



cartong

*Mapping and information management
for humanitarian organizations*



ANNUAL REPORT

2017

Association CartONG

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President's report

After an exciting – and a little exhausting – year 2016, marked by our 10th year's anniversary and several milestones (moving to a larger office, the 5th GeOnG conference, etc.), 2017 was a year of consolidation for CartONG.

Consolidation of our partnerships, with two major collaborations still flourishing with Doctors Without Borders and UNHCR, but also continuing key partnerships with Fondation Terre des hommes and ICRC, and very interesting new collaborations with the French Development Agency (AFD), La Guilde/AMP, IRC or SOS Faim as well as a very large network effort with the francophone OpenStreetMap communities during the OSMGeoweb 2017.

Consolidation of our technical portfolio, with a growing expertise in web-mapping and more generally in development of web apps, and with a state-of-the-art stability of our mapping & MDC teams. This was also the case thanks to the launch of new activities, for instance with the study on the use of ICTs by small NGOs we wrote for the Agence des Micro Projets or the implementation of a new mobile mapping tool in support of Nitidae in the Mé region in Ivory Coast to allow for monitoring of agricultural parcels.

Consolidation of our team as well, with a new IT staff, a strengthening of our database management team, a new IM specialist, several "service civique" volunteers for the Missing Maps project, and, last but not least, an additional admin & communications officer to improve our accountability towards partners and the public. We now count 12 employees (full-time equivalent), plus several regular consultants, interns, and of course a diverse volunteer team.

All these elements reinforce our capacity to uphold our mission to offer the best mapping & information management tools to humanitarian actors, be it in the field or at HQ, and to allow them to sustainably grow their capacities as to improve the impact of their projects. We also increasingly manage to publish open documentation and tools, such as the tutorial on the open source tool Geopoppy published with the support of AFD, or the MDC Toolkit co-developed with Terre des hommes.

The surplus saved this year will allow us to face without apprehension the challenges of 2018: a new GeOnG conference of course, which we will strive to make even better than the previous edition, but also (yet again!) an office transfer to cope with the growth of the team, as well as new opportunities for projects all around the world but also increasingly in France and Europe!

Thanks to all our partners for the renewed support, to our staff for their commitment to our mission, to our volunteers for their enthusiasm, and to all of you that support us periodically or more regularly!

Charlotte Pierrat, President

ABOUT CARTONG

Our expertise

CartONG offers services to humanitarian and development organizations on all the technologies of information management, and particularly geographic information. We offer our partners state-of-the-art tools, while being always sensitive to sustainability and cost-efficiency of the solutions.

Our activities:

- Mapping, data collection on the field and digitizing
- Research, compilation and curation of geographic data
- Geoservers, web-mapping and online data visualization tools
- Data collection, in particular with mobile devices (smartphones/tablets)
- Data analysis to support decision-making
- Information management workflows and procedures
- Visualization of data for reporting or communication
- Analysis of spatial data and satellite imagery
- Capacity building: training in GIS, mobile data collection, databases, data analysis
- Creation of e-learning modules
- Outreach on geographic information tools, awareness building inside the humanitarian community regarding adapted tools and procedures
- Research and compilation of best practices on information management & mapping

