

Date

Tuesday 17 July 2007

Title of session

Plenary: Risk and Disasters

Name of presenter/chair

Chair: Dr Abdul Kadir bin Taib, Deputy Director General, Department of Survey and Mapping, Malaysia

Presenters: David Chang Leng Hua, Principal Assistant Director of Survey, Department of Survey and Mapping, Malaysia

Japan Satoshi Fujiwara, Head of International Affairs Office, Geographical Survey Institute of

UN Suha Ulgen, Technical Coordinator, Office for the Coordination of Humanitarian Affairs,

David Spackman OBE, Chief Executive, MapAction

Rapporteurs

Tim Martin, Ordnance Survey and Sarah Hamilton, Cambridge University

Presentation title: Malaysian Geodetic Infrastructure's Role in Disaster Risk Management and Awareness – David Chang Leng Hua

The presenter began by describing JUPEM as having the responsibility for the geodetic infrastructure for mapping and surveying of Malaysia. As part of this there are GPS permanent stations and a Tide Gauge Network which are used for their Disaster Risk Management and Awareness. He proceeded to demonstrate where the Tide Gauges are located and that some of them make up part of a worldwide Tide Gauge Network (GLOSS). JUPEM's Tide Gauge information is also uploaded to the permanent sea level record held in the UK. He then continued to describe their GPS permanent base stations that make up a MASS Network across Malaysia. Using this network, scientists were able to calculate accurately that Malaysia was moving 3cm per year in an East/South-Easterly direction. The presenter then provided an overview explanation of MyRTKnet which uses 58 continuous GPS reference stations for improved accuracy and surveying.

The key part of the presentation provided graphical evidence of tidal changes before and after the Tsunami at key locations around Malaysia. Each graph showed a profound change in sea level height using the tide gauges. Using the gauges it was possible to calculate the first affects of the Tsunami, what time this happened, and the length of time the area was still affected. JUPEM were able to calculate the seismic displacements using the MASS network stations after the earthquake and scientists were shocked to see that the tectonic direction of Malaysia is now to the west.

The presenter finished by describing the cooperation between other Asian countries, which includes Thailand, Indonesia and the Philippines. It was stated that this cooperation is vital for the management of disasters in this area

Presentation title: Disaster Measures and Applying Survey and Mapping Technologies - Satoshi Fujiwara

Japan endures some of the worst natural disasters possible. By sitting on top of two crustal plates Japan suffers as many as 21% of the world's earthquakes and has almost 10% of all volcanoes. Typhoons from the Pacific also cause severe devastation such as the one in September 2000 when 500mm of rain fell in one day.

The Japanese government uses two disaster measures. The first being conventional structural measures, however, more modern buildings tend to be stronger and therefore do not show some of the affects of certain types of disasters. The second is the use of forecasting, guidance and warning systems. It is this second measure where the GSI use geographic information to create thematic maps showing flood modelling or combining the crustal faults with other GI to highlight some areas where there is potential for serious disasters to occur.

The GSI also use 1200 GPS stations across the country to monitor crustal movement to aid earthquake predictions, and it is even possible to create long term future predictions by using the combined GI. Once a disaster occurs the GSI can use the information to direct emergency services to the most critical areas.

Presentation title: Mapping for Disaster Responses - David Spackman

David started his presentation by highlighting the many different forms a disaster can take and the variety of problems each can cause. The most important information required during a disaster can be split into three key areas:

- 1) Disaster extent
- 2) Location of surviving victims
- 3) How do we get to them

All of these are geographic in nature therefore highlighting the importance of knowledge about GIS and geographic information. It is this knowledge and expertise that Map Action can provide to countries around the world. The ability to use geographic information to help solve the logistical problems and provide a common base for coordination of resources. The core information such as topography, aerial imagery and situational data can be combined to help users, such as local communities, NGOs and governments to respond to the disaster as effectively as possible. David stressed that the key to managing the situation is understanding the users and their requirements.

David mentioned that there have been some common issues when Map Action has been deployed to different countries; lack of an emergency plan, issues with Visas and the perception of geographic information within the country. If these could be improved along with the political/organisational conflicts the ability to respond to any disasters would be greatly improved.

Questions	Answers
Should p-codes be used as core fundamental data?	Currently p-codes are alpha numeric strings with no spatial message. They need to combine name and precise coordinate and in the future even semantic variations. They could even be built into software such as ESRI and Google as standard.
Trevor Shaw (Jamaica) What are the requirements for joining MapAction?	Be delighted to speak after the session.
Ian Jackson (British Geological Survey) The majority of disasters are caused by geology in one way or another, how many countries in the room have links with their National Geology Departments	Not many was the answer. This highlighted the requirement for inter-government communication prior to a disaster.
Juan Vidal (Chile) Stated there are often language problems and that maps are hard to read.	P-codes are assigned to point locations and that there are reference tables that hold universal code which includes coordinates.

<p>Jean Dotse (Ghana Geo Engineering Services) Stated that developed countries should assist developing countries with their mapping. For example, help provide tide gauges or officers such as India did. He also stated the IHO (International Hydrographic Office) needed to help more.</p>	
<p>Fraser Taylor (Canada)- What is the potential of Google Earth?</p>	<p>Google Earth has the potential to get information out there, however, in a lot of areas it is difficult to get internet connections. Map Action provides training in Google Maps as it is seen as a useful tool.</p>
<p>Whisky Ayakeme Ebiwarefa, (Nigeria) requested training from MapAction. He asked how often a warning was announced? Also a request for training from Japan</p>	<p>Japan tries not to announce a warning or unless it is likely to happen. Too many warnings are confusing and likely to cause a slow response from residents if done too much. Map Action will speak after the session.</p>