 families were brought to safety in and around the nation's capital.

Oplan Yakap consisted of individuals who adopted Haiyan victims, evacuees who did not have a place to stay in Manila. Volunteers provided Visayans temporary shelter, food, water, and clothing. Some provinces around Metro Manila even adopted entire cities accepting anyone coming from a specific location in the affected area.

There were many additional grassroots-driven initiatives that spontaneously occurred including hundreds and thousands of family relief packs that came from donations and volunteers throughout the nation.

Recommendation

Recognize and seize opportunities to use social media during HA/DR operations and incorporate into planning and exercises.

Issue 7: Effective Relief Coordination – Capiz Province Model

Observation

- The Capiz Model was successful due to having foreign military, international organizations, NGOs, and governmental actors collocated in one place, resulting in trust, broad information sharing, and opportunity for Filipino native speakers to serve as liaisons with non-Filipino responders.

Discussion

The best example of effective coordination, according to many seasoned humanitarians and others, was run out of the Command Center in Roxas. Capiz Governor Victor Tanco provided the top floor of the Capiz Provincial Capitol building for the Joint Command Center which included: the United Nations OCHA, World Food Programme (WFP), Children's Fund (UNICEF), and Department of Safety and Security (UNDSS), the Canadian DART team and military representatives, international NGOs, and the Department of Social Welfare and Development. This created a sense of shared purpose and camaraderie across institutions. It was also suggested that this was the first time that OCHA could directly submit task orders for use of military assets. The entire environment was unclassified, and all meetings and processes were open and inclusive. One seasoned USAID DART and a senior member of the United Nations suggested that Roxas represented the best link up of civil military actors in their many years in the business.

International non-governmental agencies also interviewed in Roxas maintained the general perception that coordination between the UN, NGOs, the humanitarian community, local government and military, and international military actors was excellent. With the Filipino-Canadian DART liaison officers serving as sources of information, cluster meetings were being used to identify underserved communities and ensure that duplication of efforts was limited. The Command Center in Roxas has been cited as an example of "as good as it gets" coordina-

Task Force Yolanda, the local name for Typhoon Haiyan, based in Roxas City, Capiz Province, set the example for disaster management, called "the best I've ever seen" by international humanitarian workers.

The Philippines Provincial Disaster Risk Reduction and Management Council, or PDRRMC, uses the Capiz Provincial Capitol Building as its headquarters during the Typhoon Haiyan response.

Filipino Canadians work as members of the Canadian Disaster Assessment Response Team (DART). The native-speakers serve as liaison officers between the English-speaking members and the local people to assess critical needs.

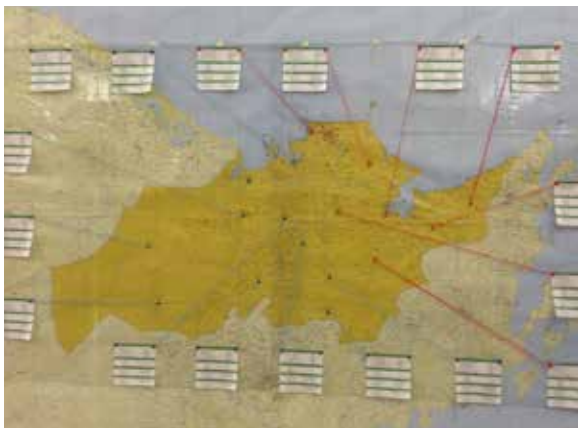
tion. There are some important reasons for this. First, the Canadian military and Canadian DART teams were collocated with UN agencies and NGOs facilitating coordination and encouraging information sharing. The Canadian Ministry of Foreign Affairs established and inter-departmental task force before the typhoon hit. A conference call with the Canadian Embassy was made just days ahead of the disaster to discuss the level of Philippine government's preparedness.

Discussions were also held with OCHA and a number of NGOs on the ground. By Saturday, 9 November, it was clear there was significant damage and the Canadian government announced the immediate release of $5 million (CAD) in response funds. The media, embassy, OCHA, and NGOs all reported significant need. When the Philippines government requested assistance on the 10 November, the Canadians deployed the Interdepartmental Strategic Assessment Team. The Embassy in Manila made it clear that military assets would be required. Canada moved its response out of the Embassy and directly into the National Disaster Risk Reduction and Management Council (NDRRMC) and the Multinational Coordination Center (MNCC).

Initial needs assessments were made using satellite imagery acquired from the Canadian military. Plans for deployment were made in coordination with the embassy with additional information coming from monitoring the AHA Centre and Virtual OSOCC. On 10 November, the Canadian Department of Foreign Affairs requested Canadian DoD assistance, and a Canadian DART team was deployed on 13 November.

The Canadian Civil-Military Coordinator, the OCHA head, and a number of Canadian military personnel had all taken civil-military coordination training together, a second factor that supported quick and effective collaboration. The Canadians sent in a Humanitarian Assistance Response Team (HART) which immediately linked up with the cluster meetings. By 15 November, aid was being delivered on the ground. While initial needs assessment data from UNDAC was fast, it required intermediate steps to translate the statistics coming from the field into actionable information and specific taskings.

(Left) The Philippine National Police and Canadian Disaster Assessment Response Team work hand-in-hand during the disaster response to Typhoon Haiyan. (Middle) The Canadian Disaster Assessment Response Team (DART) has a little fun in their temporary home. The team insisted on paying for the use of field where they set-up camp and Capiz Governor Tanco rented it to them for one dollar. (Right) Provided by the Canadian Disaster Assessment Response Team (DART), the common operational picture provides information regarding all humanitarian aid in the Capiz province.



The Capiz Provincial Governor and Chair of the Provincial Disaster Risk Reduction and Management Council , Hon. Victor A. Tanco, recipient of the Armed Forces of the Philippines Bayanihan Award, is known for his "love of the people," and served as the center of all relief efforts. Offering the Provincial Capitol Building for the Command Center in Roxas, he was able to consolidate the UN, World Food Programme, UN Children's Fund, international NGOs and local and foreign security forces into one location, streamlining disaster response.

The third factor contributing to collaboration was the designation, by the UN Emergency Relief Coordinator, Ms.Valerie Amos, of a humanitarian system-wide emergency response (L3). This meant that sufficient international and humanitarian staff would be sent quickly to cover all major affected areas, and they would quickly coordinate with AFP and foreign militaries already on the ground. The collocation of the military with Philippine government and humanitarian organizations was a level of coordination that surpassed everyone's previous experience. Although this was not the first time the UN has been collocated with local government (this also happened in Mindanao), it was the first time that the military was collocated within the cluster coordination center.

The depth of coordination was no accident. It was the direct result of experts establishing previous relationships, made during former deployments and trainings and through a conscious decision to collocate. The actors may have pursued alternative models of coordination, including the exchange of liaison officers or through an agreement to co-exist in the same theater of operations with coordination through information exchange, but for the greater benefit, did not pursue these less effective models.

In addition to previous relationships, the professional background on HA/DR of responders was also critical. In the USS George Washington, the commanding officer Capt. Gregory Fenton found his two previous disaster relief experiences to be invaluable in his decision on how to preposition his assets to support USAID airlift requirements.

