EMERGENCY MANAGEMENT INTERNATIONAL: IMPROVING NATIONAL AND INTERNATIONAL DISATER PREPAREDNESS AND RESPONSE

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Abstract

Since 1998 the US Army Corps of Engineers (USACE) has been responsible for managing activities as part of the Civil Military Emergency Preparedness (CMEP) program, a Warsaw Initiative activity in Europe and Central Asia. CMEP supports international partner nations' national and regional strategies related to disaster preparedness and consequence management for all hazards (natural and technological disasters and terrorist acts) including the development and exercising of national and regional plans. Use of available supporting technologies including the Internet, remote sensing, and Geographic Information Systems (GIS), as well as reliable civil-military planning processes, are key components of the program. More than 55 major seminars, workshops, and Table Top Exercises (TTXs) have occurred since the inception of the program. In 2005 USACE developed Emergency Management International (EMI), a program designed to provide CMEP, and a broader range of USACE expertise, globally without the Warsaw Initiative geographical limits.

This paper explains the bases for the CMEP and EMI programs and provides a short review of the evolution of these programs and the services that are offered. We examine necessary conditions for effective disaster planning, preparedness, and response for large disasters requiring national and international coordination and cooperation, and provide examples of the techniques used and outcomes of CMEP activities. The paper concludes with a discussion of a proposed approach to addressing all hazards response for oil-related disasters in Africa and a proposed public-private model to support more rapid development of regional response capabilities.

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Introduction

Following the end of the Cold War, the United States Office of the Secretary of Defense saw a need as well as an opportunity to help improve the capacity of former Warsaw Initiative countries to improve their ability to respond to disasters by providing mutual assistance and developing and strengthening democratic institutions.[3] This was to include developing capable disaster planning, preparedness, and response organizations under civilian leadership outside Ministries of Defense (MoDs), typically within Ministries of Interior (MoI) or other non-defense ministries, often as Emergency Services or Civil Protection Agencies. As an added benefit, this would assist those countries that wished to prepare for membership in the North Atlantic Treaty Organization (NATO) where one requirement for membership involves disaster response outside the MoD.[4]

In 1998 the Civil Military Emergency Planning (CMEP) Program came into existence. The signature activity of this program involved the development and execution of regional (multinational) Table Top Exercises (TTXs) designed to improve the ability of the host country to prepare for and respond to all hazards through fully coordinated response at the national level involving, as required by the situation, civil-military cooperation. In situations where disasters cross national borders, or are of such magnitude that they exceed the capacity of the affected country or countries, CMEP assists in examining issues that must be considered in expediting the international response so that loss of life and damage to property are minimized (e.g., use of standardized messages notifying neighboring nations of disaster events, requests for, offers of, and acceptance of assistance using NATO standard messaging protocols; resolution of international border crossing issues permitting the rapid movement of emergency responders who might be in uniform; and the use of the Internet and Geographic Information Systems (GIS) to facilitate command and control. Strengthening the capability and capacity of such agencies (capacity development) is one step in the strengthening of democratic institutions that may be threatened when a nation is subject to the stresses on civil control that can accompany large disasters affecting a significant percentage of the population and/or large areas. Through the exercise of what are often multiple bilateral relationships with neighboring countries, there are opportunities to examine the need for multilateral relationships and to help develop the network of disaster response officials that will be working together during large events.[5]

Background

The United States Army Corps of Engineers (USACE) has significant experience in assisting with disaster response in the United States and overseas. This is one of the key civil works mission areas for the Corps which is one of the primary agencies for Emergency Support Function #3 (ESF #3), public works and engineering under the United States' National Response Framework (NRF).[6] Typical USACE responsibilities have historically included managing the clearance of debris, provision of potable water and ice, provision of temporary power and roofing, and, in catastrophic disasters, the provision of temporary housing. In addition, the Corps has worked with technologies that can help emergency responders and managers more effectively and efficiently perform their missions: remote sensing, geographic information systems (GIS) and computerized databasing, reporting, and the tabular and graphic display of a Common Operating Picture (COP) to give a faster, more coherent understanding of the situation in the affected area.

