

**PROGRAMME
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HUMANITARIAN ASSISTANCE IN THE INFORMATION ECONOMY: The Role of Information Management

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HUMANITARIAN AFFAIRS THINK TANK



Improving humanitarian information management is at the heart of next week's conference "GeONG 2016 -Impact of humanitarian IM: Lessons from the past, shaping the future". The conference takes place in Chambéry from 17th to 19th of October. Find out more about the agenda and secure your tickets here: <http://cartong.org/geong/2016/agenda>

Few specialisations within humanitarian assistance have undergone as dramatic a change as Information Management (IM) over the past ten years. In 2006 CartONG was founded with the goal to improve how data is collected, analysed and displayed so that stakeholders have better information when making critical decisions in humanitarian emergencies.

What seems obvious today, took a lot of convincing at the beginning: many programme staff and decision makers did not see why dedicated information officers (IMO) should be added to rapid response teams - after all, programme staff and reporting officers had been counting tents and estimating population size for decades. Why change?

Three things have been the primary drivers behind establishing information management as a core support function since then:

- Increased expectations regarding transparency and accountability have shown that data quality was often not good enough. In addition, data sets were frequently not compatible with each other. Professional information managers were able to standardize data, collect them with better quality and satisfy donors' demands for more frequent updates.
- Like all other professions, humanitarian aid has become far more digital over the past ten years. The number of digital tools and sensors has increased massively, resulting in amounts of data that required dedicated staff to sift through and interpret. It is simply no longer possible for someone to do this in addition to their regular job.
- The visualization tools have gotten much better: having timely and accurate data is of little value when the analysis cannot be easily interpreted by stakeholders. Where (offline) excel sheets and occasional pie charts were the state of the art, today's decision makers can expect visual representations of data that are updated as soon as new data is uploaded and that are available to anyone with an internet connection.

THE POWER OF THE MAP

The most powerful of these visualizations tools is the modern, digitally created map. More often than not, this map is built on information that is available for free and enhanced by data that has been collected on the ground or by drones or satellites from above. In some cases the map is further augmented by volunteers who are contributing their time and expertise. IMOs - and more specifically Geographic Information Systems (GIS) Officers - help to bring it all together.

Ten years ago most humanitarians - apart from logisticians - still needed to be convinced that putting things on a map would be helpful to their work; that the ability to visualize places,

infrastructure, distribution points or other operational data with a spatial context would make it easier to take decisions, communicate and coordinate activities. A map, just like a picture, can say more than a thousand words. While this had already been impressively demonstrated 150 years ago when the English Physician John Snow used a map to identify the cause of cholera, in the humanitarian sector even epidemiologists have been slow to embrace GIS.

Part of this reluctance was due to inadequate tools. Even just a few years ago, a GIS officer had to dig deep to patch spotty basic maps together, often scanning outdated maps since GPS devices and the knowledge on how to operate them were scarce. This occasionally included interpreting pictures taken from a mountain or top of car, or, if you were very lucky, from a helicopter. Mapping drones were still years in the future in 2006 and aerial photographs and satellite images were rare and expensive.

GAME CHANGERS

Google and OpenStreetMap (OSM) changed that. When Google released Google Maps and Google Earth in 2005, the company made satellite imagery and GIS tools accessible to everyone. What had been expensive and complicated was suddenly ubiquitous and so easy that people used it to map their favourite bars and plot the route to their next holiday destinations.

Almost immediately aid workers realized that the same tools could help them at work, pinpointing locations they needed to visit and assess or where they needed to build or distribute something. Just as has been predicted by futurists like Daniel Burrus, the use of GIS rose as the technology became more user friendly. Others, like Tim Bowdon went so far as proclaiming the end of the GIS professional, believing that the user friendly tools would shortly make GIS staff obsolete

Of course, today we know that reports of the death of the GIS officer have been greatly exaggerated. While many of the basic tasks that used to require specialist knowledge can now be performed by almost anyone, it still requires trained experts to develop and maintain the tools and the data behind them.

