

EFFECTIVE CRISIS RESPONSE THROUGH MAPPING PREPAREDNESS

CASE STUDY: BRAZZAVILLE MUNITIONS DEPOT EXPLOSION *Making mapping rapid and repeatable*

The few days following a disaster are critical for the affected population. Responders need to know where the affected area is, who is affected, what infrastructure is damaged, and what relief efforts are occurring or needed. MapAction has been helping relief agencies since 2004 to gather this crucial information, and are helping to pass on their experience to national disaster agencies, NGOs and Red Cross/Red Crescent Movement.

MapAction has many valuable lessons that can help these agencies be prepared for emergency response mapping in turn decreasing suffering of affected populations and increasing their resilience for the future. These include:

- Having a good set of basemaps and information shared amongst responders before disaster strikes,
- Having local skills in mapping and information management,
- Using templates and standard procedures speeds up the ability to make good maps,
- Maps help responders make a common picture of a disaster, the area affected and where relief efforts exist.

This is one of a series of case studies to show why these learning points help organisations become more resilient in emergency preparedness.



AREA: Republic of Congo, Central Africa

DISASTER: Explosion, UXOs

YEAR: 2012



Effect of the munitions depot explosion on the surrounding area. [© Matt Sims MapAction]

On Sunday 4 March 2012 a series of explosions occurred in military ammunition depot in the Mpila arrondissement in the eastern part of the densely populated capital city of Brazzaville, Republic of Congo.

The area surrounding the depot was densely populated and many buildings were destroyed or severely damaged, resulting in:

- at least 200 killed,
- more than 3,000 injured,
- over 14,000 local residents made homeless.

Another effect of the explosion was the prevalence of unexploded ordnance (UXO), highly dangerous to returning populations. UXO clearance activities were coordinated by the United Nations Mine Action Service (UNMAS) and Congolese military. Eight demining organisations took part, including Mines Advisory Group.

Despite not being a typical MapAction mission, by having tried-and-tested map templates set up in advance, MapAction was able to start producing maps to support UXO activities straightaway (once data were available).

Marking unexploded ordnance (UXO) [© Matt Sims MapAction]