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[3] Department of Defense, office of The Inspector General, Joint Warfighting and Readiness, DoD Execution of the Warsaw Initiative Program (D-2005-085)

[4] http://www.nato.int/issues/pfp/index.html

[5] http://www.usace.army.mil/cw/cecwhs/em/cecwhs_em.html

[6] http://www.fema.gov/pdf/emergency/nrf/nrf-esf-03.pdf

This includes the ability to quickly understand the status of specific missions required and being performed, the ability to better identify needs not being met, and enables better command and control. The Corps also has an experienced group of Public Affairs Officers who deal with the media concerning all aspects of USACE business, including media contact during disaster events.

In addition, as the agency with water resource management responsibilities in the United States, USACE has responsibility as part of Public Law 84-99[7] for the management of flooding. This includes: planning for, design, construction and repair of federal levees (dykes); the development of modeling software for water control; and assistance prior to and during flood fighting. This technical capability made the Corps a logical choice for the execution of CMEP, one of the group of activities supported by US Department of Defense Warsaw Initiative Funds (WIF). USACE also has broad ranging interaction with other agencies including the US Environmental Protection Agency (USEPA), US Forest Service (USFS), Center for Disease Control (CDC) , National Aeronautics and Space Administration (NASA), US Geological Survey (USGS), the National Geospatial Intelligence Agency (NGA), the Federal Emergency Management Agency (FEMA), and Department of Homeland Security (DHS), as well as with university, private sector, International and Non Governmental Organizations (e.g., the United Nations Office for the Coordination of Humanitarian Affairs, the NATO Euro Atlantic Disaster Response Coordination Center (EADRCC) and the Organization for the Prohibition of Chemical Weapons[OPCW]), all engaged in supporting disaster-related activities.

CMEP Program Offerings

Helping to build capacity to prepare for and respond to all hazards, CMEP offers a suite of opportunities that build upon each other up to the point where the partner nation hosts a multinational TTX. The activities include: "Disaster Preparedness and Response in a Democracy" Seminars (The New Hampshire Program), Response Plan Development Workshop Series (Lessons Learned and Best Practices), Crisis Management Center Development Workshops, Interagency Crisis Management System/Plans Review Workshops,
GIS Workshops, Regional GIS Workshops and Seminars, Public Information and Communications Workshops, Critical Infrastructure Protection Seminars, Bilateral Table Top Exercises (TTXs), Regional (Multilateral) TTXs, Personnel Exchanges and Participation in US-based Planning Exercises, and Special Topics/Functional Area Seminars.

"Disaster Preparedness in a Democracy" Seminars (The New Hampshire Program)

This series brings participants from newly emerging democracies to the US for a 5-6 day seminar on the democratic process in the US. How disaster preparedness and emergency management is accomplished under our system of government is examined. Participants attend presentations by leaders in local, state and national government on the democratic process in the US and how planning is done by the government. Participants also hear from local, state, national, and private emergency management providers on how planning and response operations are carried out at each level of the government. Additionally, experts from appropriate US agencies and departments present specific information on the US NRF and other relevant response plans and mechanisms. This series is usually hosted by the University of New Hampshire (sometimes referred to as the New Hampshire program) with invitations to participate to the US National Guard Bureau (NGB) State Partnership Program (SPP) partner for each nation. When hosted by UNH, participants take part in NH town meetings as well as visit the State assembly and meet with some of the state's federal elected officials. It is also possible for the NG SPP partners to host the event.

[7] http://www.hwda.army.mil/asacw/relief.asp

Response Plan Development Workshop Series (Lessons Learned and Best Practices)

This workshop series is intended for nations developing new National Response Plans. The workshops focus on the interagency development of an all hazards plan with annexes for specific disaster types occurring in the region. Best practices and lessons learned in US response and the development of the US NRF are used to illustrate the need for a unified plan developed and administered in an interagency environment. The workshop is facilitated by 3-5 emergency planners/experts from USACE and other relevant US agencies and lasts 2-4 days with 1-3 meetings, depending on the current state of planning in the country.