Our team in 2017

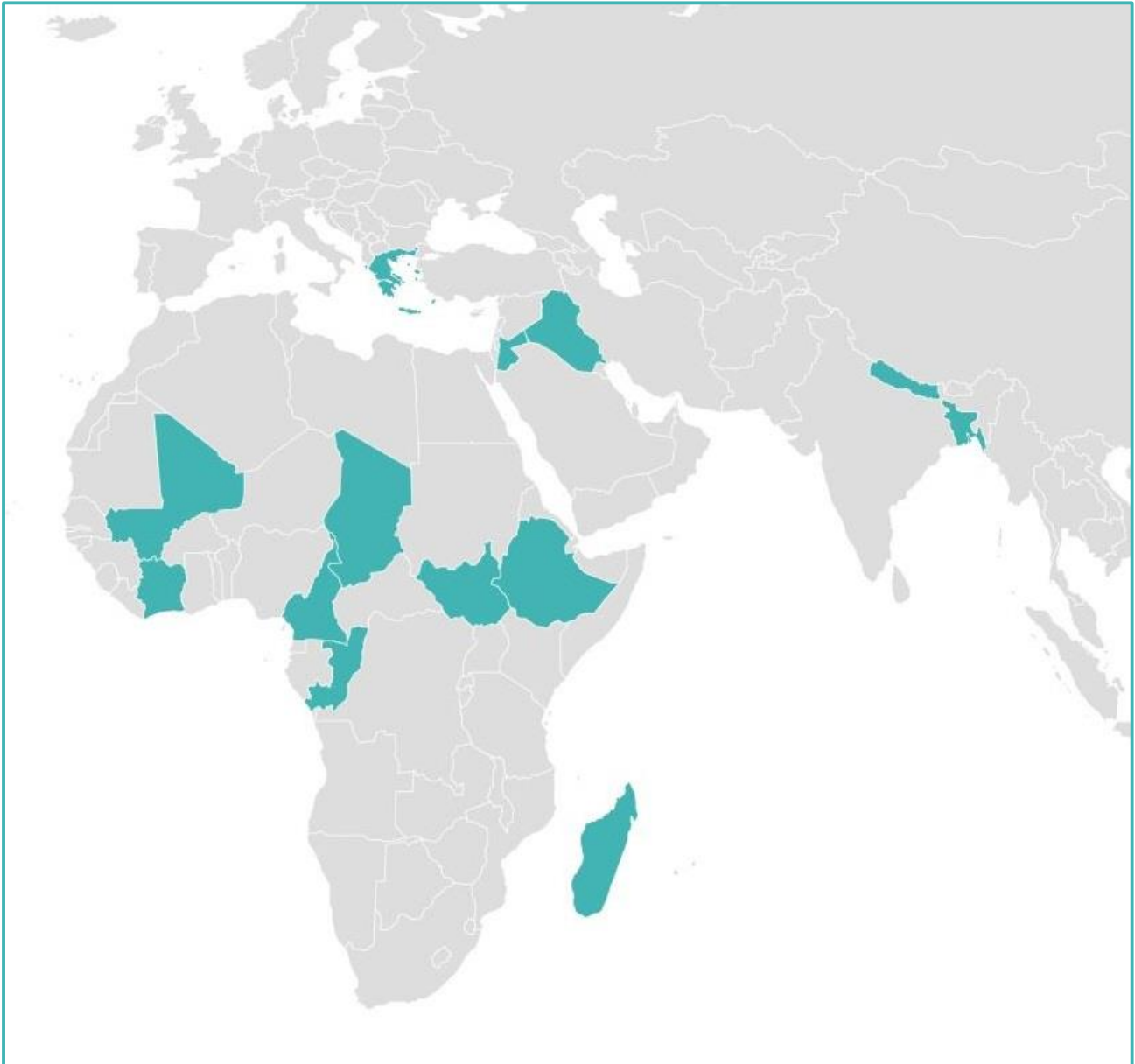


Staff members and some volunteers gathered during the Get-Together in May 2017!

Where CartONG works

In 2017, CartONG employees, consultants and volunteers, whose headquarters are in Chambéry, have been deployed in 16 countries.

Additionally, CartONG has given many training sessions in Europe (in France, Belgium, Switzerland, etc.). Check our website for more information: <http://cartong.org/where-we-work>



💡 As a reminder, staff projects (funded by partners and implemented by employees) have a **blue Overview box**, and volunteers projects (limited or no funding and implemented mostly by volunteers) have an **orange Overview box**.

💡 Additionally, please note that all budget figures displayed in this report are rounded for better readability.

2017 HIGHLIGHTS

January 16th -17th Awareness-raising session on MDC at **Terre des hommes'** Headquarters

January 19th Mapathon organized with **Magellium** and **Airbus Defence & Space** in support of **MSF-CH's** activities in Uganda

February 20th-21st Participation at the **MERL Tech UK** in London

February Information Management needs evaluation and implementation mission in Iraq for the Cash Consortium Irak in support of our partner **IRC**

February 27th-March 3rd MDC training organized for **SOS Faim** in Mali

March 8th CartONG's project *Building a #Data Collaborative to support #SDGs on Health & WASH* with **Rode Kruis**, Malawi Red Cross Society & **OpenStreetMap** RDC is selected by UNF's **GPSDD**

March 22nd-23rd 3 Mapathons organized during the 7th Biennale of Festival Siana to map Goma (RDC) in support of **ICRC**

April Training mission conducted by volunteers organized in Madagascar for **CNLS** staff about the web-mapping tools developed as part of the project

April 29th-May 4th Participation at the **AGSE summer school and conference** organized by **Stuttgart University** in Iran

May 22nd-26th Invitation as facilitator at **UNHCR's TIME** in Stuttgart

May 12th-14th Get-together and **General Assembly** of CartONG in Buthiers (France)

June 2nd-4th Participation at the State of the Map (**SOTM**) **France** in Avignon

July 4th-7th Participation at the **AGIT Forum** in Salzburg

August 6th-25th Camp mapping mission in **Bangladesh** in support of **UNHCR** following the start of the Rohingya crisis

August 14th Publication of the **Benchmarking of MDC Solutions** on CartONG's blog

August Publication of the **first Country Kit for MSF-CH** (South Sudan)

September 4th-8th First **combined MDC / M&E training** organized in Chad with **Bioforce**

September 14th-15th Participation at the **HOT Summit** in Ottawa

September 21th Organization of a **Mapathon** in Paris in support of the Puebla earthquake in Mexico

October 30th-November 3rd Asia MDC Regional training organized for **Tdh** in Nepal, with the attendance of 4 delegations

November 12th-17th **OSMGeoWeek** francophone: **11 mapathons** organized in France and **15 awareness-raising sessions** organized in Africa

December 2nd-3rd **Get-together** of CartONG in Lyon (France)

December 15th Launch of the online **Mobile Data Collection Toolkit** with **Tdh**, including a Data Protection starter pack

MAPPING AND GIS

Mapping and GIS projects aim at helping our partners (both in the field and at headquarters) with operational maps for immediate decision-making.

1. Mapping and GIS strategy for Doctors Without Borders-CH

OVERVIEW	Staff involved	Up to 20 staff (Projects Managers, GIS Officers, IT Specialists, Web Designers, Web Developers)	Budget	428,000€
	Contractor	Doctors Without Borders – Switzerland	Location	Global + Geneva, Uganda
	Beneficiaries	MSF Movement teams at headquarters and in the field		
	Content	Implementation of GIS strategy 2016-2019, Map Centre v2, web applications such as "EpiMaps", and operational dashboards, PDF maps, remote support of GIS officers in the field, enhancement and structuration of Geodatabase guidelines and training as well as emergency mapping, remote and in-country.		

The partnership with **Médecins Sans Frontières-Suisse** remains one of our most important ones of CartONG. The MSF GIS Unit is continuously gaining momentum and size within the MSF movement and CartONG, who acts as technical partner for the project.



As the second year of the 2016/2019 Médecins Sans Frontières partnership strategy implementation unfolds, CartONG working with the GIS Unit of MSF, continued its upscaling efforts by providing, firstly, maps designed to respond to the specific needs of MSF's field missions, and, secondly, new GeoApps (i.e. Geographic Applications). As such, in 2017 more than **300 paper maps** were created on ArcGIS to answer the needs of MSF missions.

Important work was also conducted regarding the creation of the first few **Country Kits** for MSF. To promote GIS and cartography amongst field and office teams, MSF launched the edition of country-based atlas of thematic maps. MSF presence, administrative divisions, health infrastructures, transportation infrastructures, population density and land cover maps are thereby grouped in a single booklet per country while a larger coordination poster map completes the offer. This **ambitious**



project concerns first and foremost, the countries where MSF has emergency projects in (such as South Sudan, or the Democratic Republic of Congo - North & South Kivu). This project is also a good opportunity for the GIS Unit to improve its databases for a better reactivity when operational maps are requested.

In 2017, we also gave remote support to MSF teams deployed in the occurrence of a crisis. In total, we have supported **24 field missions** covered by **12 GIS specialists** for a total of **171 weeks**. We have also supported **8 local cartographers** in the field to respond to diseases outbreaks, to facilitate the implementation of WASH programs, and to map refugee camps.