The USS George Washington officers observed that like the highly venerated Governor of Capiz, the Mayor of Guian commanded great respect which greatly facilitated the relief efforts in his area. For instance, the evacuations were organized and calm; the five-gallon water containers on loan from the USS George Washington were all returned on time as a result of the direct instructions of the Mayor who stayed with the affected victims throughout the relief efforts.

Recommendation

Examine Canadian-DART model for applicability for future U.S. operations and exercises.

DoD Coordination with International Organizations

> *"As good as it gets"*
> *-OCHA*

Issue 1: International Organizations

Observation

- International organizations with strong local presence were positioned to respond quickly and effectively

Discussion

IOM, as with other UN agencies and international NGOs had a strong presence in the Philippines ahead of the disaster. IOM has more than 400 employees in the Philippines working across six sub-country offices. As co-leads of the Camp Coordination and Camp Management cluster, IOM provides training and resources to DSWD. IOM's primary response to Haiyan is the management of displaced populations, in support of DSWD. To track the more than 3 million displaced persons, IOM employs a Displacement Tracking Mechanism (DTM) used at evacuation centers. One key challenge for camp managers is dealing with the psychosocial needs of the many survivors traumatized by the disaster. The vast majority of IOM staff came from the Philippines and the overall head of the IOM operation is also from the Philippines. This is particularly helpful as the government is sensitive to international organizations providing aid.

Recommendation

Identify and partner with local NGOs and international NGOs with strong local presence building on their ties and knowledge of the local population.

An International Organization for Migration gathers other humanitarian groups, government organizations and local and foreign security forces together to brief the group on displaced persons.

A Philippine Military Police Officer guards the door of the U.S. Central Command Operations Center. The lack of openness by the U.S. military leads to less coordination between the security forces and international aid.

Issue 2: Logistics

Observation

- Until the World Food Program (WFP) arrived, there were no widely accepted standard operating procedures (SOP) in place for regulating the distribution of goods in Cebu.

Discussion

Before the WFP managed the logistics hub in Cebu, Mr. Luke Beckman, on-loan from the American Red Cross, conducted what was essentially a one-man logistical cluster. Relief items were flown to Cebu and then distributed to other locations, using military and other consigned aircraft. Primary supplies included Plumpy soup, hi-energy biscuits and pre-fabricated offices for Tacloban. Before the WFP was integrated into the AFP logistical procedures at Mactan Air Base and the port facilities, Mr. Beckman single-handedly took charge of the coordination between U.S. Central Command (CENTCOM) and the international humanitarian organizations which the WFP logistical offices recognized as essentially paving the way for a SOP to be instituted.

United Nations agencies and international non-governmental organizations requisition logistical services directly on the WFP website. In all instances, DSWD was in charge of the distribution of relief goods at the municipal level. WFP provided logistical capacity only. DSWD was WFP's main partner, using both UNDAC and their own teams for assessments on the ground.

There were already numerous airplanes and cargo planes on the tarmac when WFP took over the relief operation from Mr. Beckman. Many NGOs have bilateral contacts with the government and had independently brought goods in. WFP facilitated the coordination of military assets and brought goods in by land, sea, and air

Facilitated by the World Food programme, the "One-Stop-Shop" in Cebu consolidated processing of foreign donations into one location for ease and coordination by NGOs and military assets.

through the One-Stop-Shop at Cebu. WFP participated in the government run logistics meetings and invited national government officials to participate in the international logistics cluster meetings. The government participated only once. According to WFP, the response and coordination were more or less perfect, getting better with every emergency. Two weeks into the operation, things were already slowing down and the shipping of relief supplies was anticipated to be complete within the next week or two.

One noteworthy exception was an international NGO worker who highlighted the absence of the military in any of the emergency telecommunications cluster meetings in the opening weeks of the response. There was some question as to whether frequencies and locations where communications were being setup were being shared in both directions between military and NGOs working on emergency telecommunications. Forms submitted to OFDA went unanswered and the USAID-military coordination was prioritized over UN supplies. According to some, OFDA did not prioritize information communications technologies and were not present in the Emergency Telecommunications meetings.

There was some concern that, early on, the USS George Washington was delivering relief supplies without communicating with all actors on the ground. This was made more important by the fact that first two clusters to be setup were the emergency telecommunications and logistics clusters. By definition the cluster system can only work if the various entities participate actively in it, including in terms of timing.

Recommendation

In concert with WFP, OCHA and host nation cluster lead, develop SOP for distribution of goods in early days of relief operations.

Issue 3: Information Sharing

Observation

- Working in an unclassified environment encourages collaboration among all responding agencies.

Discussion

At some point OCHA officials gave up on trying to coordinate with the U.S. military out of Villamor AB in Manila after having experienced "room clearing."

Three features of information sharing and communication underpinned successful civil-military coordination in Roxas. First, all communications were open and unclassified. There were no proprietary data sets or secret information. Second, because the UN, local government, international NGOs and Canadian military were all physically collocated in one room, responders could literally walk over to one another and have a conversation. Cluster meeting attendance in Roxas was facilitated by the fact that the different agency representatives were already working in the room where meetings were being

held; it was not necessary to travel across town to attend a cluster meeting. This encouraged the development of interpersonal bonds across agencies. Finally, the quality of information made available by the Philippines government was reliable, timely, and provided a good common baseline set of information from which to work. All of these features enhanced communications and information sharing with the Roxas Operations Center.

The NGO perspective in Roxas was that data coming from national authorities submitted to the UN cluster were good, reliable, and timely. Information sharing within the clusters was good. ACF had six people on the ground by 11 November, and had a team of 20 on the ground by 29 November. ACF is involved primarily in WASH, food distribution and supplemental feeding. ACF suggested that it was important that UNDAC was on the ground and felt that the national authorities were impressive. Rapid turnover of cluster leads and a disparity in levels of previous experience and ability to manage and lead meetings were limiting factors.

As stated earlier, one of the advantages in this disaster was the availability of reliable and valid data right at the barangay level. These data were available to the humanitarian community and DSWD updated their population data every six hours.

Recommendation

Encourage use of open communication and unclassified information system and operating areas.

Issue 4: Liaison

Observations

- Liaison officers played an important role in facilitating communications and coordination between military and humanitarian organizations and between both of these sets of actors and local and national government actors. Locally recruited liaisons that worked with the Canadian forces served in each barangay to provide key information to local communities about the response effort and relay any problems with aid delivery back to responders.
- Liaison officers were pivotal in the response for both effective coordination between military and humanitarian agencies and between government ministries and the humanitarian organizations.

UN Cluster Meeting in Tacloban.

- Liaison officers who had native fluency of the language in affected areas proved to be a key enabler in the coordination and information sharing of the relief efforts.

Discussion

While there was good overall coordination within the cluster system, there were some limitations worth noting. The first was the lack of presence of UN officials working directly with the military response operation. Because the militaries were the first international responders in this disaster, it would have been useful to have a UN representative participating in military coordination meetings from day one of the response.