Crisis Management Center Development Workshops

These workshops assist nations in developing a 24/7 Crisis Management Center that can act as a focal point for command and control during a disaster situation. The workshops look at the legal aspects of creating a multi-agency Crisis Management Center and the staffing requirements and Standards and Procedures needed to successfully operate it. The workshop focuses on lessons learned and best practices from the US and other NATO allies with emphasis on the Nation Response Coordination Center (NRCC) Standard Operating Procedures used in the US. These workshops integrate plans and procedures from the nation's National Response Plan to create a Center for Command and Control activities during disaster response. The workshops are facilitated by 3-5 experts from USACE and other relevant US agencies for 3-5 days. An additional follow up workshop on implementation can be scheduled for 2 days with 3-5 facilitators, depending on the needs of the nation.

Interagency Crisis Management System/Plans Review Workshops

Similar in scope to the Response Plan Development Workshops, these workshops are designed to assist nations that either already possess an all hazards response plan, or are currently working on one to improve disaster preparedness and response capabilities and to develop the Standards and Procedures necessary for implementation of the plan. The workshop involves hands-on work by interagency participants who review, evaluate, and improve existing response plans and address necessary capabilities. This workshop lasts 2-4 days based on the strength of existing plans and work needed to update them. In some cases a follow up workshop of 2 days can be scheduled to assist in implementation of recommendations.

GIS Workshops

GIS workshops are bilateral or multilateral events that assist nations with developing the GIS skills necessary to develop databases, collect and analyze data, produce maps, perform consequence analysis, and better manage disasters. The workshops bring 2-4 GIS experts to the nation to assist in defining data requirements and identifying procedures for GIS integration into disaster management activities. Facilitators evaluate and assist national GIS experts in improving competencies including the ability to provide information to national decision makers during a crisis as well as to increase the flow of data and information between the nation and NATO allies and partners. Additionally, the GIS experts evaluate the adequacy of available hardware for installation of GIS software and peripherals and make recommendations concerning possible upgrades. Workshops are 4-5 days in length and can be developed based on the needs of the nation(s) and the existing level of expertise. Workshops can be conducted in country or in Germany at the USACE Europe District's International Engineering Center in Wiesbaden.

Regional GIS Workshops and Seminars

These are similar to the standard GIS workshops in scope but aimed at the countries in a region. This type of workshop focuses on developing regional databases of response assets and the development of GIS capabilities that can be used during response to a disaster of regional

significance. Facilitators assist GIS practitioners from participating nations in developing geospatial and other disaster-related data consistent with NATO standards and international usage to facilitate information exchange between participating nations, NATO EADRCC, UNOCHA, and other relevant international bodies.

Public Information and Communications Workshops

These workshops are designed to help nations interact with the media during disasters. Focus is on availability of information to media operating on a 24/7 news cycle. Issues considered include whether all information should be immediately released, how to interact with a free press, and practice in media interactions including techniques for interviewing. A video camera is used to illustrate potential pitfalls and provide immediate feedback on the perception of different modes of interaction. Workshops are 3-4 days in length and are developed based upon the needs and existing level of expertise.

Critical Infrastructure Protection Seminars

These seminars assist participants in addressing considerations essential to the identification, assessment, and ranking of vulnerabilities, and discuss approaches to reducing the consequences of challenges to structures, drawing upon the extensive USACE experience in critical infrastructure protection. Topics covered include assessing risk, identifying the security that is necessary to provide protection from specific hazards, and identification of a range of protective measures including fences, gates, locks, lights, sensors, alarms, and structural hardening. Anti-terrorism Research and Development is discussed for areas including threat definition, blast effects, damage prediction, decision aids, regional monitoring, consequence assessment, a variety of structural alternatives, and recovery measures. Self-healing and self-diagnosing buildings are also discussed.

Bilateral Table Top Exercises (TTXs)

This exercise option can be used to assist nations in exercising new or revised response plans. Facilitators assist in developing scenarios to test the plans and "train the trainers". This allows national experts to develop exercises to increase capability and improve response functions as well as to evaluate existing plans and procedures. This type of exercise is scalable, but generally involves 2-3 experts attending 2 2-3 day planning sessions and an additional 3-5 facilitators at the TTX. Facilitators are exercise and Emergency Management experts from USACE and other pertinent agencies. Additional expertise is obtained through the participation of NATO, the UN and other international agencies. National Guard SPP participation is encouraged for these events.