Our training offer is also increasing, and we have organized 4 one-week trainings sessions for GIS basic skills, MDC, GIS specialists and GIS focal points in 2017. We also organized the first edition of the **GIS Week** – a full week where all members of the GIS Unit and all field GIS specialists at MSF met to discuss and share good practices.

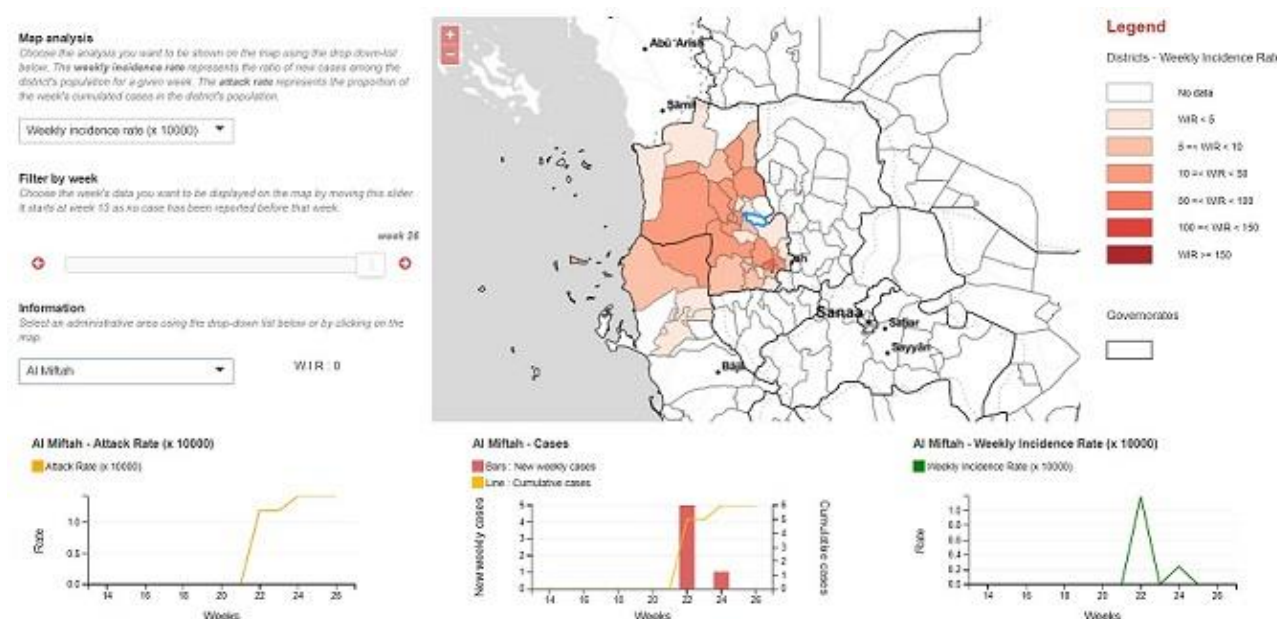


In 2017, the collaboration with MSF has also implied an ongoing work to improve the **Map Centre** – an online library currently containing more than 3,200 base maps of the countries in which MSF operates and the **briefing tool** to improve the usability and the user experience proficiency. We have started to develop a new version including an embedded portal to monitor map requests, which has also strengthened our IT infrastructure.

With the scaling up of the reference databases, we are expanding the scope of the GIS platform by developing and implementing new tools: activity-monitoring dashboards, outbreak-monitoring webmaps, or MDC projects. Additionally, we have developed some key products such as the "EpiMaps" (epidemiological maps).

The "**EpiMap**" is a type of GeoApp that CartONG first developed in 2017. A GeoApp is always designed to respond to specific needs allowing to collect operation-driven data (record of exploratory missions, facilitation of an emergency project launch, etc.), logistical data (accessibility of targeted sites, security, evacuation plan, etc.) and/or medical data (current state of medical facilities/hospitals, identification of vaccination sites, number of new cases for a disease, attack rate and morbidity rate in case of an epidemic, etc.) so that it is possible to showcase relevant indicators or, more globally, dashboards.

To this end, the EpiMap is an online and offline tool allowing for monitoring of an outbreak by mapping the attack rate in a country or a zone where the disease is spreading. In 2017, CartONG developed one pilot to monitor the cholera outbreak in Yemen. The tool was praised by the medical experts of MSF. By using a GeoApp solution, all actors can gain access – both online and offline – to key decision-making information for the successful running of MSF field missions, especially as they are happening in challenging and uncertain contexts.



Lastly, CartONG has taken an active and significant part in the writing of the proposal for the **"GEOMSF project"** which was validated during the first semester of 2017. The GEOMSF project will allow the scaling of services currently offered by the GIS Unit. The project is to be implemented for a couple of years and will reinforce GIS, IT and data management (warehouse) at MSF. The aim of the GEOMSF project is to generate a work ecosystem allowing the display and analysis of data spatially, across time, and therefore, to facilitate decision-making during humanitarian and health missions.

Key figures in 2017:

- 160 map requests answered & 301 PDF maps produced
- 11 web applications developed
- 6 weeks of training given & 66 people trained