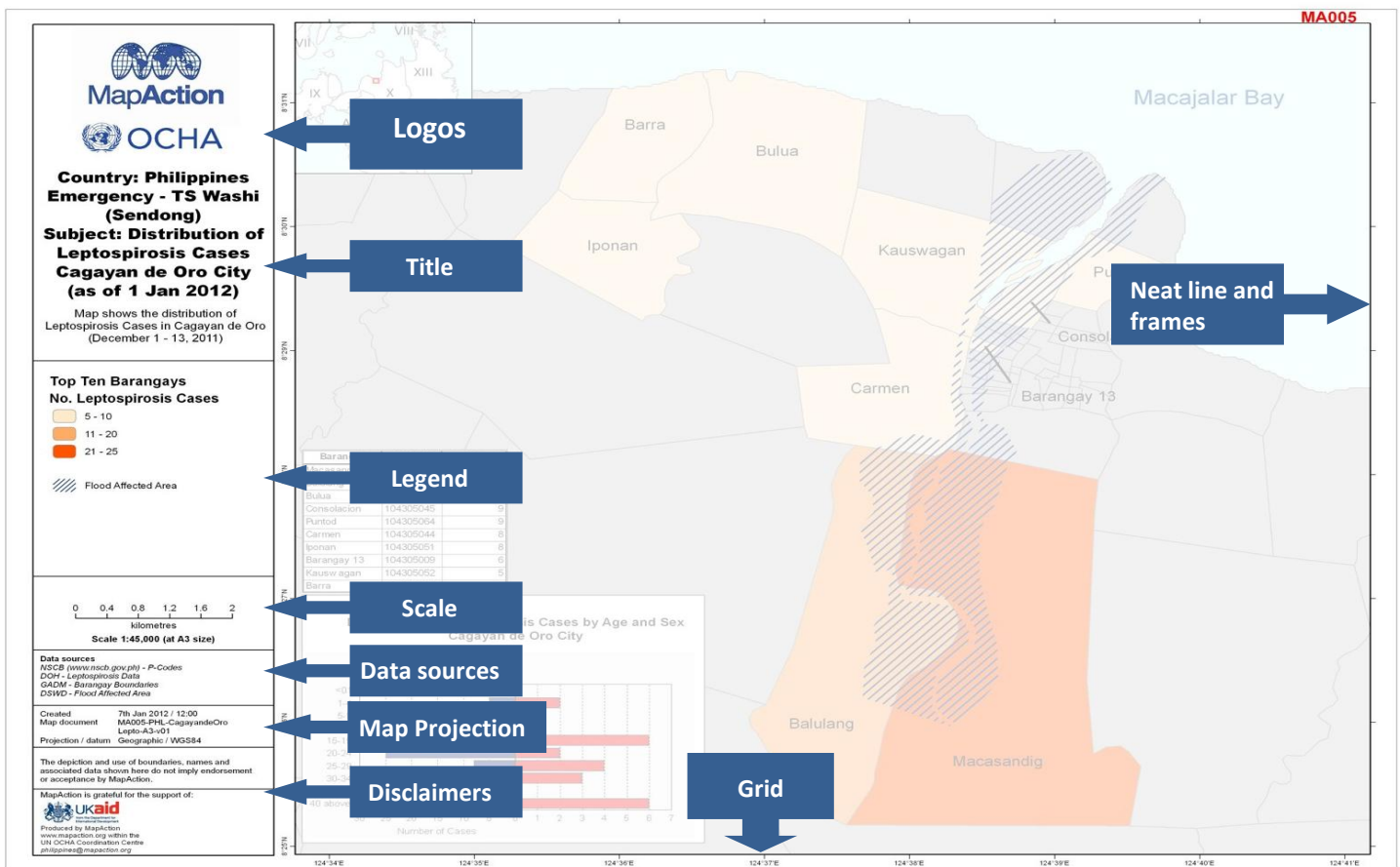




MapAction deploy to emergencies with laptops loaded with as much relevant data of the area found and specialist GIS software to make the maps. But making a map from a blank piece of paper can take a lot of time, which when you are responding to an emergency is not on your side. Also, with no standard procedures in place, maps can be of variable quality and many styles. So MapAction have developed templates that can be adapted to show the different types of maps; whether they be for showing locations, the situation, the relief effort or gaps.

The figure below shows the various aspects of a standard MapAction 'map template':

- The lines, boxes and logos on the map remain the same for most maps
- Much of the text remains in the same place and can just be updated.
- Only the map itself and the map legend are changed every time a new map is made.