A good example of early and fully integrated coordination was the embedding of World Health Organization staff directly within the Philippine Ministry of Health. One disaster expert recommended that disaster managers and experts sit within each agency of the government to facilitate rapid communication and coordination between national entities and the international community.

Another unique feature of this response was the connectivity between national Philippine government response agencies and those of the international community. The Philippine government organized its response using a parallel cluster system. This structure allowed LNOs from each respective structure to sit in on the cluster of the other making coordination easier between the humanitarian agencies and the government.

Having said this, one expert suggested that too many clusters were established to respond to this crisis and that government agency information on aid flowing in through direct bi-lateral relationships between the Philippines and other governments was not being fed into the United Nations. Some officials suggested that both the humanitarian country team and the Philippines government needed to identify actionable priorities earlier in the response.

One local Filipino working for a UN agency suggested that it was important to ensure that once relief goods had been delivered by DSWD to the municipalities that some international monitors accompany the local municipal officials to validate that food aid was reaching its intended recipients. There were unverified anecdotes that some barangays had not received any aid 17 days after the storm had hit. Further, it was suggested that in some cases local politicians were tampering with the labeling on donated relief goods to make it appear as if the local politician was giving the aid.

One drawback of the parallel UN and Philippine government cluster systems is that there was limited participation by each in the others' cluster meetings. A number of those interviewed suggested that there was room for improving the UN and government collaboration. Again, the picture is mixed with collaboration working in some places, better than others and largely a factor of previously established relationships, proximity to the disaster-affected areas, and level of training. Many argued for pushing coordination down to the field level with civil-military coordination officers inserted as early as possible.

Where the field-level coordination between the Canadian DART and the UN team in Roxas worked well, coordination between the U.S. DART, military, and OCHA was not as smooth. Furthermore, there were no USAID or military present at the UN building and scant outreach from OFDA to the humanitarian community. A better linkage between the humanitarian country team and the military was needed and greater support was needed for the OCD, particularly at the national level.

Both the Canadian military and the IOM staff we spoke with highlighted the importance of employing Filipinos as liaison officers that were able to effectively integrate into the communities being served. The LOs employed by the Canadians were entirely self-sufficient with food, water and funds. The LOs proved instrumental in building trust and contacts with the local disaster-affected communities and enabled a fuller understanding of what was actually happening on the ground.

The Canadian government's decision to deploy military assets in a response is the last in a list of ways the government might support civilian-led humanitarian operations. The civilian-led ISDT, with a DART member attached, were the first on the ground. This team included two civilians and one military member. First, the LNOs identified what was going on within communities. They would communicate needs back to the cluster which would in turn identify the best means for responding, including the provision of information on potential helicopter landing sites and relief supply storage areas. Moreover, these LNOs also worked directly with the DSWD making them a valuable link to the national government. The LNOs facilitated communication with local communities and enabled immediate effective coordination that might otherwise take months to develop utilizing expatriates.

The response to the oil spill near Iloilo City underscores this role of the LOs. It was important that local DSWD officials could link to a fellow Filipino LO. Trust, comfort level, and contextual understanding were already there. Within 20 minutes they could identify the real needs on the ground. The LO was able to provide real-time updates from the deep field. The DART team lead expressed interest in further assessment of the success of the coordination in Roxas.

While the WFP was the logistic cluster representative in Cebu, the Canadians played this role in Roxas, filling what would otherwise have been a gap. The team emphasized the need to be careful not to have the UN rely too heavily on, or become dependent on, having military assets at their disposal. As mentioned, Canadian military assets were made available to the humanitarian community and were requisitioned through the cluster system. Guidelines on how to decide when it is appropriate to use military or civilian resources are needed to ensure that the costs of using these assets are weighed against alternative methods of transport.

An example of good civil-military coordination was the International Medical Corps (IMC) who used military

transport to set up mobile clinics in some of the hardest hit areas. A Canadian air force officer joined the team and local police accompanied the teams and provided translation services. The IMC team was able to provide primary care when mayors of the LGUs requested two-day notice before providing services. The IMC team also bought pharmaceuticals from the local pharmacies providing evidence that the transition from response to recovery was already underway.

As part of its exit strategy, the Canadians worked to increase the Philippine military presence. The cluster leads were asked to identify the criteria to be met to define an exit strategy for the Canadian military to ensure there would be no gap in the provision of critical needs.

After many male soldiers and police officers were called to Tacloban, the female officers of the Philippine National Police maintained security in the surrounding areas.

Recommendations

U.S. should position LNOs within OCHA, WFP, and within the Inter-agency Coordination cluster, Emergency Telecommunications cluster, Logistics cluster. OCHA should position its own LNOs within relevant military coordination center (JHOC, CMOC, etc.).

Responding agencies should seek to recruit LNOs from the local community whenever possible, especially where those individuals possess strong language skills and are trusted members of their local communities.

Issue 5: Co-location of relief efforts

Observations

- Co-location of local government, foreign military, and humanitarian agencies enhanced coordination.
- Preexisting personal and professional relationships increased trust and facilitated communications.

Discussion

Where Roxas was almost emblematic of what coordination should look like (according to many seasoned humanitarians and military, the best that they had ever seen in their careers), Tacloban, the hardest hit area, was somewhat less organized. Information management and sharing problems were cited openly in cluster meetings as problematic and, despite its proximity within 50 meters of the Onsite Operations Coordination Center, there was no official from the Office of Civil Defense or other government officials in the UN coordination cluster meeting or the information management cluster meeting.

There were also concerns about the reliability and credibility of needs information. The UN used the Multi Needs Initial Rapid Assessment forms (MIRA) to inform the Strategic Action Plan. MIRA relies on purposive sampling of disaster-affected populations and this information is supplemented with key information interviews with barangay captains. Two weeks into the response, a total of nine provinces, 92 municipalities, and 283 barangay had been sampled. More than 30 agencies were involved in data collection.

In the very earliest hours and days of the storm, local government officials with the Philippines Office of Civil Defense for Region VIII noted that local systems were totally overwhelmed. The first responders were themselves victims and it took some time before local disaster responders could get back on their feet. The greatest challenge cited was convening the local councils and initiating the response.

Co-location turned out to be of enormous benefit of all involved and provided a context in which creative solutions could be found to seemingly incommensurate positions. An illustration of this is that the force protection agreements between the Philippine government and Canadian forces posed a problem for those NGOs pro-

hibited from traveling with armed actors. Even in these instances, both parties were able to find a compromise solution whereby the Canadians traveled unarmed with the humanitarian agencies, but were in close enough range of Philippine police that they could call in support if needed.

The team in charge at Roxas made an explicit decision to operate entirely on the unclassified side and moved in favor of direct interaction with the humanitarian community and Philippines government. Though they were familiar with computerized models for virtual command and control, they decided that human relationships and face-to-face interactions took precedent over other approaches to coordination.

In the opening days of the response, there was some incongruence between the kinds of information coming from the clusters and prioritization of tasks that the Canadian DART team needed. Conversely, there were more military assets at the humanitarian community's disposal than these organization were prepared to or accustomed to using. It took some time to get everyone acquainted with a process and both sides found themselves in unfamiliar territory that neither has yet fully understood.

