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PORTFOLIO

CartONG

Mapping and information management for humanitarians
Editorial

This portfolio is addressed to our current NGO and International Organisation partners (or any new partner wanting to work with us) to give an overview of all the types of projects that we manage on a day-to-day basis and the diversity of skills that we have on the team. We hope you find it an interesting read.

We are also full of ideas of projects that we could develop in the years to come on new Information Management technologies and methodologies that are emerging and that are changing the humanitarian field to an extent that would not have seemed possible just a couple of years ago- don’t hesitate to get in contact with anybody from the team if you would like to know more!

Charlotte Pierrat, President of CartONG

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What we like with CartONG, it’s that there is a double skillset: a very strong technical skillset, but also a knowledge of the humanitarian sector

René Saameli
GIS Coordinator
Who we are

CartONG, a French NGO, was set up in 2006 by a group of cartographers who wanted to improve the way aid agencies were using mapping and geographic information systems (GIS). It has since expanded and now delivers a wide portfolio of services in the various dimensions of information management to many different aid organizations. Our team offers expertise, training, strategic advice and secondments, both at headquarters and in the field.

We monitor innovations to enable our partners to find out what works best for them, and contribute, when possible, to the development of new tools and the definition of best practice. Our experts and volunteers work on different aspects of humanitarian action and development: for example, refugees, logistics, health, natural disasters and the environment.

We promote GIS and information management as cross-cutting tools that can be used by various sectors (for example, needs assessments, project planning, monitoring and evaluation), but also foster a collaborative and innovative spirit within our partner organizations and the communities we support.

You can find more information on our website on our partner pages and news articles. http://www.cartong.org/

Volunteers and staff, our modus operandi

CartONG has a team of some 15 staff and a pool of around 50 volunteers. Our team of permanent staff enables us to develop large-scale projects, including in emergencies, for the major aid actors (see 'Current Partners'). Our volunteers provide us with the flexibility to develop pilot projects and support local and grass-roots organizations, even when no – or a very limited – budget is available.

Both staff and volunteers share the infrastructure, tools and learning of CartONG, and we try to treat every request we receive with equal importance applying the same quality standards, whether it be from a major UN agency or from a small local NGO.
Our Values

Our work ethic means we always go the extra mile for our partners. Our top priority is always to meet their needs and help them fulfil their mission.

Working with local communities and focusing on the capacity of local staff is key to us, since it is a prerequisite for developing projects that are sustainable and meet the needs of the people we are serving. We are also strong advocates of information sharing, open data and pooling resources to improve the overall efficiency and reach of humanitarian and development ecosystems.

Location

CartONG is based in Chambéry, in the French Alps, but our staff and volunteers are based at several locations in France and abroad, and work all around the world.

Geography cannot save lives directly, but, as you’ll see in this portfolio, it can have a tremendous impact when put in the right hands.

CartONG’s main aim is therefore to support organizations and people who are saving lives, improving livelihoods and protecting the environment around the world so that they can do it better and on a greater scale.

We believe this can only be achieved by enabling these organizations and people, with capacity building and strategic advice, taking into account the specific nature of each structure and context.
“Now thanks to CartONG I can manage my 200,000 beneficiaries without double counting & I’m actually looking forward to writing my post distribution monitoring report for once!”

Carolyn Meyer
Responsable de l’Information Programme
Solidarités International in Central African Republic
February 2016

INFORMATION MANAGEMENT

Your organization collects data every time a team goes to the field? Would you like to visualize your NGO’s core information on a map in order to get a better sense of where the needs are and, therefore, to plan your activities accordingly? Do you want to implement a new activity but only have the name of the village and are unsure where that village is?
Information Management Strategy

Information management includes many aspects linked to data and information, from collection to compilation, modification and maintenance, as well as analysis, visualization and the dissemination of data transformed into valuable information.

Ex: CartONG can help you establish this strategy by looking at your requirements and the full data chain. A GIS strategy is an IM strategy focusing on data with a spatial connotation. CartONG has drawn up and helped implement a three year strategy for the development of GIS within MSF. This work was done following an assessment of existing internal capacity.