OpenStreetMap (the “wikipedia of maps”), which was a project that started in 2004, is probably the best example that illustrates this point: on OSM, users are in full control; they collect, edit, comment and decide which datasets are published. However, this is only possible because IMs and GIS officers meticulously developed - and continue to develop - tools that are so user friendly that “amateurs” can enter data with little risk of making mistakes. Similarly, below the surface, experts define the dataset and the rules according to which data is saved, changed and harmonised.

As a result, today, OSM is the most detailed and reliable map available in many parts of the world. Within this open ecosystem, groups like the Missing Maps Project and the Humanitarian OpenStreetMap Team are organizing local “Mapathons” during which they inspire digital

volunteers to map regions of the world that are poorly represented on the map, particularly those that are vulnerable to natural disasters or other humanitarian crises.

This is a stark difference to Google that looks at mapping from a command-and-control approach. The company relies almost exclusively on commercial data providers for their mapping products. While users can send in suggestions, they have very little influence over the official data that is shown publicly. This reliance on commercial providers ensures a comparatively high quality of the data, but because it is proprietary, GIS officers cannot extract and re-use it for their own information products. Google deserves a lot of credit for opening the door to GIS for the masses with Google Earth and Google Maps. Yet, today, community based tools such as OSM are more relevant for humanitarians.

CHANGES IN THE FIELD

What do these innovations mean for a GIS officer in the field today?

She no longer needs to convince people that maps are useful and she is able to produce simple, printable maps far quicker and with far less effort than in the past: Within 24 hours she can put together a fairly comprehensive, basic map for most regions of the world - not completely error free, but good enough to be of use before the first data collected in the field comes in. For the most part, this data will be uploaded remotely by smartphones or drawn by the field staff directly within the Google Earth application itself. Occasionally, she will still receive data from stand-alone GPS devices. Within a few days, this fresh data will allow her to edit and improve the first maps and include relevant information that field staff and sector specialists need, such as: Which bridges are damaged? Where will water collect when it rains? What is the slope of the terrain? How many people live in this community?

CHALLENGES

What are the main challenges that an IM and specifically a GIS has to deal with today?

Given the many new tools and data sources as well as the ability to access them from almost anywhere in the world, the demands placed on IM and GIS officers have changed substantially:

Herself not being able to know each and every tool by heart, she is expected to advise what tools to use, to collect, analyze and visualize the data. This is difficult, unless she has a peer group or a supporting organisation that is regularly comparing the different tools that are on the market. Knowing that the technology can change quickly, she needs to understand that a well through procedure to collect or verify data might be more important than a specific tool.

She needs to try to ensure that her work has a lasting impact. This means she needs to identify and work with the different data silos that need to be connected to allow a holistic view of a given situation in a humanitarian crisis. She needs to communicate with the users of her data

products as well as with all partners. In larger crisis, she might even be expected to take on a coordinating role to ensure that the data coming in through collaborations with other partners is consistent, follows agreed standards and can be easily turned into information.

She also better have a sense of humour when she is once again asked to fix someone else's Excel problems or is mistaken for a reporting officer.

In the commercial world, these diverse skillsets are collected in business intelligence units where whole teams of people work on these issues to find out whether shelves in a supermarket need to be stocked differently, or when gadgets need to be ordered in China to ensure they arrive in time for Christmas. Humanitarian Information Managers on the other hand are frequently alone in the field and need to document and predict the needs for life saving assistance.

Over the last ten years, decision makers in the humanitarian sector have embraced the fact that information is available at their fingertips. This is progress since it has helped to professionalise humanitarian aid and has also increased transparency and accountability.

Following acceptance of the role of humanitarian information managers, we now need to resource the function properly. This means in-house capacity building as well as either hiring more staff or entering into partnerships that can provide surge staff when needed. Organisations that neglect these investments will find that they don't have information, they just have data. But data without structure is meaningless and organizations that base their operational decisions on bad information will not be able to survive in the long term. After all, one thing has not changed in the last ten years: if you put garbage in, you get garbage out. ■

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