Current doctrine falls short on the depth of joint planning and joint implementation witnessed in Roxas. Cooperation and trust are a good basis for coordination, but are not a substitute for fully developed doctrine, policy, and training. The DART Commander told his staff that they were not in Roxas to lead the operation, which would have made them ineffective participants in the community. The DART team reached out to others to join them on making forays out into the field to assess needs.

Information technology also played a more prominent role within the clusters. Whereas OCHA used to bring in plotters as a common instrument for the humanitarian community, they were now using maps generated by OCHA, Map Action, and a host of digital humanitarian groups. The DART team brought up servers for all to use and played a facilitating role to the humanitarian community. The DART also used its intelligence cell to put together needs assessments with NGOs feeding into it.

The fact that the Canadians chose to operate from the backseat, not the front seat, engendered trust amongst all actors involved. All of these Canadian assets were being offered as a common humanitarian asset. This was not simply rhetoric, but demonstrably observable. Everything from the coffee machine to helicopters was shared. A key reason the Canadians were willing to keep the military in the back seat is reflective of the Commanders understanding of the humanitarian system and its operating principles and the OCHA lead's personality and experience.

While emblematic of good coordination, the aforementioned factors that made this a success may not be wholly replicable in other environments where security might preclude actors from co-locating. Effective collaboration requires constant negotiation. The force protection vs. humanitarian principles impasse had to be negotiated. Preexisting relationships helped make this happen. Thinking outside the box was a necessary criterion to avoid going directly to command and control.

Recommendations

In catastrophic natural disasters, attempt to localize all military and humanitarian actors in proximity to one another to facilitate communication, coordination, and collaboration.

Where, and whenever possible, encourage co-location of military commanders with field decision-making authority, and supporting units within humanitarian operations centers.

Military commands should promote HA/DR training and further enable JTFs by providing experienced HA/DR personnel knowledgeable of SOPs and CONOPS.

Issue 6: Informal Networks

Observation

- Informal networks based on trust, prior experience, and common training proved essential to effective coordination.

Discussion

A number of studies on civil-military relations have noted the importance of personal relationships and trust as core elements for effective communications, coordination, and collaboration. Disaster responders in the Philippines made these same observations, stating the importance of previous, shared experiences with former colleagues as the basis for decision making in the current context. Disaster responders, by default, turned to and extended privilege to preexisting networks to make decisions about prioritization of activities and resource allocation.

The OFDA DART Team was on the ground on 10 November doing independent assessments for the USG in Tacloban, Cebu, and other major storm-affected areas. These needs assessments inform funding decisions for OFDA in its donor capacity and for DART team requests for support from DoD. OFDA tries to limit what it requests from DoD to those things that cannot be provided by other humanitarian agencies or by itself on the ground. In general, the DART team relies on DoD to provide logistics support and heavy lifting capacity.

DART team members emphasized just how important prior training exercises were to successful response to Haiyan. Strong relationships between the DART team lead and the commanding U.S. generals greatly enhanced a smooth relationship between civilian and military actors.

By many accounts this was one of the better—if not the best—integrated response by the USAID DART teams with the U.S. military. DART teams were on the ground on the 9 November and linked up the next day

> ***The "best link up of civil military actors in his 20 years in the business."***
>
> *-OFDA*

with the Marine Expeditionary Force. The U.S. DART team guided search and rescue missions, logistics, and relief support from the U.S. military and using its own resources.

Good working relationships between the DART lead, military commanders, and State Department representatives, set the basis for strong cooperation and resulted in a well-coordinated and effective response. In addition, the DART had four military liaison officers seated at strategic points, ensuring that OFDA was linked at every point to DoD.

It was the DART team's job to provide the tasking and validation of needs. The DoD executed with DSWD the distribution of relief supplies at the end points. In the first five days of the relief effort, more than 1,000 sorties were flown out of Tacloban to the various villages. This provided a critical buffer allowing the Philippine government to reorganize and the UN and NGOs to get into place. From the DART perspective, "this was a textbook response."

Recommendations

Humanitarian and international organizations should consider undertaking a study of informal communication networks to reveal patterns that could inform future policy decisions and to help determine resource allocation and prioritization of aid.

OCHA Civil-Military Coordination and other formal training exercises are pivotal to improving responder understanding of what is expected of them during HA/DR missions. Serious consideration should be given to expanding civil-military coordination and other HA/DR training including DoD Humanitarian Assistance Response Training (HART) and USAID OFDA Joint Humanitarian Operations Center (JHOC) to mid-career professionals in UN agencies, military, and major international nongovernmental organizations.

DoD Coordination and Interagency Coordination

United States Pacific Command (USPACOM) and its components have a long history of responding to large scale natural disasters in the Asia-Pacific region in coordination with and support of USAID/OFDA and international humanitarian relief organizations. This section examines DoD pre-crisis actions and post-impact emergency response to Haiyan as an HA/DR provider to determine if previous training, exercises, and responses to other natural disasters in the region have contributed to improved performance, service delivery, and efficiency in disaster response.

Issue 1: Interagency Coordination

Observations

- Strong DoD and USAID relationships enhanced the immediate response.

Discussion

Donor agencies of assisting states, such as USAID/OFDA, played a vital role for some of the responders based largely on the states' legal frameworks and general modus operandi, especially in responses with significant support by foreign militaries. Interviews with representatives of these organizations were quite helpful in understanding the dynamics of the situation and the effectiveness of civil-military coordination and military efforts.

Overall, it was the general feeling that civil-military cooperation was probably some of the best, if not the best, seen in such a relief operation although this varied between locations and also between the efforts at the tactical/field level and those at operational/managerial/oversight levels.

There was significant involvement by foreign militaries in the response to Typhoon Haiyan. This report focuses primarily on the involvement of U.S. military forces but also includes relevant information pertaining to other foreign militaries, in particular with regard to how coordination and cooperation was accomplished with 1) civil response organizations (civil-military coordination and cooperation), and 2) other militaries from the Philippines and abroad (military-to-military coordination).

> ***"Philippine and foreign military assets have played a critical role in assessing the extent of the disaster, delivering relief supplies and providing medical and engineering support in typhoon-affected areas."***
>
> *-OCHA Representative*

Overall, the participation by militaries of assisting states was critical for the rapid success of the relief operations. This was mentioned by numerous key personnel in both UN and donor development and relief agencies.

By many accounts, this was one of the better integrated responses by OFDA DARTs with U.S. military forces. On 8 November, an OFDA DART arrived and linked up the next day with deployed elements of the III Marine Expeditionary Force (III MEF). The OFDA DART coordinated U.S. search and rescue missions, logistics, and relief support.

OFDA DART members emphasized the importance of prior training exercises to the successful USG response to Haiyan. Strong relationships between the DART leads, U.S. military commanders, and DOS representatives facilitated effective command and control and resulted in

a well-coordinated, cooperative, and effective response. Additionally, the OFDA DART deployed four military liaison officers at various strategic points, ensuring OFDA linkage to key DoD command and control nodes in the crisis area.

