

# MapAction in the Philippines



As super typhoon Haiyan smashed into the Philippine islands of Samar and Leyte last November, a MapAction emergency team had already landed in Manila, three hundred kilometres to the north. The vital role of mapping in disaster emergency response can be a race against time to save lives and bring relief as Nigel Woof OBE, MapAction's operation director, vividly describes.

The international relief community relied initially on government reports about the areas and numbers of people being affected, together with disjointed glimpses of its impact from news streams and social media. So, in the absence of real-time information, the MapAction team began to prepare base data and to map computed storm surge levels. Previous experience of tropical storms suggested that the sea itself would be the greatest

threat to life in coastal communities.

### **Immediate Demand**

On 9th November, the UN disaster assessment team, which MapAction had been tasked to support, flew to Tacloban. They reported scenes of near-complete devastation but, under well-practised disaster response protocols, an onsite operations coordination centre (OSOCC) was rapidly set up in the sports stadium as a focal point for international aid response for the islands of Leyte and Samar.

At this point, MapAction could contemplate moving at least part of its mapping operations from Manila to the field, to serve the growing contingent of aid agencies already on the ground. Demand for mapped information was immediate. Basic reference maps were essential to help find people reported as having critical needs. Rapid thematic mapping took many forms: for example tracking where initial damage assessments had taken place, and the coverage of local radio stations that had somehow managed to restart transmission and would be able to offer a virtual lifeline to communities starved of reliable information.

With extensive physical damage of unknown extent, there was a clear opportunity to use remote sensing to identify priority areas for on the ground needs assessments. Civilian space agencies and military satellites all contributed and the analysis was shared. However, it took several days for this imagery to become available in a useful form – due to cloud cover and some administrative constraints. Later in the response, unmanned aerial vehicles (UAVs) were deployed by several civilian agencies. They may prove useful in future disasters, but in this emergency the paradox remained that small, highly portable systems have limited ranges and spans of view, while larger drones with "over the hill" capabilities to survey larger, more remote areas pose logistical and regulatory challenges to their timely deployment in a sudden-onset emergency.

## **Common Operational Picture**

The information trickle became a data flood within a few days. MapAction concentrated on anticipating the crucial questions that the aid community would need to answer for an effective response. Initial aid activities had to be mapped against the longer term needs to show newly-arriving organisations where to target their resources. Mapping physical damage was insufficient; relief agencies needed a picture of specific needs which varied between communities and often depended on the geography of rural livelihoods.

The MapAction team, and the information management specialists in the group from the UN Office for the Coordination of Humanitarian Affairs (UN OCHA), knew the importance of establishing a spatial framework to ensure that situational data could be mapped and compared consistently. This starts with the prosaic but essential business of 'common operational datasets': for example having everyone working to the same version of administrative boundaries. The Philippines, with nearly 100 million inhabitants, has four administrative levels: regions, provinces, municipalities and barangays. But changes to boundaries are frequent and local and central government's records may not tally. In Tacloban, for example, the city authority was working to a completely different set of local boundaries from those used in the government census.

Recurring disasters in the Philippines have led to a 9digit pcode (p for place) being established. This was crucial for the Haiyan response. UN OCHA even developed a pcoding tool (a spreadsheet macro) to code up new tables of data quickly. In fact much of the data shared between government and aid agencies already had the pcode included, enabling the data to be joined simply to the admin geography and mapped. The Philippines government's approach to data sharing was in many ways exemplary; early in the emergency they asked international aid agencies which government datasets could usefully be made open.

### **Information Management**

Communications between the relief communities in Manila and Tacloban – and in five other coordination hubs – improved dramatically during the first three weeks of the response. The MapAction team, working from the sports stadium, was therefore able to contribute to mapping the situational pictures at both local and national levels. With the even greater workload this implied, the mapping team worked long hours through the extreme heat and humidity with the incessant din of helicopters taking off and landing just metres away. But the volunteers were always conscious that their ample supply of freeze dried rations, purified water and tents in which to grab a few hours

sleep were luxuries denied to hundreds of thousands of people on the islands, whose very survival remained precarious.

The collective humanitarian decisionsupport effort in response to Haiyan built on accumulated experience from previous major emergencies. One success was the rapid establishment of an effective information management network linking the eleven preconfigured 'humanitarian clusters', each responsible for one dimension of the response: food, emergency shelter and so on. Spatial data gathered through the clusters was shared and aggregated. One crucial output was the 3W matrix (who-what-where) of aid agency activities and plans, district by district. MapAction turned this into an atlas of more than a hundred 3W maps, updated twice a week, to facilitate coordinated response by the several hundred NGO's, UN and Red Cross agencies involved.

## Making a Difference

MapAction's vital role continued for six weeks after the typhoon. Several "rotations" of field personnel, and unflagging support from the charity's home based volunteers, enabled an enormous catalogue of mapped information to be made available to responders. Thousands of map copies were printed in the OSOCC to meet demand from aid workers on their own "doorsteps", while countless numbers of maps were accessed online, especially through the information portal set up for the emergency: Philippines.HumanitarianResponse.info.

MapAction's emergency mappers returning from the Philippines reported mixed emotions about their role and achievements. Vickie White, who had also responded to the 2004 Indian Ocean tsunami, reflected: "It was tough but also hugely motivating to work alongside the frontline aid agencies, which were racing against time to save lives and livelihoods. We all knew that aid in the wrong place would be no aid at all, so mapping was vital. Colleagues in the UN and other agencies told us that our work behind the scenes did make a real difference."

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