2. Web mapping and GIS strategy support for UNHCR

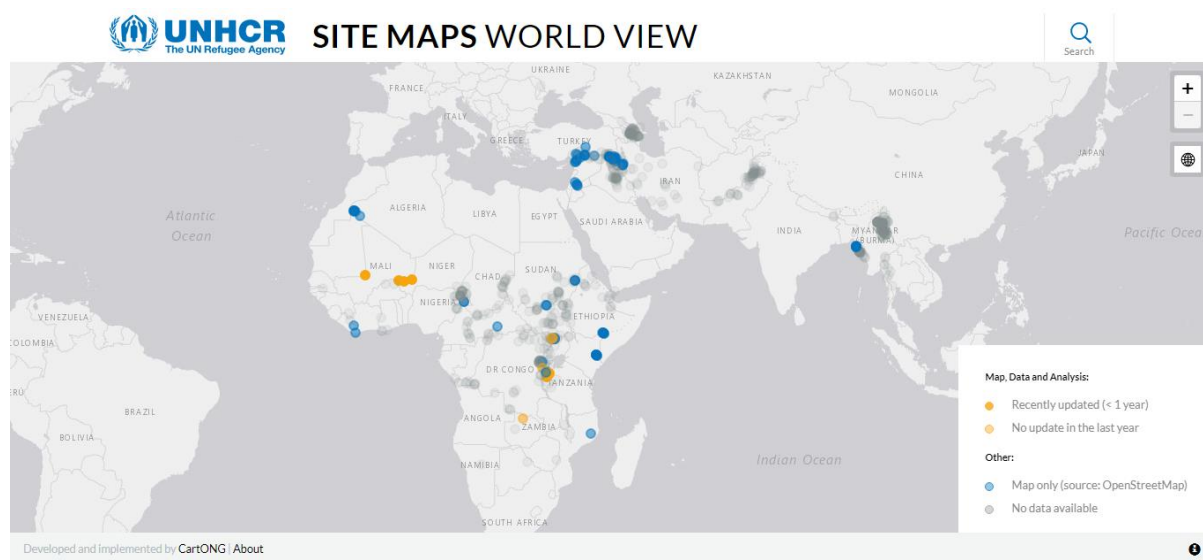
OVERVIEW	Staff involved	13 staff (1 Program Manager, 1 Project Manager, 4 Web/GIS Developers, 4 GIS Officers, 1 Designer, 1 Communication Specialist & 2 IT Specialists)	Budget	115,000€
	Contractor	UNHCR (FICSS section)	Location	Global
	Beneficiaries	UNHCR teams, beneficiaries & partners		
	Content	Continuation of development of a Map Center and CCCM (Camp Coordination Camp Management) Sector maps, called OPSMAPS. Support of Site mapping activities, including in-country mission to Nepal, fine-tuning of procedures and assessing different ways and needs to site mapping and its data.		

CartONG continued this year its long-term collaboration with the **Field Information Coordination and Support Section (FICSS)** of UNHCR. The objective was to give technical advice and support to operations in data management, in order to implement a GIS strategy streamlining the products and database maintenance, and to allow UNHCR and their partners to optimize the mapping response in the future.



As there are many different options on combining GIS tools and technologies including the different ways of how ESRI tools can be set up and work together, CartONG embarked on an exercise to map out those tools and look deeper into their functionalities and limitations. This was completed by developing mini-scenarios based on users and what they would need from a GIS framework and encompassed Portal, Servers, ArcGIS Online as well as JavaScript frameworks like Leaflet JS, ESRI Javascript, Open layers 3, Mapbox GL, Mapbox JS.

In terms of web mapping, CartONG continued in adding more functionalities to the Site mapping application and by switching to an efficient tiling system managed to have the application functional also in field environments with low internet band width. It is now possible to view camps that have been mapped in OpenStreetMap and to also open them.



For **CCCM**, CartONG continued in developing new **OPSMAPS** and adding new functionalities to existing OPSMAPS. Two of them were structured in a template approach and hosted on Github to move towards a more efficient way to maintain the code as well as re-use an OPSMAP for another operation. In 2017, CartONG also developed a plugin allowing to extract the map and the dashboard of one site out of the dashboard. The code for such a step was not available through Leaflet at the time.