The DARTs identify humanitarian needs and validate requests for DoD support from the affected state and humanitarian community. Military forces were able to respond very rapidly and employ critical enablers needed in the initial days while the government and humanitarian community were organizing and preparing capabilities to deploy.

The U.S. military efforts were, for the most part, highly coordinated by the USAID/DART with little coordination directly with humanitarian mechanisms like clusters and local governments in an integrated fashion. While information was shared, the U.S. military response was highly structured in a fairly rigid manner that helped enforce the primacy of the affected state's government being in the lead and the first "line of defense" in relief efforts, with the humanitarian community serving as the "second line of defense," and U.S. military efforts acting to provide unique capabilities as a "last resort" very much in line with the concept contained in the Oslo Guidelines.

The U.S. approach has been shaped this way by several factors. The main factor is the legal framework which delineates the USAID as the lead U.S. federal agency for foreign humanitarian assistance operations. Additional legal guidelines also govern what the U.S. military can do in a response and what resources and funds can be used. U.S. military operations observed during the Typhoon Haiyan response were fully consistent with this legal framework.

U.S. training and exercises have reinforced a highly structured approach toward civil-military cooperation and military support in foreign disasters. Combined/joint exercises such as the annual Operation Balikatan series in the Philippines have implemented an organization of U.S. military planners which reinforces responses in accordance with this approach.

Recommendation

Sustain USAID/OFDA participation in combined/joint HA/DR military exercises to ensure continuity of understanding of mutual roles and responsibilities in international HA/DR operations. Promote civil-military coordination, HART, and JHOC training.

Issue 2: U.S. Military Response

Observations

- Many deployed U.S. military personnel were unfamiliar with longstanding command, control, and coordination tactics, techniques, procedures, and processes established in the Multinational Forces Standard Operating Procedure (MNF SOP) and the RP-U.S. Military Humanitarian and Disaster Relief Concept of Operations (2009) and exercised in USPACOM Theater Security Cooperation exercises with Allies and partner nations.
- Much of the command and control and coordination efforts by U.S. military forces were influenced by previous training and exercises, but there was a lack of exchange of LNOs/LOs between participating organizations compared to previous HA/DR operations of similar magnitude.

The request for U.S. military support was relayed to the U.S. Department of Defense (DoD) by the U.S. State Department on 10 November and direction was given to USPACOM to conduct relief operations that same day, with orders given to subordinate commands also that same day. The U.S. military was able to respond quickly due to its posturing of many assets throughout the region, particularly military assets based in locations near the Philippines.

The U.S. military response indirectly shaped force deployments and relief efforts by military forces of other nations. USPACOM fulfilled many key response needs based on the number of assets the COCOM deployed, the speed of their response, the tasks they performed, and where they executed operations. Other responding militaries either augmented the efforts of the U.S. military or directed their efforts to areas not covered or inadequately covered by the AFP or other responding actors.

USPACOM initially directed Marine Corps Forces (MARFORPAC), Pacific to lead military relief operations in the Philippines with 3D MEB serving as the tactical mission commander on the ground. U.S. military personnel assigned to Joint Special Operations Task Force—Philippines performing an "advise and assist role" to Philippine Security Forces throughout the Southern Philippines were the first U.S. military personnel to respond on 10 November. The 3D MEB commenced deployment to the Philippines that day and USPACOM ordered deployment of the USS George Washington and elements of Carrier Strike Group 5 to the Philippines.

On 11 November, U.S. military aircraft enabled OFDA DART aerial assessments which provided understanding of the magnitude of the response required to this disaster as well as information about damage to critical infrastructure such as airfields, ports, and land transportation routes. The first shipment of USAID/OFDA relief commodities arrived in the Philippines on 12 November and U.S. military forces began distributing the USAID commodities on 13 November, five days after the storm made landfall, with assets from the aircraft carrier USS

> ***"This was a textbook response."***
>
> *-OFDA DART*

George Washington and CSG 5 commencing relief operations on 14 November.

USPACOM ordered the activation of JTF-505 on 16 November to lead the tactical mission, replacing the 3D MEB. Lt. Gen. John E. Wissler, Commander, III MEF, assumed command of JTF-505, which established operations on 18 November in the Philippines (III MEF is the parent command of the 3D MEB) and reached full operational capability on 20 November. JTF-505 led U.S. military relief operations until the JTF was disestablished on 1 December.

By the time JTF-505 activated for this crisis, almost all OFDA DART requested U.S. DoD assistance had been delivered. The JTF supported requirements established in one final OFDA DART Mission Tasking Matrix (MITAM) to deliver relief commodities. After those MITAM requirements were satisfied, the U.S. military response to this disaster was nearly complete.

After six days of full operational capability, JTF-505 presented a transition confirmation briefing to Adm. Samuel J. Locklear III, commander of USPACOM on 26 November which stated "unique DoD capabilities are no longer required" and recommended mission transition by 1) observing relief operations with U.S. Navy and Marine Corps amphibious forces in an "Operational Reserve" role, able to react to any sudden emergent requirements, and 2) disestablishing the JTF and releasing all major U.S. forces for redeployment by 1 December.

DoD, and USAID/OFDA leaders recognized that the emergency phase of relief operations terminated on or about 26 November. While there was quite a large multinational military effort, U.S. military forces confined their effort to the emergency phase, with U.S. command and control largely conducted out of Manila. Other foreign militaries arrived later and focused a large amount of effort to what could be considered the recovery and rehabilitation stages of the operation with a major focus of all activities in the mission area.

JTF-505 and other supporting U.S. military efforts included more than 13,400 military personnel, 66 aircraft and 12 naval vessels which delivered more than 2,495 tons of relief supplies and evacuated over 21,000 people. Over 1,300 flights were completed in support of the relief effort, delivering goods and services to approximately 450 sites.

Other Foreign Military Support

According to OCHA, on 27 November, military forces from 15 member states were operating in the crisis response area, with more than 25 foreign military aircraft from 11 different member states delivering relief items to various areas. Additionally, 12 foreign naval vessels from four member states supported the relief effort, including the hospital ship Daishandao (also known as Peace Ark in peacetime) from the People's Liberation Army Navy of the People's Republic of China, which was anchored off Tacloban. An additional 10 ships from six countries were enroute to the Philippines. Overall, the capabilities provided by foreign militaries were essential, particularly in the immediate aftermath of the disaster.

USPACOM Approach to Command and Control, Communications, and Coordination

Many of the concepts implemented in the response operations in terms of how U.S. military forces organized with USAID/OFDA vis-à-vis the AFP and the broader disaster response framework of the Philippines are contained in the 2009 USPACOM-General Headquarters of the AFP "RP-U.S. Military HA/DR CONOPS." This concept of operations (CONOPS) is prescriptive in its guidance and is intended to eliminate the ad hoc approaches to U.S. command and control and the organization of U.S. forces in relation to the AFP. This CONOPS has been very useful in ensuring that U.S. forces conducting training or real-world responses in the Philippines understand how broader U.S. Government, and specifically the U.S. military, efforts fit in relative to the Philippines Disaster Risk Reduction and Management System (PDRRMS). While not widely known to many of the U.S. planners initially, the usefulness of the CONOPS was evident when planners began to implement much of the guidance contained therein. The utility of such a document to other potential partners should be examined in order to speed the initial organizing efforts in a response.