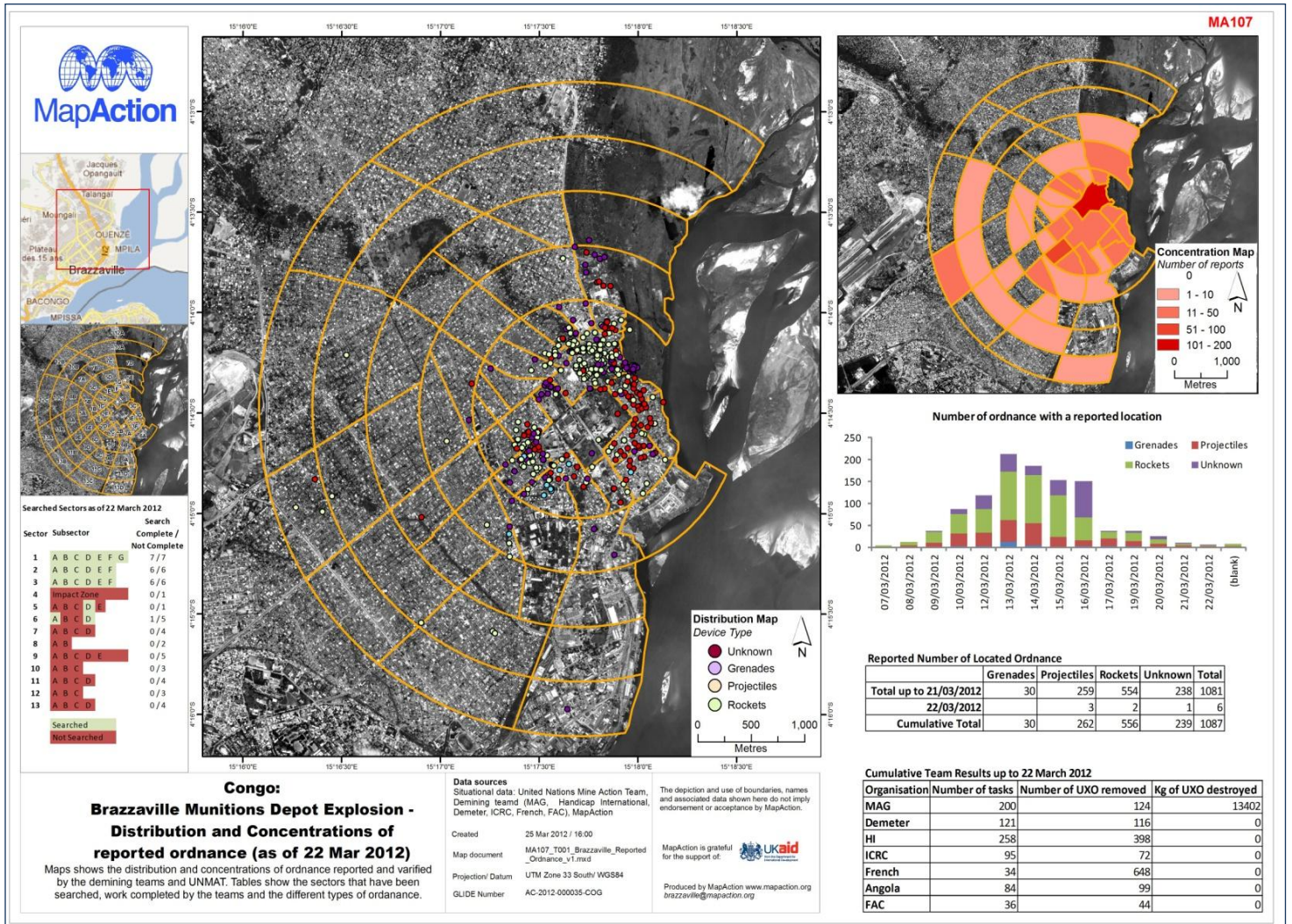


Components of a standard map template. [© MapAction]

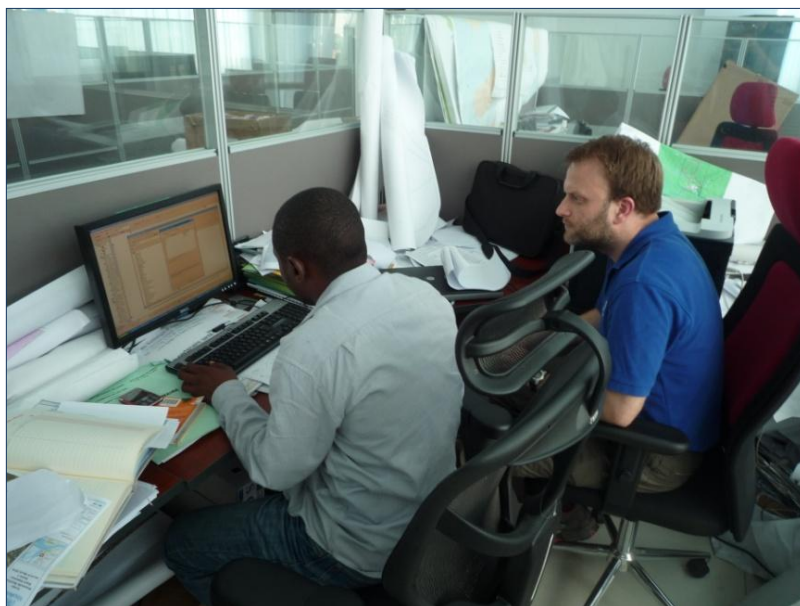
In Brazzaville, a special template was produced quickly, but then both used initially to create sector maps for the zone within 1 km of the munitions depot then later to show how areas were being searched. They were printed and distributed to representatives from all organisations involved with the emergency at the first UXO clearance coordination meeting. These maps were crucial in understanding which agencies were working within which area, and also to understand which areas had already been searched and de-mined. Sector maps were consequently quickly updated with newly acquired post-explosion aerial imagery.



Devastation in the vicinity of the Brazzaville munitions depot explosion. [© Matt Sims MapAction]



Map presenting distribution and concentration of ordnance, by pre-defined sectors.[© MapAction]



Using GIS software.[© Matt Sims MapAction]