FSMT Arabic

Formal Site Monitoring Tool Site Profile

Al-Wand 2

Last Update: February

Export PDF



Latitude : 34.319722

Longitude : 45.451111

Unique ID : IQ1004-0004

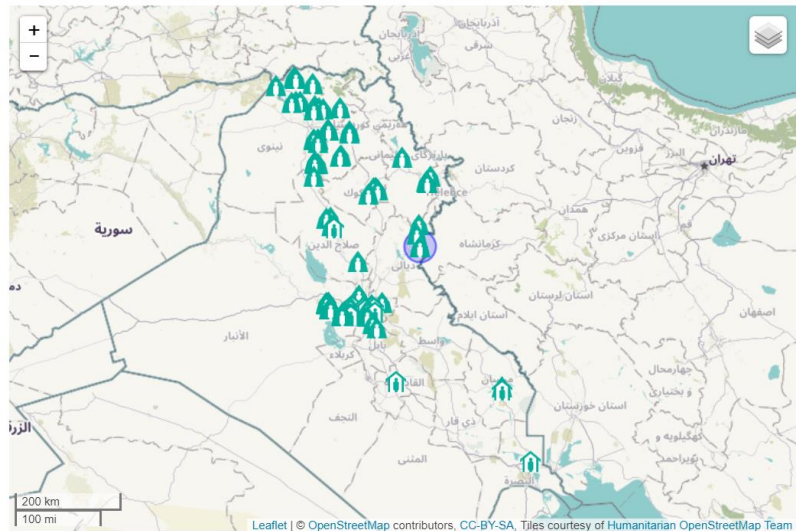
Governorate : Diyala

Type of site : Camp

Sub-site : IQ1004-0004

Total HH : 248

Total population : 1144



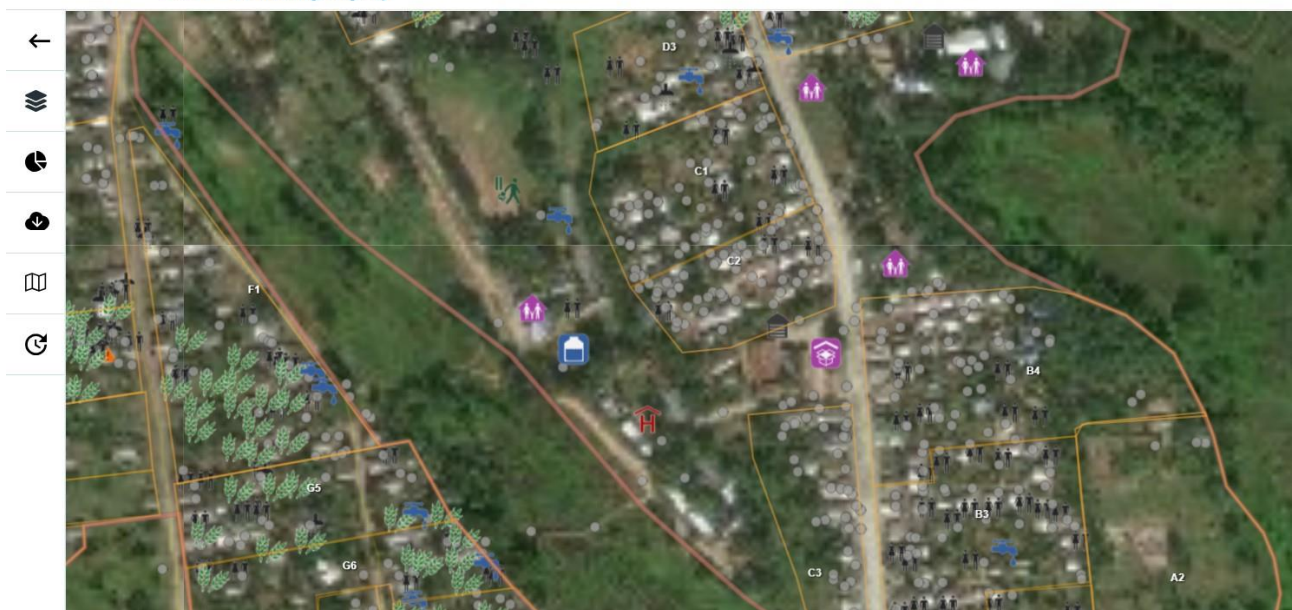
Additionally, as proof of concept, CartONG tested ways of calling the data in from different storage locations:

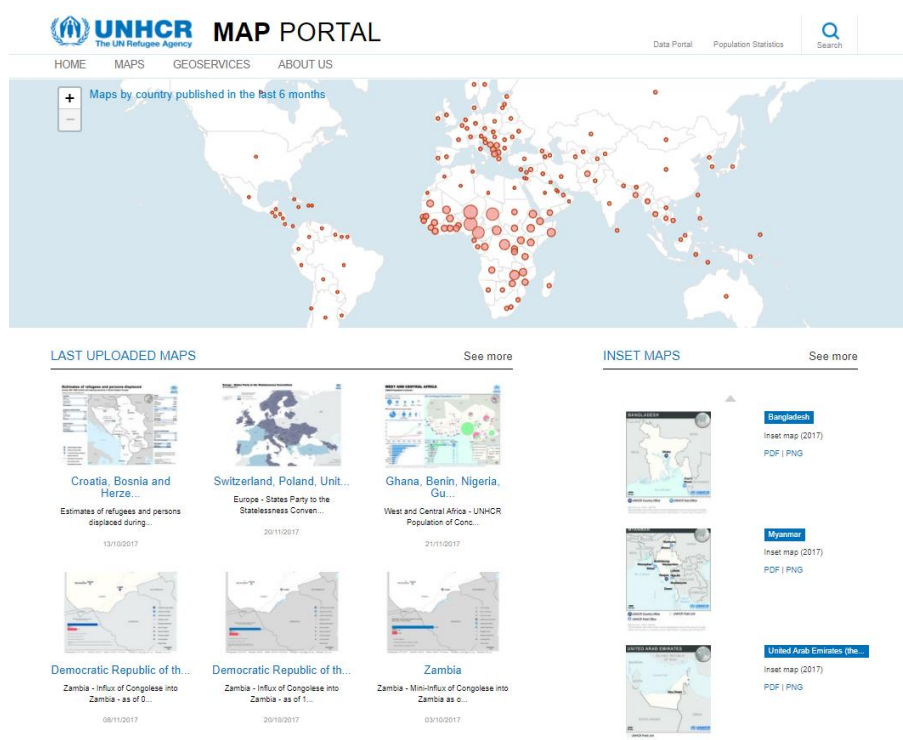
1. Harvesting directly from **Kobo API**
2. Storing a dataset on **UNOCHA HDX**
3. Storing a dataset on **Dropbox**
4. Storing a dataset in **CKAN**

For **camp mapping** in 2017, we supported existing initiatives, deployed to Nepal to map Sanischare as well as Belfangi camps as well as trained local stakeholders on basic mapping. The database model was enhanced further after assessing data set compiled by other site mapping actors to boost compatibility of the approach and enhance data interoperability.



SITE MAP SANISCHARE NEPAL





In 2017, the **UNHCR's Map Portal** was enhanced with more advanced user management as well as the implementation of a resource center. Additionally the design and related css adjusted.

Lastly, it is worth mentioning the publication of two benchmarking exercises conducted by CartONG in 2017. The first study was a benchmarking on smartphones and tablets compatible with

Mobile Data Collection, with a particular focus on some of the key criteria to be met by the material to allow for a successful data collection. The second was a benchmarking of MDC solutions with a strong GIS component.

Key figures in 2017:

- 4 OPSMAPS dashboards created/updated for CCCM
- 2 site mapping initiatives supported, in-country: Nepal, remotely: Bangladesh
- 2 benchmarking studies were released (see above)

3. SENS and WASH KAP mapping

OVERVIEW	Staff involved	3 staff (2 Project Coordinators & 1 Web Developer)	Budget	5,000€
	Contractor	UNHCR	Location	Global
	Beneficiaries	UNHCR Nutritionists and WASH team		
	Content	Development of lightweight mapping tools for nutrition and WASH surveys to analyze indicators spatially.		

CartONG continued improving the **SENS and WASH KAP mapper** tools that map out SENS and WASH KAP survey results. Both were made available online (WASH KAP mapper & SENS mapper) and extra features were developed to improve the user experience such as being able to switch the layout from landscape to portrait for printing, making available different buffer zones representing the standard UNHCR distances of shelters to boreholes for the WASH KAP and comparing that distance to the one evaluated by the household surveyed.



