

## **Joining Global Efforts in Post-Disaster Recovery and Reconstruction**

*Sunday, February 20, 2011: 8:00 AM-9:30 AM  
145B (Washington Convention Center)*

Natural disasters come in many shapes and sizes. Most are related to the weather. Some are predictable like a hurricane. Some, like an earthquake, surprise us. What is certain is that they cause more fatalities and notable/irreversible damage in developing countries than anywhere else. According to the International Monetary Fund (IMF), the costs are now 15 times greater than in the 1950s, the number has increased 400 percent since 1975, and one-third of the world's population has been affected over the past 10 years. The phase that follows immediate humanitarian aid is critical, but this may be precisely when the world's watching public loses interest. Often, the resources needed for reconstruction may well exceed the capacity of affected countries. This is why the United Nations, World Bank, and the European Commission are joining their efforts and resources. This session will explain the dynamics behind this emerging process and the details of the Joint Declaration for Post-Disaster Needs Assessment and Recovery Framework (PDNA). Speakers will evidence how combined efforts, for example in Haiti, are already speeding up recovery. In particular, they will provide insights into how shared advances in geospatial and information technologies are key tools to develop the data, assess the damage, and disseminate the results to all stakeholders in the PDNA process. The session will be a timely forerunner to two international workshops taking place in 2011 on this theme.

**Moderator: Stephan Lechner, European Commission, JRC Institute for Protection and Security of the Citizen**

Speakers:

**Stuart Gill, The World Bank**

*The Post-Disaster Needs Assessment Process: Model, Tools, and Recommendations*

**Francesco Pisano, United Nations Institute for Training and Research (UNITAR)**

*The Role of Geospatial Information in Post-Crisis Damage Assessment*

Humanitarian response can be viewed as an opportunity to launch processes to better achieve longer term development using the momentum provided by reconstruction and disaster risk reduction after large natural disasters. This is a brief account of how technology, inspiration and collaboration were used to quickly assess the damage caused by the Haiti earthquake in January 2010.

In less than a minute, this event levelled approximately 20 percent of the buildings in greater Port-au-Prince; killed close to a quarter of a million people;

injured as many; and left over a million individuals homeless. This event ranks as one of the deadliest earthquakes of the 21st century. This event will also be known as one of the first events where remote sensing technology and analysis of high-resolution imagery was embraced at such a large scale in a real operational sense.

From the very outset of the disaster, high-resolution satellite imagery was available through commercial companies. The analysis of this data by the UNITAR Operational Satellite Applications Programme – UNOSAT provided the first glimpse of the devastation caused by this earthquake and helped national actors and international agencies to better organize and coordinate rescue efforts. The rapid mapping effort soon developed into a large scale effort to determine the extent and impact of the disaster. An innovative and unprecedented partnership was created between UNITAR/UNOSAT, the European Commission Joint Research Centre (JRC) and the World Bank supported by the Global Facility for Disaster Reduction and Recovery (GFDRR) with participation from the private sector and the national authorities in charge of geospatial information in Haiti.

The result was an integrated large scale damage assessment for the entire area affected in which each building damaged was accounted for and included in databases then put at the disposal of national authorities and field teams. The role of field teams and in particular the Haitian people was of strategic importance in creating the first assessment in which technology provided the main basis of knowledge for determining the impact of a catastrophe of this size.

Today as Haiti rebuilds itself, its government, citizens and its technical agencies can rely on larger than ever geospatial data, a more complete knowledge base of its territory, and enhanced capacity to harness technology to face the fundamental problems of territorial development. This is in a nutshell the power of a strategic partnership founded on technology but resolutely aimed at changing the policy of planning development: we had the technology AND we used it. Together and in context.

**Delilah Al Khudhairy, European Commission, JRC Institute for the Protection and Security of the Citizen**

*Technological Advances and Challenges for Operational Post-Disaster Damage Assessment*

The Haiti earthquake marks a new era in the way ICT is used in operational crisis management-CM. The rapid advances in ICT technology i.e. Earth Observation, are impacting the quality and quantity of information during the emergency response and recovery phases. These advances mean we must pay more attention on striking a balance between facilitating the work of humanitarian relief, emergency rescue and recovery communities, and the risk of having less knowledge at the expense of more information.

In Haiti alone, hundreds of email messages were exchanged amongst the disaster response community; through crowd source technology, hundreds of volunteers were mobilised globally to rapidly assess the level of building

damage; hundreds of information map products were produced by various entities; high-quality imagery available in near real-time was a key factor in the success of the Haiti response.

Haiti showed that in addition to the contributions of traditional communities engaged in crisis response, its citizens also made contributions towards damage assessment, thereby shifting the familiar balance from impacted communities at the receiving end of aid and information, to one in which impacted communities are empowered and actively engaged in the CM process. The crowd sourcing/social media and collaborative analysis/mapping technologies used in Haiti mark the start of a new era in crisis management. The era of "citizen or community crisis management". Time will tell if the new marriage between technology and the citizen has a sustainable future.

Today, the CM community lives in an increasingly complex information and technological world. Interactive/real-time and high quality information and platforms are edging in on traditional damage assessment methods, but many challenges and problems have to be solved before traditional methods become relics of the past. We cannot afford to have less effective responsiveness/recovery from disasters, whilst advances in technologies and the way they are used outweigh the benefits they can bring.

The trilateral technical partnership between the European Commission-Joint Research Centre, UNITAR/UNOSAT and the World Bank is making a notable joint effort to ensure that future damage assessments for post-disaster response and recovery are consistent, combinable and trustable. The effort includes establishing standard operating procedures, standard damage definitions and scale based on remotely-sensed imagery, and validation protocols. Validation and Trusted analysis are more critical than before to creating value and trust in knowledge in operational crisis management.