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Caribbean Engineer and Environmental Conference

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The Command Engineer Office, United States Southern Command (USSOUTHCOM), with collaboration from the United States Army War College's Center for Strategic Leadership, conducted a successful four day Engineer and Environment Conference between 2 and 5 September 2008 in San Jose, Puerto Rico. The purpose of the conference was to foster cooperation between United States Government (USG) agencies, the civilian and military leadership of Caribbean states, and the academic community on environmental engineering issues and disaster response activities.

BACKGROUND

Environmental issues are critical variables in state stability and governmental legitimacy. However, within the nations of the Caribbean most of the government agencies responsible for environmental engineering and disaster response lack adequate staff and resources to fully address their complex missions. Due to their high degree of organization, technical expertise, planning and management skills, and organic equipment, the military has the ability to provide much needed support to these civilian agencies during natural and manmade disasters. Therefore, addressing these critical security issues through military support of civil authorities creates a low cost–high benefit resource for civilian governments.

Within the new democratic model of security, the military/security forces and civil engineers have been given additional missions in the important fields of engineering, environmental management, infrastructure vulnerability, waste reduction, environmental impact assessments, and disaster management. The military can be most effective combining efforts with non-governmental organizations, international organizations, and civil authorities.

An effective partnership with the military can assist in the building of stronger capacities in vital institutions and organizations and can be accomplished as part of a well developed security cooperation program in the region.

OBJECTIVES

The objectives of the conference were to:

- Create a lasting Environmental Security Cooperation Program with the Caribbean states and between USG agencies that will enhance regional cooperation and capabilities in environmental engineering and disaster preparedness
- Provide a free exchange of ideas on how military/security forces can cooperate with civilian authorities to address environmental engineering and disaster response issues.
- Encourage cooperation between the military, governmental and non-governmental organizations, the academic sector, and international organizations to efficiently manage resources and enhance environmental security capabilities
- Identify ways to improve the USSOUTHCOM Participating Nations Network (PNN) website
- Design a follow-on Environmental Security Training workshop for 2009 and make it valuable to the Caribbean nations
- Identify ways to improve the USSOUTHCOM PNN website
- Continue to foster a dialogue with a follow-on Environmental Security Training workshop to be developed in 2009

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CONFERENCE SCHEDULE

The Caribbean Engineer and Environmental Conference was conducted at the El San Juan Hotel in San Juan, Puerto Rico, September 2-5, 2008. The event was sponsored and hosted by the USSOUTHCOM Engineer Office and conducted by the Center for Strategic Leadership. Invaluable support was provided by the United States Geological Survey (USGS) and the University of Puerto Rico-Mayaguez (UPRM).

Participants included representatives of the military and civil works agencies from the islands of Antigua, Barbados, Dominica, Dominican Republic, Trinidad & Tobago, Grenada, Jamaica, St. Kitts, St. Lucia, St. Vincent, and Puerto Rico. Bringing together all these participants from the islands represented a success in and of itself, considering the weather conditions in the region at the time of the conference from Hurricanes Gustav and Hanna. This was the first regional event of this kind organized by the USSOUTHCOM Engineer Office since the 2005 USSOUTHCOM Environmental Security Training Workshop in Costa Rica.

Presentations were made by delegates from each country, experts from the Center for Strategic Leadership, United State Geological Survey, USSOUTHCOM Science and Technology Office, Puerto Rico Environmental Quality Board, and the Tropical Research Center from the University of Puerto Rico-Mayaguez. These presentations provided a wide range of insights and collaborative ideas on environmental security, tools for disaster management, environmental engineering, health concerns, indicators of sustainable development, and natural disaster partnerships.

HIGHLIGHTS FROM THE PRESENTATIONS

There were several important areas discussed throughout the conference. Highlights of the most important issues and challenges discussed during the presentations include the following:

- There was considerable discussion on how decisions are made but very little on the tools available to assist in the decision-making process
- Preparation and staying informed are keys to good planning and preparation
- Prior to an emergency it is necessary to establish a chain of command and identify national and local leaders
- Environmental issues were recognized as key areas to be included in the decision-making process
- All organizations need to reflect on how to better manage environment threats
- There needs to be a greater focus on disaster risk prevention rather than disaster management: it is key to being pro-active instead of reactive
- “Today’s problems are tomorrow’s crises”
- Collaborative efforts in environmental engineering and disaster management should be a primary consideration for every nation and engineering activities go beyond “constructing something”
- It is imperative to have trained engineers to inspect and classify structural damage after disasters occur
- Building partnerships is tantamount to resolving regional issues
- Lines of communications between the commands need to be clear during emergencies
- The Caribbean region needs to pay attention to other natural disasters beyond hurricanes, such as earthquakes, pandemics and volcanic events

WORKING GROUPS

The twenty-two participants were divided into two working groups over the course of two days. Each group was tasked to discuss strengths and challenges regarding environmental engineering issues in relation to disaster response program, explore ways to improve the PNN website and make it user friendly. and provide ideas and identify topics for the next conference.