Database & Analysis

Most users are unfamiliar with advanced database structures and CartONG can assist in setting up the tools to make it easy for users to retrieve the necessary information.

Sometimes this will result in setting up queries to be run at specified intervals to monitor established indicators, sometimes a more flexible yet user-friendly method needs to be established in the form of a dashboard to enable a sector specialist to turn data into information.

Ex: GeoKM is a tool CartONG developed for knowledge management and the monitoring of activities. Together with the operation, CartONG defined which indicators they wanted to collect and visualize in a dashboard and from the user requirements, defined the database architecture.
Dashboard & Data Visualization

CartONG can develop dashboards for partners to analyse and share data and information seamlessly. The associated dataViz can include tables, maps, graphs, timelines and charts.

(We are developing using the most recent web-technology available: Leaflet, Power BI, OpenLayers3, Javascript, D3/DC.js and using different API to get data. Available online and offline.)

Ex: Currently our partner is running projects in Swaziland and offers Mobile and Home-based HIV Counselling and Testing (HTC). Community based HIV testing strategies can increase uptake of testing and promote early access to care. The aim is to map out where community HTC services have been performed per district to know exactly where testing activities have taken place in order to target different communities and different homesteads in the future, thus ensuring that HTC services are offered to all.

The datavis we developed here displays the number of tests performed at each location disaggregated by age group and type of intervention. The population density data is overlayed with the information collected and all health facilities are indicated in the map.
That map translated the scientific into the operational.

MSF field staff
2015

Your organization collects data every time a team goes to the field, but is this data fully utilized, or is it lost within a PDF document? Would you like to visualize your NGO’s core information on a map in order to get a better sense of where the needs are and, therefore, to plan your activities accordingly? Do you want to implement a new activity but only have the name of the village and are unsure where that village is?
Mapping

CartONG provides mapping services either to map out a region that is of interest to you, or to more specifically map an operation.

Base maps can be at city, sub-country, country or regional level, presenting available information of the area of interest (for example, roads, airports, health centres). They provide headquarters and field teams with a good overview of the region of operation.

Maps can also present thematic information, where data (for example, epidemiological, security, logistics) is analysed and visually represented. They provide headquarters and field teams with a timely visual of a single aspect of an operation.

Ex 1: Base map of a city, with health centre locations, NGOs offices locations and other Points Of Interest

Ex 2: Advanced analysis (helicopter flights from Nepal or watershed / contour lines)

Ex 3: Epidemiologic map produced to show the number of cases over the last X days per village
Map Portals

As part of a wider partnership, CartONG can support the implementation of map and data repositories. A library of maps can prove very useful for an organization, providing quick access to all GIS material of relevance to the staff.

Webmapping

Dynamic maps can be viewed either through a web page or locally on a computer (offline). They allow users to view and explore live data, and display changes over a specific timeline, and can also show (or hide) a given number of variables.

They are useful for situations that need to be monitored over time, such as an epidemic, for example, by displaying the number of cases per week in a particular region.

CartONG is implementing a map portal for UNHCR. This portal is a repository of all pdf maps produced by UNHCR. [http://maps.unhcr.org/](http://maps.unhcr.org/)

Webmap designed to follow an epidemic through time. Number of cases are gathered per week and administrative level
UAV/Remote sensing

CartONG can support its partners in selecting the right technology for their needs thanks to their extensive experience with both satellite imagery and UAV data processing.

We can provide support for imagery acquisition and processing through different partnerships. If a request requires satellite imagery acquisition, we check all possible options in order to best satisfy the requirements.

CartONG can also provide support throughout the whole drone imagery process, from thinking through a mission to carrying it out. We can also post-process the data so it is already in a usable format when it is delivered.

Ex 1: N’Gala satellite imagery, Nigeria 2016
Ex 2: Results of UAV data processing during mission in Switzerland, 2016
The collaboration with CartONG on rolling out the MDC strategy in standardised expanded nutrition surveys (SENS) has been crucial in bringing this project to fruition.

Advances in the experience of using MDC and in the possibilities that the software offers mean that countries are becoming more and more autonomous.