Besides describing how the U.S. organizes military forces in relation to the affected state's disaster management and emergency response framework and military, the CONOPS provides for the possible establishment of a Multinational Coordination Center (MNCC) by the affected state's military for large scale or complex response efforts, based on procedural guidance contained in the MNF SOP. The MNF SOP is the product of a cooperative effort by USPACOM and the security forces of 31 nations from within the region, and with support and participation of major allies from around the world. Again, while not widely known to many planners, the usefulness of the procedures, checklists and mission considerations in the HA/DR section of the SOP proved very beneficial.

The Multinational Coordination Center at Camp Aguinaldo, Quezon City, Philippines.

An early morning inside the Philippines Provincial Disaster Risk Reduction and Management Council in Roxas. The Command Center was able to consolidate the UN, World Food Programme, UN Children's Fund, international NGOs and local and foreign security forces into one location, streamlining disaster response.

USPACOM chose not to deploy planners associated with its Multinational Planning Augmentation Team (MPAT) for this response. MPAT personnel have significant multinational military experience and training for exercises and real-world disaster relief operations. The rationale was that if these planners were required that they would be requested but it was not certain that the responding planners knew of the ability to request augmentation by the MPAT planners for either the planning staff or as liaison officers.

USPACOM also opted to initially command its relief operations through a service component command U.S. Marine Forces Pacific, instead of directly activating a JTF as is normally trained and exercised before eventually establishing a JTF. While the various command and control arrangements and the shift between arrangements did not negatively affect the operation, it did not enable a more rapid response. Command and control arrangements that are the optimal for this type of operation should be identified and implemented from the onset, unless there are major considerations which dictate otherwise. The training and education that military planners receive, particularly how they are exercised frequently, should mirror the way the operational forces expect to be organized and conduct operations.

A new method employed by USPACOM was the establishment of an International Coordination Team (ICT) approach by the J3 Directorate of Operations. The ICT was implemented with the intent to coordinate international military efforts without establishing a MNCC, which was not well understood by key leaders at USPACOM in the early stages of the disaster. This was done in spite of the fact that establishment of an MNCC is a coordination action that rests with the Affected State's military.

Since the implementation of traditional and exercised command and control and coordination mechanisms was slow, coordination efforts were never really implemented at the tactical/field level. There were no civil-military operations center-like elements at the tactical level to facilitate civil-military coordination with humanitarian on-site operations coordination centers (OSOCC) and cluster meetings with local government and humanitarian representatives. The required coordination was mostly accomplished through ad hoc arrangements and procedures.

U.S. JTF planners familiar with Operation Unified Assistance, the U.S. response during the December 2004 Indian Ocean earthquake and tsunami, sought USPACOM assistance to establish an effective network for the MNCC once established by the AFP. U.S. JTF planners expected a capability similar to that employed in Operation Unified Assistance, but that was not done.

The U.S. did provide support in trying to set up an effective unclassified multinational sharing capability for the MNCC, but the efforts of All Partners Access Network (APAN) and USPACOM J6 personnel deployed to the Philippines to assist were limited by a lack of dedicated resources. The APAN-J6 team deployed to provide training and technical support, but it was impossible to establish a more capable network comparable to the one established for Operation Unified Assistance when USPACOM MPAT personnel deployed with significant network capability and established a robust multinational unclassified information sharing capability for the Combined Coordination Center (the precursor to the modern MNCC) and the U.S. JTF-536 / Combined Support Force 536. Despite these gaps, the lack of a robust APAN capability didn't significantly hinder U.S. military operations during this response but the degree of multinational information sharing was limited and the slowness in establishing coordination mechanisms meant that cooperation between militaries did not develop much past the stages of information sharing and deconfliction to more advanced levels such as coordination or even synchronization.

Recommendations

Joint Staff and USPACOM should ensure task order and execution order for HA/DR response operation directs familiarity and adherence to standing SOP and CONOPS for HA/DR operations.

Review and update the MNF SOP and "GRP-U.S. Military HA/DR CONOPS" as required to ensure they are consistent with current approved command and control, communications, and coordination concepts for international HA/DR operations.

Consider MPAT deployment to assist USPACOM JTFs deploying to support multinational operations.

Ensure key staff likely to deploy to international HA/DR operations are familiar with the MNF SOP and other key USPACOM CONOPS prior to deployment.

Identify and train individuals for LNO duties prior to operational deployments.

Military command and control headquarters deploy LNOs to improve civil-military coordination with international humanitarian organizations and with participating foreign military forces in accordance with Joint Publication 3-33 (JTF Headquarters).

Since successful coordination the Haiyan response was mainly attributed to prior disaster response training, many experts emphasized, that if the U.S. is to maintain HA/DR as a core mission, then it needs to resource HA/DR through doctrine, training, and exercises, and adequate staff with HA/DR as an area of expertise. Policy and doctrine need to reflect this commitment along with adequate resourcing and further training.

Implications for Future Training and Exercises

Much of the command, control, and coordination efforts by U.S. military forces were influenced by previous training and exercises, but since military personnel are constantly rotating in and out of units, the knowledge of the mission is temporary and requires periodic retraining.

An inherent challenge exists with the temporary nature of assignments of military personnel in higher headquarters and other military units. Since personnel are assigned to a unit or headquarters for a limited time before being reassigned, any knowledge gained through training, exercises, or real-world operations is perishable to the parent organization–there is a continual loss of knowledge and it is often difficult to establish and sustain expertise.

Expertise consists ideally of two items: 1) training and education in a particular topic, and 2) repeated real-world experience in applying knowledge gained through training and education. Since military personnel frequently rotate, it is very difficult to build and sustain expertise. In this case, military organizations must rely on either expertise provided by external organizations that may specialize in the particular mission set, particularly if it is not a mission conducted very often, such as military support to HA/DR.

Some organizations are able to retain expertise through various efforts such as programs and centers that have personnel that have developed and retained expertise in a particular mission area and provide training on a recurring basis to military organizations likely to deploy to an HA/DR operation.

An effective mechanism observed in multiple HA/DR operations is the employment of liaison officers ("LNOs," as referred to by the U.S., or "LOs," as referred to by other foreign militaries). During this operation, there was a surprising lack of exchange of LNOs/LOs between participating organizations.

USPACOM Theater Security Cooperation exercises such as Balikatan (Philippines), Cobra Gold (Thailand), Talisman Saber (Australia), Gema Bhakti (Indonesia), and the Tempest Express series of staff planning workshops program provide opportunities to exercise procedures contained in the MNF SOP for planning a range of missions, particularly HA/DR scenarios. Our sampling found there was limited knowledge by many personnel of the MNF SOP or of other key planning documents such as the GRP-U.S. Military HA/DR CONOPS likely due to the consistent rotation of personnel in military units.