Key figures in 2017:

- 2 apps made available online

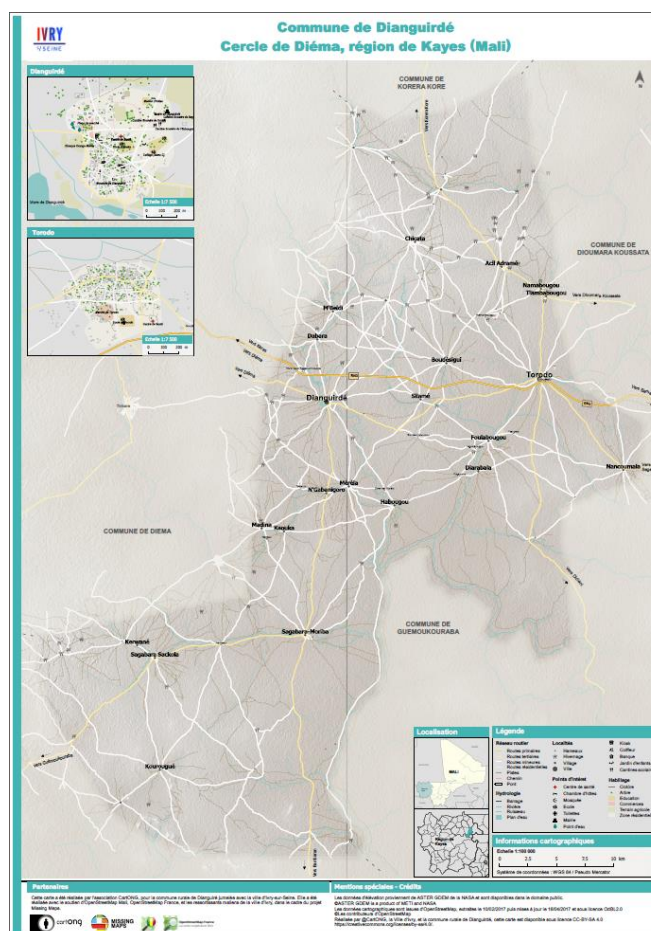
4. Missing Maps project

OVERVIEW	Staff involved	4 staff (Project Manager, Project Coordinator & 2 <i>service civique</i>); volunteer team	Budget	30,000€
	Partners	Missing Maps consortium	Location	Global (remotely)
	Beneficiaries	Humanitarian NGOs delivering aid in vulnerable areas, and their beneficiaries		
	Content	Pre-emptively mapping the most vulnerable areas of the Earth to improve humanitarian response and disaster risk reduction.		

Our second year of implementation of the Missing Maps project has allowed us to seriously scale up our implementation capacity. Besides a highlight during the 2017 OSMGeoweb (cf. below), we ran no less than **35 public mapathons in 14**

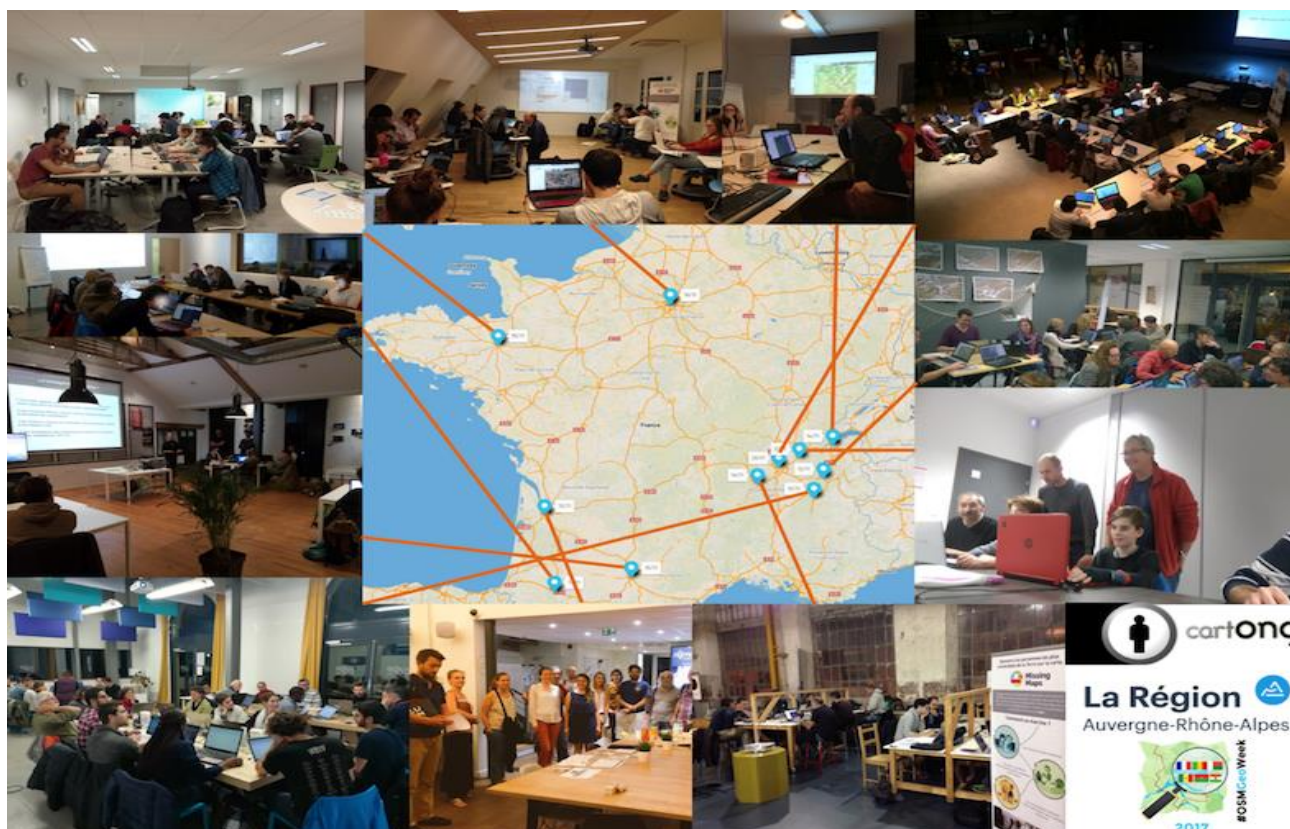
different cities, including a 90-participant event in Geneva with ICRC and IFRC! We have supported projects from many organizations such as partner NGOs (MSF, ICRC, Solidarités International, Handicap International, Pompiers Humanitaires Français), local governments (Ivry-sur-Seine/Dianguirde – Mali, Chambéry/Ouahigouya – Burkina Faso), as well as actions led by local communities or in support of natural disaster responses (Mexico earthquake).