RECOMMENDATIONS OF PARTICIPANTS

The participants were very engaged during the question and answer periods following each presentation, as well as during the working group discussion periods. The following observations represent the collective findings of the groups as a whole:

STRENGTHS:

- Current public education programs and alert systems are good, and personnel and agencies possess the ability to learn and implement policies and procedures regarding disasters
- There is good use of local and regional expertise in dealing with disaster preparedness and response
- Most of the countries in the region have effective legislation that enables them to enforce disaster preparedness and response procedures
- Populations feel pride in their natural resources while the private sector demonstrates a willingness to assist during emergencies
- Effective regional response mechanisms exist, such as the Regional Security System (RSS), the Caribbean Disaster Emergency Response Agency (CDERA), the Caribbean Disaster Relief Unit (CDRU), and the National Disaster Management Agency (NDMA)
- Strong environmental compliance mechanisms are in place to guide the efforts of international donors

CHALLENGES:

- A better balance needs to be achieved between economic development and environmental security
- All countries face political interference that challenges efficiency
- Bureaucracies represent a barrier that must be worked through or improved in terms of responsiveness
- New technology is needed in all areas of disaster preparedness
- Develop strategies to reduce resistance from communities to comply with procedures (i.e. evacuation) and advisories
- Political difficulties complicate the enforcement of legislation that deals with required public actions during disasters
- Response to environmental issues is slow at the governmental and public levels
- Competition for limited resources challenges disaster management activities
- Information sharing needs to be greatly improved
- There needs to be greater definition concerning the shared responsibilities that must be achieved
- There is a regional need to learn about other types of disasters; i.e. tsunamis, earthquakes, and volcanoes
- Officials must develop ways to overcome communication problems between civil and military assets
- Overall structural vulnerabilities of buildings and infrastructure must be addressed
- Natural resource management in the region must be improved
- Better sewage management techniques and infrastructure must be achieved
- There needs to be better procedures and greater capability for the general areas of damage assessment, improved land use and coastal planning, the reduction of ground water pollution, and overcoming lack of community involvement.

RED DE LAS AMERICAS: USSOUTHCOM has established a PNN website and provided each country with a password to freely access this site and share pertinent documents and information. The participants were very pleased with this initiative for information sharing and suggested the following to improve the site:

- Add an adaptive planning framework
- Enable GIS access through the website
- Consult with colleagues in each country, and post their comments/recommendations in the blog

FUTURE TRAINING: The attendees suggested the following topics for consideration: training on the use and capabilities of technology; damage assessment techniques; multi-hazard risk management; alternative sources of energy; simulation exercises; practical applications of technologies and tools; quantification of disaster damage costs; sustainable development in the Caribbean; and assistance programs managed by USSOUTHCOM. They also suggested inviting representatives from the national and regional disaster units and organizations, members of various ministries, and representatives from health organizations, like the Pan American Health Organization (PAHO).

CONFERENCE EVALUATION

Immediately prior to the end of the conference, the participants completed an anonymous evaluation of the event. This evaluation assessed presentations by topic experts, presentations by each country, productivity of the conference, thoughts on working groups, conference logistics, and topics they would like to include in the next conference. All of the attendees returned the conference evaluation, which allowed for greater validity of their responses. Significantly, all of the participants rated the conference as PRODUCTIVE while 78% indicated that the conference was VERY PRODUCTIVE.

There was a general observation that the presentations by the speakers were especially valuable. Attendees were particularly impressed with the round table held by the representatives from the University of Puerto Rico-Mayaguez that addressed their Engineer Research and Development Center for natural and technological disaster partnerships.

The participants found great value in the presentations given by each country on their collaborative efforts in the fields of environmental engineering and disaster management activities. They stated that these provided an excellent opportunity to share experiences and learn from each others' mistakes. These presentations, as well as those from the topic experts, also provided a sound basis for discussions during the subsequent breakout working groups.

Looking ahead, the attendees recommended conducting regional audits in the near future to ensure environmental and engineering standards are met, as well as conducting inter-regional simulation exercises to increase regional coordination and efficiency.

The participants found great value in each country's presentation on collaborative efforts on environmental engineering and disaster management activities, in that they presented an opportunity to share experiences and learn from others' mistakes. These presentations, as well as those from the subject matter experts, provided a sound basis for discussions during the working groups. For the near future, the attendees recommended having regional audits to ensure environmental and engineering standards are met, as well as conducting inter-regional simulation exercises.

The participants of the Caribbean Engineer and Environmental Conference all concluded that the event was most valuable and welcomed a follow-up workshop scheduled for the spring of 2009.

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