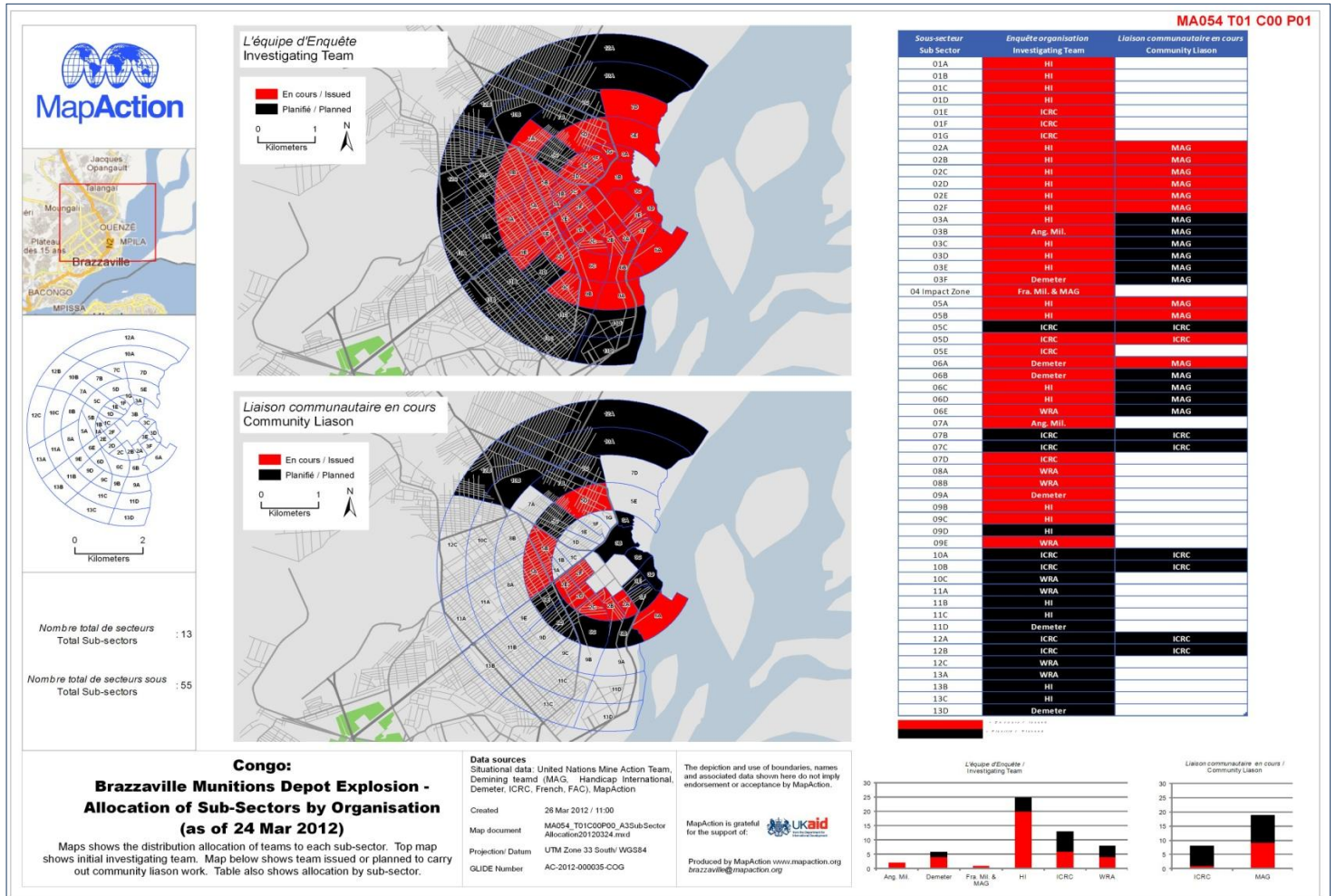
KEY LEARNING LESSONS:

By using a standard map template prepared in advance, MapAction saved time in the field:

- The maps produced in Brazzville were a special template for this type of emergency, but it meant the UNMAS and UXO clearance teams had GIS and mapping capacity to help properly control and coordinate the complex operation during the emergency phase.
- The maps allowed for better tasking and organisation by individual teams and provided a clearer picture of the progress being made.



- **Nothing gets forgotten** - Using Map templates allows the mapmaker to start with all the essential items on a map so every map will have useful parts such as a scale bar, legend and location map.
- **Having map templates prepared in advance** saved time that could be used making the most information-rich and accurate maps of the situation, and contributed to the most rapid achievable reduction of risk to people returning to the area, by enabling the organised and efficient removal of hazardous material from the areas affected.
- Templates need to be not just robust but **flexible** enough to cope with different situations such as the small scale and specialist operations in Brazzaville.



Maps presenting the allocation of investigating and community liason teams by sub-sector.[© MapAction]

Partner Organisations

Mines Advisory Group (MAG)
<http://www.maginternational.org/>

United Nations Mine Action Service (UNMAS)
<http://www.mineaction.org/unmas>

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