Besides the "traditional" mapping projects, we also explored new formats for kids (including a "board game" to illustrate why we map, tested in front of the French SOTM conference in June) and continued improving our tools & processes. In particular, **we produced our first reference map only built with OSM data** (cf. beside), finalizing the project started last year to map Dianguirde (Mali) with support from its partner city Ivry-sur-Seine. The map is now available for the Malian and French partners to plan future water & sanitation projects, as well as having a general overview of the area!



But the highlight of this year was definitely the **2017 edition of the OSMGeoWeek** – the international festival dedicating to raising awareness about OpenStreetMap and participatory mapping. This year, CartONG had decided to highlight and **contribute to 5 projects** selected by 5 OSM communities based in francophone Africa, with the support of the Auvergne-Rhône-Alpes region. In France, 23 558 buildings and 458 km of roads were added to OSM with the support of 192 participants in 8 days! In addition to the mapathons organized in France, **15 days of awareness-raising** about OSM were organized by the local OSM communities in Burkina Faso, Senegal, Mali, Madagascar and Niger:

- The OSM community in Mali organized 2 days of awareness-raising about OpenStreetMap and of contribution to the mapping project of Bamako.
- OSM Senegal also organized mapathons and mapping parties to map the city of Touba (which welcomes every year the second largest Muslim pilgrimage in the world), they were able to present a first printed A0 map during the science days at the local Institut de Recherche & Développement.
- In Burkina-Faso, the OSM community introduced the different tools used in mapping and the various projects on which they are currently working to the participants and worked on malaria prevention in the region.
- In Niger, the local OSM community worked with a group of 50+ students to map a whole neighborhood in the capital city of Niamey, and raised awareness among students and local actors about the role that OpenStreetMap can play to help create a safer city and more sustainable development of Niamey.
- Finally, the Madagascar OSM community worked very hard to add buildings, roads and data on the OSM map of Antsiranana to help with the creation of a touristic map of the region.



In total, the 2017 Francophone OSMGeoWeek led to more than 50,000 buildings being added to OSM and the gathering of hundreds of participants, local and international NGO actors as well as local leaders, professors, students and institution in France and in Francophone Africa. Congratulations to all the organizers and volunteers for their involvement and for the significant impact they made!



Despite these great achievements, it however remains challenging to fund those very crosscutting activities benefitting many NGOs and local communities. We have managed to fund our activities via different channels, including several small donations from corporate partners, a public subsidy from the Auvergne-Rhône-Alpes region, and several small-scale funding for events we contributed too with mapathons and other mapping awareness activities (festival SIANA in Evry, Subsistances art center in Lyon, Aerospace Valley association, etc.), but we are still looking for a way to fund more sustainably this project.



The Missing Maps project is implemented by CartONG with support from the French Service civique agency

In parallel to our core Missing Maps activities, we also **started a project with the Netherlands Red Cross** to support data sharing in the Democratic Republic of the Congo, with a first workshop planned early 2018 to gather key stakeholders. We also signed a Memorandum of Understanding with the Healthsites.io platform, a project to map health care facilities around the world with OSM in order to support their mission.

Key figures in 2017:

- 35 mapathons
- 900 participants

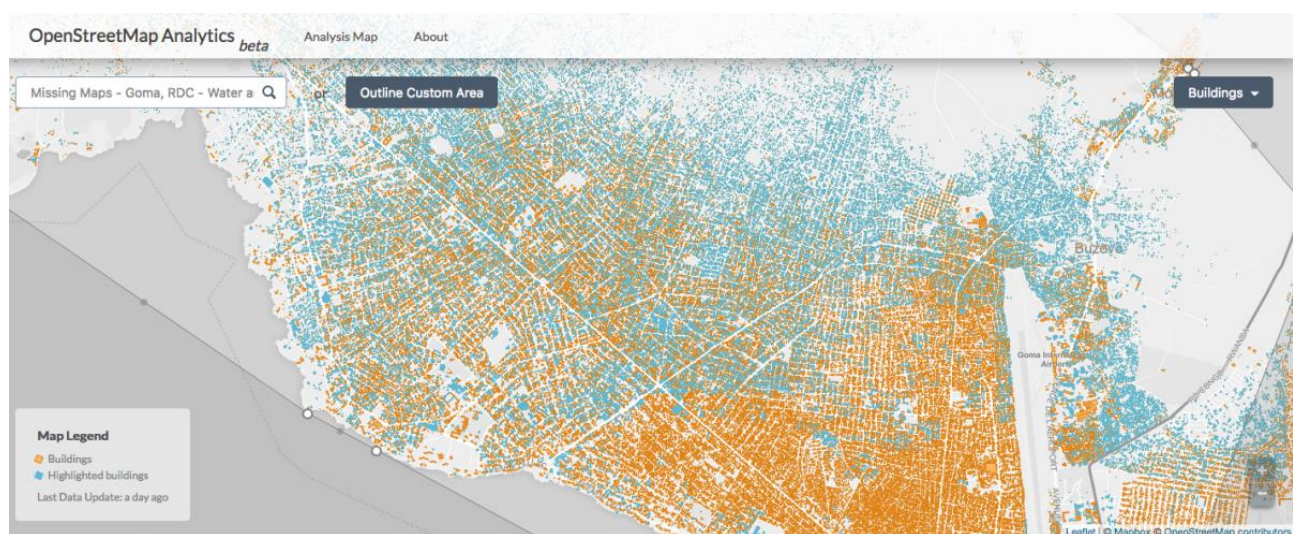
5. Digitization for ICRC

OVERVIEW	Staff involved	3 staff (Project Manager, Project & 1 <i>service civique</i>); volunteer team	Budget	5,500€
	Partners	ICRC	Location	DRC, Niger
	Beneficiaries	ICRC and its beneficiaries		
	Content	Digitizing and preparing databases on Goma (DRC) and Diffa (Niger).		

