Title	***Creative technologies in support of emergency and humanitarian response - space-based information for crowdsource mapping***
What?	Preparedness and prioritization; data licensing; data scramble; decision-makers' needs; impact evaluation; volunteer management; efficient ways of (self-)coordination; the way ahead
How?	Workshop and pilot project
Why?	Recent dramatic advancements in technologies have now made it possible for crowdsourcing communities to provide increasing support to disaster preparedness and emergency response efforts. The recognition that an approach inclusive of all stakeholders is needed to ensure that the prevention and response measures are effective, make very timely this platform.
How much?	**USD 290,000 / 1 yr**

UNITED NATIONS
Office for Outer Space Affairs

Technical Cooperation

Concept note

OOSA/FRT/CN/2006-07

Title	***Creative Technologies in support of Emergency and Humanitarian Response - Space-based Information for Crowdsource Mapping***
Implementing Section/Programme	United Nations Office for Outer Space Affairs
Participating Government(s)	To be defined
Partners	Private and public sector stakeholders interested in the topic
Duration	One year
Estimated budget	USD290,000
Proposed funding source	Voluntary contributions by Member States as well as by Partners

Summary

In the aftermath of the devastating earthquake that hit Haiti in January 2010 the relevance and central importance of a newly formed dynamic community was impressively demonstrated on a large scale. Hundreds of experts from all over the world joined forces in a variety of professional and volunteer networks to provide support in deriving crisis mapping products. For the first time also, crowdsourced data, using GPS enabled phones and the internet, was widely used for the generation of information and the production of maps to support emergency response efforts, largely based on space-based information. Experience has shown that an enormous wealth of information was made available but only a fraction of it has actually been used on the ground.

Recent dramatic advancements in technologies have now made it possible for Volunteer and Technical Communities (V&TCs) such as OpenStreetMap, Ushahidi, Sahana, CrisisMappers, Virtual Disaster Viewer, Google MapMaker, INSTEDD and others to provide increasing support to disaster preparedness and emergency response efforts. Important cornerstones of this virtual effort are the possibility to access and take advantage of satellite imagery as well as the use of other space-based technologies such as telecommunications satellites and global navigation satellite systems. Taking note of the need to connect these pioneering communities with the space industry as well as the disaster management community, UNOOSA's UN-SPIDER Programme carried out out a one-year project ("Space-based information for Crowdsource Mapping") aiming at identifying specific actions that could ensure a closer cooperation.

Two expert meetings were organised in 2011: the International Expert Meeting on "Crowdsource Mapping for Preparedness and Emergency Response", Vienna, 5-6 July 2011 and the Second UN-SPIDER International Expert Meeting: Crowdsource Mapping for Preparedness and Emergency Response, Geneva, Switzerland, 16 November 2011. Both meetings were organised with the support and cooperation of the Government of Austria and Secure World Foundation. A very successful Samoa Simulation Exercise was also organised as part of the project.

Objectives

Crowdsource mapping is by nature an interdisciplinary field bridging many areas of expertise, including the need to access and use space-based technologies. In order to understand how such technologies can contribute to the work of the V&TCs there is a need to better define how the many fields come together to support crowdsource mapping activities, and more specifically the common questions being asked by all those getting involved. Bringing together the three communities (crowdsource

mapping, disaster management and space technology communities) to brief about their fields of expertise provides an opportunity to understand better the questions being asked and how space-based technologies could contribute to solving them.

Issues that need further discussion include **1) Preparedness and prioritization** – referring specifically to the need that geospatial data be readily available to support any disaster event; **2) Data licensing** – ensuring satellite imagery is made available to the V&TCs to support their work, **3) Data scramble** – contribution to the definition and compilation of available geospatial data during a crisis. **4) Decision-makers' needs** – contributing to understanding and defining the specific needs of the end-users, more specifically those in charge of making the decisions, **5) Impact evaluation** – ensuring feed-back to the V&TCs, and **6) Volunteer management** – bringing together all those willing to volunteer their time and involving them in meaningful activities that do contribute to the decision-making process.

Also there is a need to build upon the results of the first simulation exercise organised in Samoa by organising a second similar one. Such a simulation exercise will provide an opportunity to focus on the need to prepare geospatial data and involve and coordinate with local decision makers and end-users. Also, satellite data providers will have an opportunity to get involved in the acquisition and sharing of space-based data. Feedback provided by the end users, the results and the lessons learned will be disseminated widely. Local bodies should actively participate in the simulation together with individual experts, concerned organizations and the private sector. A second simulation focusing on the Kingdom of Tonga is being proposed as part of this second proposed project.

Activities and Outputs

As part of this technical cooperation a workshop is being proposed aiming at providing a bridge between the three communities and focusing on the topics raised above:

a) the community that acquires and disposes of the data, including space agencies and also ordinary citizens who can get involved by participatory data aggregation (crowd-sourcing);
b) the community that adds value to the primary data and create information by producing maps in both a traditional or creative/inclusive way (e.g. crisismappers); and
c) the end-users of the information on the ground that respond to emergency events.

The planned workshop will bring together a total of 120 decision-makers, experts and developers from the above communities and will enable exchange and coordination while taking advantage of all available opportunities and focusing on those innovative mechanisms that allow for spontaneous participation on multiple levels and more specifically how access to space-based information can contribute to this process. This includes taking advantage of innovative communication channels, social media as well as creative mechanisms such as citizen cartography and to link them with additional means of data aggregation such as space-based information.

Additionally a second simulation exercise will be organised and carried out in the Kingdom of Tonga.

The intended outcome of this technical cooperation is a report which will summarise the findings stemming from the workshop and the simulation exercise and which will firmly identify approaches and operational procedures in order to reap all the benefits of accessing space-based information.

Topics to be addressed include:

- Preparedness and prioritization;
- Data licensing;
- Data scramble;
- Decision-makers' needs;
- Impact evaluation;
- Volunteer management;
- Efficient ways of (self-)coordination; and
- The way ahead.

Relevance

Recent dramatic advancements in technologies have now made it possible for crowdsourcing communities to provide increasing support to disaster preparedness and emergency response efforts. Also, the recognition that an approach inclusive of all stakeholders is needed to ensure that the prevention and response measures are effective, make very timely this platform.

Proposed Budget

Description	**Total**
Project Post	130,000
Technical advisory services	40,000
Travel support for experts from developing countries	60,000
Logistics and hospitality	40,000
Miscellaneous	20,000
Project Total	**USD290,000**