Caroline Wilkinson
Senior Nutrition Officer
MDC Tool Implementation

CartONG was one of the first organizations to implement mobile data collection tools in the humanitarian sector. We help partners choose the tool that best suits their needs and constraints (for example, processes in place, financial, human, technical and time concerns) based on our experience, technological watch and benchmarking, and then implement it with the field teams.

We implement mobile modules on food security, health, WASH and mosquito nets, but also Knowledge, Attitudes, Practises surveys.

Ex 1: As technical partner of the UNHCR Public Health Section since 2010, we have done tens of missions to the field to help set up the system when it is a country operation’s first time, maintaining the mobile modules deployed and all the associated documentation. More information at: http://sens.unhcr.org/

Ex 2: We have set up a mobile data collection tool used by ACF South Sudan and their governmental partners to support, identify and follow up on water points in the Northern Bahr el Ghazal State using the Akvo Flow solution (5 weeks).

Ex 3: We have done different field missions with Terre des hommes in Burkina to set up a recurrent survey on nutrition in the Tougan area using an offline system (2 week deployments for the first implementations in 2013, followed by capacity building deployments since to help Tdh staff and set up a system autonomously) using ODK Collect and Aggregate offline.

Ex 4: We have set up different modules for the Monitoring and Evaluation of 60 projects financed by UNICEF in Central African Republic using Kobo and ODK Collect (comprising the encoding of 5 modules, the training and piloting in the field for 2 weeks and the setting up of an adequate analysis tool).
Mobile Mapping

Mobile mapping is useful for the collecting and/or monitoring of spatial information, such as camp infrastructure. CartONG can help set up the necessary tools and methodologies.

- Offline data collection for infrastructure
- Local actors maintaining the map
- Storing camp infrastructure data in one place only

CartONG implements camp mapping together with UNHCR FICCS unit. Deploying user-friendly smartphone applications for data collection and maintenance and storage of all collected information online.

Results are available in versatile web maps accessible to all actors in need of it. Already covered camps are accessible in the webmap section of the map portal. http://maps.unhcr.org/apps/campmapping/index.html

SMS

For many remote areas with low bandwidth connectivity, communicating and sending information takes place through SMS. The choice of system, provider and tools often depends on the availability of those services on the ground.

We have implemented several projects using FrontlineSMS and Ushahidi, but, through our benchmarking, we are also familiar with and have tested other systems that allow SMS communication. Some work as a standalone solution, while others are primarily MDC systems, which allow the collected data to be sent via SMS.
“Actually these tools are revolutionary for project monitoring, it opens a world of opportunities!"

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Bioforce students

Discovering mobile data collection with ODK

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Do you want to start using MDC or GIS, but your team has never heard of either and you would therefore need training, guiding and support? Do you need help learning how to handle your geographic data? Do you want to improve the day-to-day efficiency of your teams with better data? Would you like to develop a new IM strategy, and are wondering what skills and processes you’ll need?
CartONG offers in-class and on-the-job trainings based on the kind of capacity building or capacity enhancement required and the target audience. We offer introductory as well as advanced courses in GIS, MDC and information management, that can be held at headquarters or in the field, set up internally within the organization or through humanitarian training institutes such as Bioforce. The on-the-job support aims at helping your teams evolve towards better practises through more adequate processes and tools.

See our specific training offer at www.cartong.org/capacity-building or ask us for a printed version at training@cartong.org

Ex 1: Since 2012 we have administered short 1 to 3 day training events every year on mobile data collection and GIS in the Logistics, WASH and general project coordinator courses of the French humanitarian Bioforce school in Lyon. Additional longer training events will start in their West African base in 2017.

Ex 2: In Central African Republic we have helped Solidarités International to choose and train staff on information management and mobile data collection implementation (for the follow-up of 200,000 beneficiaries) as well as to adapt the monitoring and evaluation processes to best fit the need and local context.

Ex 3: We do numerous short trainings every year for humanitarian partners to help them master tools in a few days, for example:

- Handicap International 1 week training on QGIS in Beirut
- IPIS 1 week training in Brussels on ArcGIS server
- Terre des Hommes 2 week training on setting up Mobile Data Collection from A to Z and GIS in Conakry for all West African delegations’ Monitoring & Evaluation staff
- MSF 1 week GIS officer training in Kampala
- UNHCR 1 day training on Adapting an XLS form to a local context
- Solidarités International 1 day awareness raising on MDC for all project coordinators.
Remote Support

As it is often not necessary to go to the field to help implement projects, CartONG provides a lot of remote support that can take various forms.