Regional (Multilateral) TTXs

Similar to the bilateral TTXs, these exercises involve a regional group of nations, focusing on national and regional/international response activities. This type of exercise is linked to the international agencies that would be involved in disasters of the type being exercised such as NATO EADRCC, UN-OCHA, and others, and works to increase regional response capability and information exchange between regional partners. GIS use is an important part of the regional exercises and is stressed. This type of exercise is facilitated by 3-5 planning and exercise experts from USACE, SPP, and other relevant US agencies plus 1-2 GIS experts and involves a series of planning events (1 2-3 day with host nation and 1 2-3 day with all participants) followed by a TTX facilitated by 5-7 planning and exercise experts and 1-2 GIS experts during a 3-5 day event.

By participating in as many of these series of events as is necessary given the host country's capability, the TTX provides the opportunity to examine its readiness through a scenario of its choosing. Evaluators observe the play of participants during the phases of the exercise and

conduct a rapid evaluation at the end of the exercise to enable each participating country and agency to provide initial impressions as to where tested policies and procedures were adequate and where additional work may be required. This is followed by a more detailed After Action Report (AAR) which specifically addresses both areas where plans and procedures were adequate and areas where improvement may be required. Host nations then have the opportunity to modify aspects of their response mechanisms and to test the new approaches through another TTX. This would typically be followed by a Field Exercise (FX) that might be conducted in conjunction with NATO, the Combatant Commands, the SPP, or some other entity. Other activities also possible in CMEP include:

Personnel Exchanges and Participation in US-based Planning Exercises

National delegations can be invited to exchange personnel during US response operations to gain experience in the response process and see first hand how the US response system operates. This type of exchange is beneficial to countries with existing plans seeking to develop strategies to improve their existing capabilities. Similarly, national delegates can attend US-based planning exercises to see the planning process in action. This type of exchange will be very beneficial to countries with existing response plans that are interested in improving the planning process to prepare for disaster response operations. Operational or Planning Exercise exchanges involve bringing 3-12 national response experts from the nation to the US for 5-7 days. Travel is coordinated through and with the approval of the US embassy in the host country.

Special Topics/Functional Area Seminars

Special topics or functional area seminars can be developed to address specific needs of countries that have requested assistance with specific issues related to disaster response, planning, or Humanitarian Assistance operations. Time and scope of events will depend on subject area. Most involve 3-5 subject matter experts traveling to the host country for 3-5 days to address the specific issues requested by the country. Facilitators are selected from US agencies and organizations as determined by the subject area requested by the nation.

Program Results – Black Sea Initiative

One CMEP component is the Black Sea Initiative (BSI) which involves the littoral nations of the Black Sea (Romania, Bulgaria, Turkey, Georgia, Russia, Ukraine, and Moldova) with Armenia and Azerbaijan as observing nations. The focus of this activity is protection of the populations of commercial port cities from acts of terrorism through improved consequence management. Regional TTXs are used with scenarios developed by the host nation in consultation with the other participants. Each activity typically involves an Initial Concept Meeting between the host nation and the CMEP team, and Initial and Main Planning Conference, a Final Planning Conference, and the TTX.

Since the techniques for the management of the consequences of a disaster tend to be similar regardless of whether the cause of an event is a natural or technological disaster or an act of terrorism, and to enable each event to provide the maximum benefit to the involved nations, most CMEP scenarios have multiple components. This usually necessitates the participation of several ministries and agencies as required to deal with the consequences of the scenario selected. A typical scenario might involve a chemical spill, a natural disaster, and a terrorist act that occurs during the chaotic situation surrounding the natural and technological disasters.

In the BSI TTX “Tomis 2005” held in Constanta, Romania, in September 2005, the Romanian government wanted to test new procedures for dealing with epidemics. The scenario involved a terrorist release of smallpox at a Constanta meeting of Black Sea captains of the port. The

participating nations had to control the outbreak when the captains became ill after returning home, as well as address the regional and international coordination that would be required if such an event were to occur. Romania used the techniques that were tested in the TTX a few weeks later to deal with 3 outbreaks of avian influenza that occurred in the Danube Delta. Techniques that also were tested during the exercise were used the following year when Romania assisted Bulgaria fighting summer forest fires.