Finally, the employment of subject matter experts and LNOs with HA/DR expertise can greatly assist in building bridges of cooperative effort and trust between organizations of vastly different organizational cultures such as DoD, the international humanitarian community, and foreign partners.

Issue 3: Activation of the CTF 70 (JFMCC)

Observations

- CTF 70 (Joint Forces Maritime Component Commander or JFMCC) provided valuable response capabilities to the relief efforts in the areas of Guiuan, Samar, and Leyte.
- Interagency coordination between USAID and CTF 70 (JFMCC) went well, however, guidance on what type of medical support is allowed to "prevent further loss of life and alleviate human suffering" should be clarified. Principles regarding the provision of medical care by USG responders who arrive at disaster sites prior to any other medical asset or any lead federal agency representative aren't viewed as presenting an ethical dilemma of whether or not to provide medical assistance to disaster victims in need.
- Prepositioning of HA/DR supplies, principally collapsible water containers, in a US military warehouse somewhere in theater to augment DoD assets that normally don't carry those supplies would have allowed for a more rapid distribution of water.

Discussion

On 12 November, CTF-70 was tasked to support the 3rd MEB in the relief effort in the area of Samar, Guiuan, and Leyte. The decision to task CTF-70 was made based on a request for airlift assets. The USS George Washington was the closest available asset with the needed 23 UH-60 Blackhawk helicopters and was directed to leave its port in Hong Kong on 12 November. The USS George Washington arrived off the east coast of Samar Island on the evening of 13 November and commenced initial assessments on 14 November. Minor challenges regarding country clearance were faced but resolved in time to commence relief operations. The carrier air wing commander, in cooperation with the commanding officer of the USS George Washington (who had previous experience in HA/DR missions), relocated fixed wing assets to provide maximum deck space for rotary and tilt rotor operations on the carrier. Also, the USS George Washington was positioned as close as possible to the airfield in Guiuan to facilitate shorter distances for helicopters to ferry supplies from the carrier to shore. Additional CTF-70 ships were positioned in the Leyte Gulf and in the waters west of Leyte Island.

The USS George Washington was also expecting to utilize its organic water distilling plants for the production and distribution of water, conduct evacuation and

The USS George Washington (CVN-73) deployed to the Philippines in order to aid disaster relief and humanitarian assistance through clean water production and distribution, aviation assets military personnel.

U.S. Marines from U.S. Pacific Command give water to Palo residents affected by Typhoon Haiyan on November 23, 2013 as part of Joint Task Force 505.

passenger transfer flights, and serve as an aviation refueling station. Though the USS George Washington's water production plants can provide large amount of fresh water, the aircraft carrier doesn't normally carry large numbers of containers to transport the water. The carrier was able to acquire collapsible water containers from various sources within the task force and from supply points in the theater. The five-gallon containers were also useful, however, even though during the first few days of water distribution, the local population did an excellent job of returning those containers, after a few days not all the containers were returned. This could have been an indicator that the need for water was decreasing or that the local population wanted to keep the containers for storage. A more effective method for immediate area water distribution would have been the use of 2,000-gallon portable water storage devices or "water buffalos."

The first three days of relief operations, the CTF 70 was able to provide 80,980 pounds of food and 2,497.9 (five-gallon) containers of water. After six days of relief operations (14–20 November), CTF 70 was able to deliver 325,225 pounds of food; 95,665 gallons of water through use of five-gallon containers; 3,585 pounds of medical supplies; two water purifiers; 65 empty water jugs; 11,865 pounds miscellaneous supplies; and 16 boxes of tarps. Within the first week, most of the needs had been met. This is a testament to the value CTF 70 provided to the whole relief operation. One lesson learned early on, while relief supplies started coming into the airport at Guiuan, was the need to bring materials handling equipment (MHE) with the CTF 70 ground support element. Though the off-loading of pallets full of supplies was successfully conducted through physically lifting, human chains, and utilizing aircraft moving equipment, the use of MHE dedicated to relief supplies would have expedited off-loading supplies and prevented minor injuries.

On 14 November, the Senior Medical Officer (SMO) from the USS George Washington met with the Philippine Municipal Health Officer, the Hospital Chief, and the Department of Health in Guiuan. At the behest of the Philippine Municipal Health Officer in Guiuan, the SMO sent out health assessment teams to the remote areas of Guiuan and smaller islands to the west and southwest to determine what medical support the carrier could provide. Prior to the arrival of the carrier, Medicine Sans Frontier was the only NGO in the area and was already treating wounded and had set up an emergency birthing facility. On 15 November, other medical NGOs including the IMC were starting to arrive. USAID/OFDA representatives were not present until the third day. The USS George Washington's medical team identified needs that included medications, dressings and other medical supplies. In the isolated areas, medical teams were requested to provide specific medications such as

antibiotics, tetanus toxoid and anti-diarrheal medicines. When these needs were communicated to USAID representatives on the USS George Washington, the SMO was told not to provide medicine because it was in route from other sources. The SMO felt that providing these medications immediately would help mitigate human suffering and possibly save lives, which he expressed was his mission and the ethically right action to take. The medical team also expressed that being told not to provide medical supplies and assistance to victims in need put them in an ethical dilemma.

On 16 November, a USAID advisor arrived aboard the USS George Washington to coordinate relief efforts among the GRP, humanitarian community, and the USS George Washington Strike Group. Prior to his arrival, the logistics officer in charge of the CTF 70 ground support element at the airport was working directly with the Mayor of Guiuan to determine the requirements and the needs of the local populations. After the arrival of the USAID rep, requests from the cluster meetings were received and given to USS George Washington through the USAID representative.

CTF 70 ground support element had excellent relations with the Mayor of Guiuan, Mr. Christopher Sheen Gonzales. CTF 70 ground support element was even able to meet with Secretary of the Department of the Interior, the Secretary of Social Services, and was visited by the Vice President and President of the Republic of the Philippines who thanked them for their efforts. It was this rapport with Mr. Gonzales and the respect he had of the people in his community that contributed to the success of the relief operations on the ground in Guiuan. The logistics officer noted that early on he was given broad authorities and flexible guidance by 3D MEB to "plug and play" aircraft where needed based on the direction of local authorities and the observed needs. Once other organizations joined into the relief mission in that area, a more formalized process was expected and it somewhat hindered the ability to provide aid and meet the needs in a timely way.

Airlift capability was critical for success of this operation and in addition to delivery of supplies there was a need to ferry responders, local leaders, decision makers, assessment teams, medical, and search and rescue teams, around in the helicopter to get them to the places which are inaccessible via roads. Approximately 4-6 aircraft sorties a day were conducted for passenger transport. This made the airport in Guiuan a hub of activity for the relief to the Guiuan, Samar, and Leyte areas. During the first days of the response, most of the affected local population collocated around the fence of the airport waiting to see what incoming relief supplies arrived. An important point that was emphasized by the CTF 70 ground support element was that there were no passenger flights conduct-

Armed Forces of the Philippines members, along with U.S. Marines and sailors, policemen, and volunteers offload relief supplies from an MV-22B Osprey deployed with 3rd Marine Expeditionary Brigade.