For example, it can involve answering technical questions, encoding mobile surveys (when field staff are well drilled in the use of mobile tools and do not need field support), setting up analysis dashboards, writing tutorials or setting up a hotline.

Ex 1: CartONG has been supporting Solidarités International field staff since 2015 with (amongst other things, such as trainings and in-country implementation) a hotline helping operations with their survey conception technical difficulties, their choice of tools or their MDC strategy (We reply under 2 working days in this case).

Ex 2: For the UNHCR SENS project (see Mobile Data Collection) CartONG has been ensuring remote support for country operations since 2010, with the adaptation of form content to local settings or help on analysis when it is necessary for operations with well established mobile implementation.

Community building

Long-term capacity building often rhymes with community building – be it a community of practitioners internal to an NGO, or local technical communities. In many cases, having access to quality data or staff during an emergency depends on the skills available in the field. Training local communities, therefore, is like preparing an improved future humanitarian response, in addition to contributing to local development. CartONG can help partners through the process of building sustainable communities.

Ex 1: CartONG sent a volunteer to Madagascar in 2015 to foster the creation of a local OpenStreetMap community. Following two in-depth trainings with local students & volunteers organized with partner Agence Universitaire de la Francophonie, the new local community is now organizing autonomously, gathering regularly to contribute to their local map data, disseminating in the country and planning more activities with CartONG’s support.

Ex 2: CartONG has been helping Terre des hommes build an internal community of practitioners since 2015 through the setting up and managing of a platform to help them exchange/feedback on their experiences/ask the community for help and the production of different communication documents for internal purposes.

Best Practices

CartONG’s added value also comes from its ability to advise partners on the best tools for their situation, budget and local context. This is possible thanks to the technological and methodological watch that CartONG maintains at all times as well as the different events it organises in an effort to share knowledge, foster good practice and encourage collaboration between humanitarian organisations in this field. CartONG regularly benchmarks tools in various areas of IM and GIS, compiles case studies, literature reviews and has conducted user-based interviews for partners. Much of this work has also been published.

Ex 1: NOMAD (project implemented in collaboration with iMMAP) provides standardized information on the features of around 50 MDC solutions, with an online selection assistant to find the most adapted one based on a set of basic questions. NOMAD also provides direct advise to aid organizations and organizes regular workshops to connect users and providers. https://humanitarian-nomad.org/

Ex 2: Whenever we want to share findings with the humanitarian community or do benchmarking with the permission to publish, we always post it on our CartoBlog http://blog.cartong.org/2016/04/29/benchmarking-sms-platforms/

Ex 3: As a neutral actor with no preferential tool to recommend beyond that which most suits the partner’s needs, CartONG realised a benchmarking exercise for Terre des hommes to accompany them in the choice of a tool for the individual follow up of children in situations of risk.

For this we evaluated internal needs and took into account the point of view of other sector NGOs and IOs, helped Terre des hommes come to a decision as to the ideal features of such a tool (using the Agile methodology), evaluated a number of tools available and -finally- gave Tdh input for their long term strategic decisions.
Current Partners

This list reflects our main partners over the past few years, it neither is exhaustive nor implies a permanent partnership with us.

Ex 4: CarONG was commissioned to conduct different case studies for FSD on the use of drones in the humanitarian field all case studies available here: http://drones.fsd.ch/en/

Ex 5: CartONG has been organizing the GeOnG conference in Chambéry every two years since 2008 to share knowledge, foster good practice and encourage collaboration. It has since become one of the main events for humanitarian mapping and information management. GeOnG is a unique opportunity to bring together GIS and IM specialists from different humanitarian organizations and to connect them with researchers and private solutions providers.

GeOnG 2014 gathered 140 participants from more than 60 organizations, including representative of most major agencies such as UNHCR, OCHA, WFP, MSF, IRC, ACF, UNOSAT, DFID, MapAction, iMMAP, HOT, etc.
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