## GIM INTERVIEWS MEMBERS OF THE IBERIAN AMERICAN GEOMATICS NETWORK

# Disaster Management in Agriculture

The many natural disasters taking place annually all over the world are often caused by weather phenomena and one of the most affected fields is agriculture. Remote sensing, GPS, GIS and ICT appear to be effective tools in countering disaster, and this has been the main driving force behind establishing the UTEEDA network in six countries in Iberian America. The First Co-ordination Meeting took place in Toluca, Mexico in February 2006 and we interviewed three initiators of the network: Dr Damaso R Ponvert–Delisles from Cuba, D. Jesus Soria Ruiz of Mexico and Dr Alejandro Leon Stewart from Chile.

**Please explain to the readers of GIM International what the UTEEDA network is.**

UTEEDA is a network within which six Iberian American countries join forces to use Remote Sensing (RS), GPS, GIS and ICT for evaluating, monitoring and managing natural disasters inagri-culture, and that is also what the acronym UTEEDA stands for. The six countries are Chile, Cuba, Ecuador, Spain, Mexico and Peru. In December 2005 UTEEDA received approval during the General Assembly session of the Iberian American Science and Technology Development Program (Spanish abbreviation, CYTED). The network defines research strategies for the Iberian American continent. In each country one or more research groups have been formed, participated in by researchers with different backgrounds.

**Why does the network specifically focus on agriculture?**

Disasters may appear under many names: hurricanes, tropical storms, tsunamis, draughts, frosts, floods and many other designations. Disasters all have in common that they may be extremely harmful to people and cause considerable loss to national economies. Food production in rural areas is especially vulner-able to disaster. Disaster management is therefore extremely important everywhere in the world and, indeed, the term 'disaster' is frequently heard today, no matter within what geographic region one lives, or the language one speaks. Victims are found everywhere, under whatever political regime, whatever religion one adheres to. Most importantly, in talking about disasters we mean phenomena potentially capable of affecting and even endangering directly or indirectly and within a very short time the lives of millions of people. Agriculture concerns food production, and the consumption of food is a primary life prerequisite for all human beings wherever they are living on the globe. Agriculture is also one of the economic sectors that turns out to be most affected by disasters. That is the reason why we focus on the use of geomatics technology for disaster management in agriculture.

**What are the goals you want to achieve with the UTEEDA network?**

Recent scientific and technological advancements enable the operational application of RS, GPS, GIS and ICT for solving a broad range of problems faced by human beings today. And it has been sufficiently proven by initiatives all around the world that these geomatics technologies also turn out to be effective tools for evaluating, monitoring and managing disasters. A first goal of the network is therefore to employ current advancements in geomatics technology in the diagnosis of the impact of natural disasters affecting agriculture in Iberian American countries, and to take appropriate preventative measures. A second goal is to foster multidisciplinary scientific knowledge of disaster management in the countries involved, co-operating and sharing knowledge and experience so that producers, entrepreneurs and decision-makers might all benefit. The UTEEDA network was created with these goals in mind.

### How was the initiative received in South America?

The initiative turned out to be of great interest to a number of institutions in the diverse countries of Iberian America. One reason for the broad acceptance of the initiative was that the topic of disaster management in agricultural areas is very sensitive, not only for the general public and scientists but also more specifically for decision-makers both in the private and public sector. Moreover, governments are alert to finding solutions to the issues lying at the grassroots of disasters.

### How do you want to achieve your goal?

We want to create more than twenty well-functioning research groups, within which each of the member countries will participate, contributing eighty researchers to each group.

### Is the use of remote sensing, GPS, GIS and ICT for disaster management a new agenda for South America?

GIS is already in use for risk and vulnerability analysis of many types of natural phenomena. The network of IDRISI Resources is outstanding; this is an Iberian American project that promotes the use of GIS for diverse applications, among which the prevention and management of disasters. Similar initiatives are underway in Peru, with the Latin American Regional Project T-SIRT (www.fao.regional.org).

A GIS application has recently been developed for the study of floods in Cataluña. These are just a few examples illustrating the increasing tendency for GIS to be promoted as a useful tool in disaster management. With respect to RS, we may see a large divergence in terms of the level at which space technology has been implemented in the different countries of Iberian America. These differences arise primarily from the opportunities offered by differing levels of economic development and the possibilities each country has to access data and technologies. Among the most outstanding initiatives found is the Unesco-RAPCA Project: Building Capacity for the Reduction of Natural Disasters/Regional Action Program for Central America.

### How do you organise the dissemination of knowledge and experience gathered within the network?

Transfer of scientific and technical results will be done in several ways. We will design training courses both for undergraduates and post-graduates in scientific centres and universities. We will also design suitable and validated methodologies in all countries involved, methods that can be applied by local governments in managing disasters. Furthermore, workshops, seminars and meetings will be organised to discuss national experience. And, last but not least, the knowledge and experience gathered will be disseminated via publications and forums. Scientific articles, monographs and books will be published and researchers will participate in congresses, symposiums and other forums.

### What do you see as the crucial factors for success?

Very important to the success of the initiative is capacity building, both scientifically and methodologically. We want among two hundred people to improve knowledge of the themes involved, and these people include not just specialists and researchers but also producers, entrepreneurs and decision-makers. For this the creation of a 'critical mass' of specialists is essential. These specialists should be able to carry out a diversity of tasks in the field of disaster management in agriculture, including evaluation and monitoring. The knowledge, information and special experience gathered within the different national contexts should be made generally available.

### If there is a topic not already covered in this interview upon which you would like to elaborate, please feel free to do so now.

We are not doing this work alone. Many people are involved and we would like to thank the Science and Technology Development Program (CYTED) and the National Science and Technology Organisation (NSTO) of countries involved in the network. We thank also Dr Rafael R. García Santos, Dr Juan J. Torres Guevara and Pedro Cisneros Espinosa for their contributions.

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