U.S. Marine Corps photo by Lance Cpl. Caleb Hoover

ed that did not also carry relief supplies. This was important, ensuring that the local, affected population didn't question that the military was there, first and foremost, to support the relief efforts.

Recommendation

Prepositioning HA/DR supplies in theater for assets which do not normally carry those supplies.

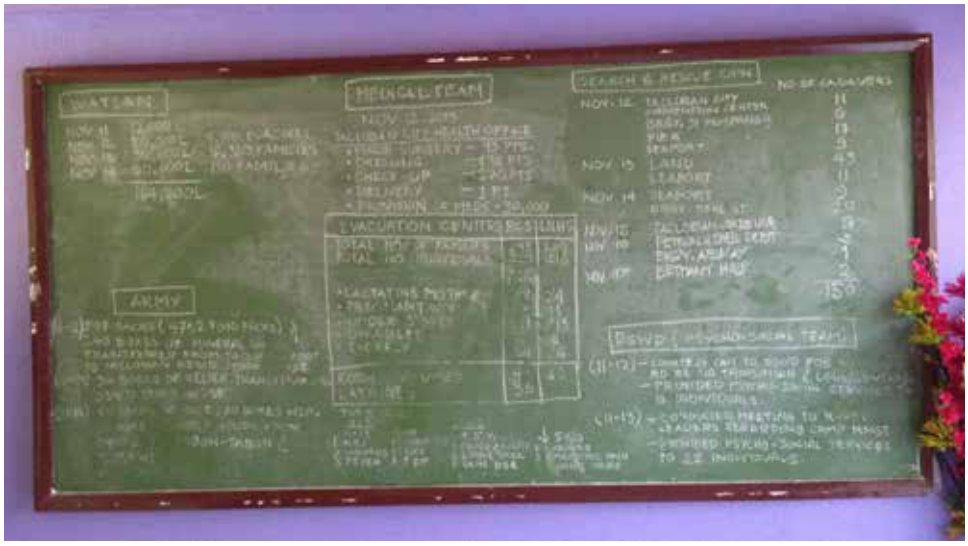
Clarification of the principles of humanitarian relief and medical ethics should be explained during the interagency coordination process and prior to sending troops on the ground. U.S. Military should not consider sending its forces into situations where they are faced with the dilemma of not giving aid to those in need, especially when the military is the first to respond before the Government of the affected state, NGOs, IOs, or USAID OFDA are present.

Use of 2000-gallon portable water containers, "water buffalos," are ideal containers to ferry water from an aircraft carrier to shore and for water distribution. With the water buffalo, collapsible water containers should be provided.

Bring dedicated material handling equipment to the Aerial Port of Debarkation (APOD) logistics hub just for offloading supplies from air assets. Do not assume the airport you are working out of has enough or any working MHE for the initial relief operation.

Debris from Typhoon Haiyan makes reaching remote locations by vehicle nearly impossible.

Conclusion



A chalkboard is used for tracking civil-military relief efforts.

Similar to a comment made by an American general on the coordination process of Operation Tomodachi captured by the RAND Study on Lessons Learned from DoD Disaster Relief Efforts in the Asia-Pacific Region, the Haiyan relief effort could be equally characterized as an impressive unity of effort despite the lack of standard operating procedures and shared communication platforms.

Familiar themes from past relief efforts reemerged; issues concerning the lack of close coordination between national and local relief efforts, the need for resourcing and operational synchronization, and finally, with the exception of Capiz province, the relatively lackluster effort to integrate national civilian and military governmental agencies into the planning and decision-making of international relief coordinating bodies became apparent. Thus, while progress has been made in the Haiyan cooperative efforts among international humanitarian actors, the host government and foreign militaries relative to other recent large-scale disasters, nearly all of the relief efforts could still be largely characterized as bilateral in nature between responders and the affected state.

To improve on DoD's efficiency as a disaster response provider, this study suggests specific ways and ideas to provide a more varied approach to future DoD training and joint exercise scenarios based on Haiyan lessons learned. Some of these suggestions comprise of building more realistic scenarios, for example, the incorporation of existing prepositioned assets in disaster response; the potential use of unmanned aerial vehicle imagery to inform and potentially build a civil-military common operational picture; the need for continuity of operations when the first line of responders become victims of disasters; the potential to use of media in various forms for information sharing; and the need to develop an ASEAN HA/DR protocol as a mechanism for regional cooperation grounded on the actual capabilities of the affected state.

As global response to large-scale disasters demand a multi-layered and multi-faceted approach, the need for connective mechanisms becomes critical. The advantages of deploying military assets with liaisons that have bilingual capability and ability to operate in a transnational multiagency environment are essential. Since successful coordination of the Haiyan response was mainly attributed to prior disaster response training, the advantages of continuously building on informal professional networks among disaster responders helps increase the likelihood of successful synchronization of different institutions working on future disaster response.

The RAND study suggested that because DoD is an occasional participant in HA/DR, many military personnel tend to engage in HA/DR during real-world disasters for the first time. If the U.S. chooses to maintain HA/DR as a core mission, it needs to develop HA/DR as an area of expertise resourced through doctrine, training, exercises, and properly trained staff. But, above all else, DoD policy needs to reflect this commitment.

Suggestion for Future Study

Left out of this study, but clearly important to assess, is the impact of private corporations and remittances from abroad on the relief effort. It is clear that substantial contributions were made, but it is not clear what impact they have had. Similarly, aid delivered directly to the Philippines through bi-lateral government relations is very significant and some suggest even larger than aid delivered through the humanitarian system.

Future reviews of coordination mechanisms should take into account the growing presence of new technologies, and new information and mapping actors operating in the field. The information provided through social media, digital data collection and analysis tools, community and crowd-sourced mapping, and real-time satellite and aerial imagery collects is transforming the humanitarian landscape. Just what impact these new tools, processes, and actors are having on the coordination of relief remains an area for further exploration.

Another important area of future study is the role of drones in needs assessment.

A closer look at the AFP accomplishments and gap capabilities should be conducted, including the newly created 2012 Philippine National Crisis Management Manual born, out of the 2010 Manila hostage crisis. It was used in the Zamboanga crisis and Bohol earthquake, but not after Haiyan, and it may inform future U.S. engagements, trainings, and exercises.

Donor agencies of assisting states played a vital role for some of the responders in varying degrees, based largely on the states' legal frameworks and general modus operandi, especially in responses with significant support by foreign militaries. Interviews with representatives of these organizations would be quite helpful in understanding the dynamics of the situation and the effectiveness of civil-military coordination and military efforts.

The critical role of social media has not been well-understood in Haiyan particularly as it relates to informal networks and grassroots relief and recovery movement.

A study of what occurred outside the road line towns deep into the hinterlands provides a different perspective from the widely seen western media coverage of what occurred in Haiyan.

U.S. Navy photo by Mass Communication Specialist 1st Class Peter D. Blair

Thank you signs line the streets of Tacloban City as U.S. Marines search for locations to set up water filtration systems.

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