We are confident that realistic events are the basis for the scenarios that are used in CMEP TTXs, and that the skills developed and policies and procedures tested are pertinent to the needs of the emergency management agencies in the Partnership for Peace Partner nations. Current activities in the Balkans, Caucasus, and Central Asia include an emergency operations seminar and TTX in Armenia, support of the South Eastern Europe (SEE) CMEP Council meetings hosted by Turkey, the chair of the SEE CMEP Council this year, the BSI TTX hosted by Moldova, and New Hampshire Program activities involving Uzbekistan and Turkmenistan. A GIS workshop was held for the Ministry of Emergency Services in Uzbekistan and a regional GIS Workshop was held in Macedonia, both in last September.

Emergency Management International (EMI)

We are now expanding the CMEP concept from its Warsaw Initiative countries geographic restrictions to a global program, Emergency Management International (EMI). This has been made possible through the approval of a Concept Plan for EMI by the Department of Army in June 2006 and the funding of staff beginning in 2008.

EMI's first proposed activity is focused on oil in the Gulf of Guinea. Oil has the potential to be involved in disasters of all types: oil spills can be the result of natural disasters such as earthquakes; oil spills or toxic plumes may be the result of technological disasters; and acts of terrorism can be aimed at multiple points in the oil production, refining, and transportation sequence. Global oil production occurs in a wide range of locations presenting a variety of environmental challenges. Riverine and coastal areas, high latitudes, national wild life refuges, and heavily populated areas are some examples.

A trip to Ghana and Nigeria during the summer of 2007 was the initial attempt to involve some of the nations of the Gulf of Guinea Council in EMI seminars, workshops, and TTXs. It is the intention of EMI to conduct such activities in conjunction with the growth of the US' new Combatant Command (COCOM) for Africa (AFRICOM) which will have a focus on humanitarian response on the continent. We also intend to have the significant involvement of the oil companies that are involved in the area.

As we progress with the development of EMI, it is anticipated that public-private partnerships will become a key component of the delivery of services in the form of support from the private sector for at least part of the cost of building planning, preparedness, and response capabilities focused around particular industries. It is clearly in the benefit of citizens, the public and the private sectors to be prepared to respond to disasters as quickly and as efficiently as possible, minimizing the impact of events on both the population and the infrastructure of the affected area. By engaging with the private sector, it will be possible to reduce costs and increase the delivery of CMEP/EMI services to countries that may benefit from them.

Conclusion and Recommendations

CMEP and EMI provide a useful and viable way to help build the capacity of nations to respond to all hazards: natural, technological, and acts of terrorism. Through workshops and seminars

designed to strengthen capabilities both within nations and in the regions that they are part of, civil protection agencies, Ministries of Defense, and the other ministries and agencies necessary to prepare for and respond to large disasters can be better prepared to meet the needs and expectations of their citizens. Through participation in TTXs and the incorporation of lessons learned through After Action Reports, responsible agencies and ministries can work to strengthen capabilities in areas where deficiencies have been identified during exercises. By participating in multinational exercises, agreements, coordination, and cooperation can be tested so that nations within a region will be as prepared as possible to provide assistance when a real event occurs. Once results from TTXs are deemed adequate after testing in the relatively low cost environment of Table Tops, Field Exercises can be conducted. In the process of improving the capability and capacity to respond, democratic institutions should be strengthened as part of improved civil-military cooperation.

By expanding the partnerships involved in conducting CMEP and EMI events from the public to the private sector, it should be possible to more rapidly improve the ability of nations to respond to large events caused by any hazard. Through increased involvement of nations within regions in the development of plans and the testing of those plans through exercises, it will be possible to reduce the impact of such events on populations that would otherwise suffer even more from their consequences.

To further improve the capacity of participating nations to prepare for and respond to all hazards, we recommend the following:

1. The continued pursuit of public-private partnerships that will enable more CMEP and EMI events in more nations. Events will be focused on the intersection of the interests of each partnership.
2. Active interaction with AFRICOM as an opportunity to pursue capacity development with a Combatant Command where Humanitarian Assistance is a key focal area.
3. Fostering continued strengthening of regional relationships and increased transparency in the exchange of data and information necessary for effective disaster management, including the development of geospatial data and tools.
4. Continued emphasis on networking: inter-ministerial, civil-military, and regional.