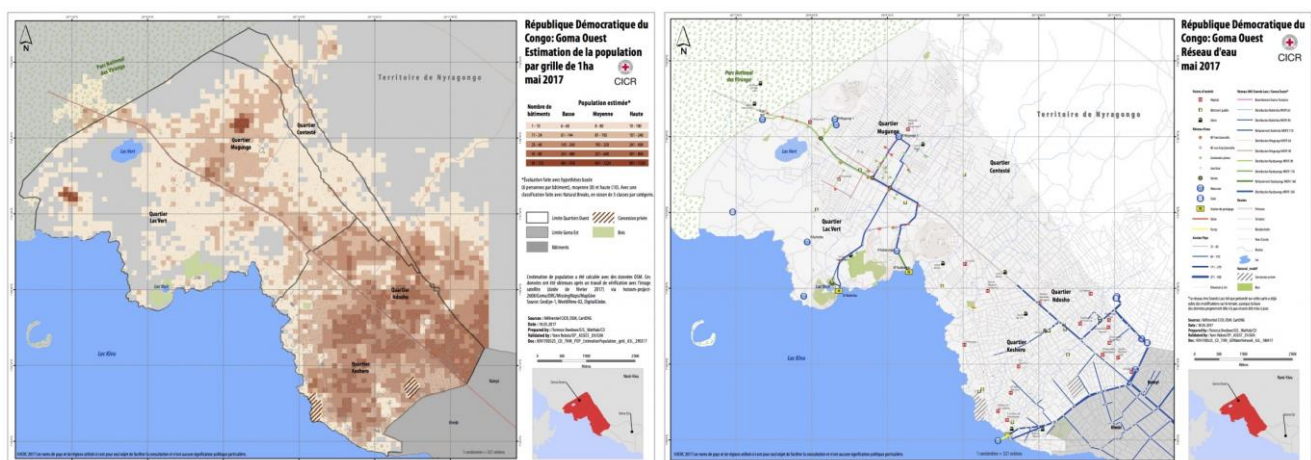


We have been **activated twice this year by ICRC** to support them by generating data in OpenStreetMap and preparing databases that were then exploited by the ICRC Water & Sanitation teams to plan their operations.

The first project was led in **Goma (Democratic Republic of the Congo)**, where ICRC needed map to plan new water distribution infrastructures. The existing map showed the city as it was in 2010 and therefore needed to be updated. With the help of many OSM contributors on this project (approximately 80 people), 1,343 km of road and 68,604 new buildings were added to the map in a few weeks only. The work also implied correcting the previously added data that had since then become obsolete (that is to say deleting, moving buildings and roads). See below the comparison between the existing data before the project (orange) and the data created in 2017 (blue).



The data was then carefully validated by our volunteer team, and prepared on a geodatabase to be used by the ICRC GIS officers, cf. the maps below of the population density (based on OpenStreetMap) and the subsequent map of the new infrastructure decided by ICRC based on the data created by CartONG.



A second similar project was conducted in October to map the cities of **Diffa and N'Guigmi in Niger** using OpenStreetMap. We joined the projects already started by the Niger OpenStreetMap community (supported by HOT), and our volunteers managed to complete the map of the 2 cities, creating 14,600 buildings and 435 km of roads. The data was then validated and prepared in a database ICRC used to edit maps.

Key figures in 2017:

- 68,600 new buildings mapped in Goma
- 14,600 new buildings mapped in Diffa & N'Guigmi

6. Emergency mapping for ACAPS

OVERVIEW	Staff involved	2 staff (Cartographers)	Budget	1,400€
	Partners	ACAPS (Assessment Capacities Project) / The Norwegian Refugee Council (NRC)	Location	Global (remotely)
	Beneficiaries	Humanitarian actors delivering aid in vulnerable areas, and their beneficiaries		
	Content	Mapping the areas impacted by a crisis - either man-made or environmental - to illustrate the Briefing Notes released by ACAPS in support of the humanitarian sector when a crisis occurs		

Since May 2017, CartONG has been working in **support of a new partner, ACAPS**. ACAPS is an independent humanitarian information provider which supports the aid community by providing up-to-date data on key crises around the world. In the event of a crisis, the analysis and information work carried out by ACAPS allows humanitarian, as well as local and national actors, to better understand and consequently better respond to the needs of the affected population. As part of this mission, ACAPS regularly issues bulletins called "**Briefing Notes**" containing situation maps. CartONG, in its capacity of humanitarian mapping specialist, thus provides support to ACAPS by producing a significant number of these maps that complement and illustrate the bulletins by highlighting affected areas, hot spots or key figures of a crisis. In 2017, CartONG supported ACAPS's mission at the occasion of 3 natural disasters (in Timor-Leste, India and Vietnam) and during the general elections in August in Kenya.



Key figures for 2017:

- 4 maps produced within a timeframe of 5 hours

7. Mapping for AFD

OVERVIEW	Staff involved	3 staff (1 Project Coordinator, 1 MDC/GIS Technician & 1 M&E Specialist)	Budget	26,500€
	Partners	Agence française de développement & NITIDAE	Location	Côte d'Ivoire and remote
	Beneficiaries	Nitidae and its beneficiaries		

Content

Set up and piloting of a tool for the monitoring of agricultural plots and analysis of the quantitative M&E system set up

As part of a project to reduce deforestation in Ivory Coast, CartONG received funding, from the French Development Agency (AFD), to **implement a tool capable of monitoring forest and agricultural parcels** of the beneficiaries of NGO NITIDÆ (ex-Rongead/EtcTerra) in the region of the Mé. This project resulted in the implementation of GeoPoppy by CartONG, during a two-week field mission.



Beyond this deployment, CartONG was also asked to help NITIDÆ strengthen its Monitoring & Evaluation (M&E) system by reviewing the system currently in place, and by **recommending potential improvements regarding their M&E tools** – the logframe, the indicators used for the project, the data collection tools – as well as their procedures. Yet another more general and rather complex work was also asked of CartONG, in compiling suggestions for improving the support in M&E provided by AFD to all partners whose projects they fund.

Key figures in 2017:

- 3 tools benchmarked
- 2 blog posts published: one [tutorial on GeoPoppy](#) and one [tutorial about solutions to publish interactive maps based on a QGIS project](#)

8. Volunteer web-mapping for CNLS

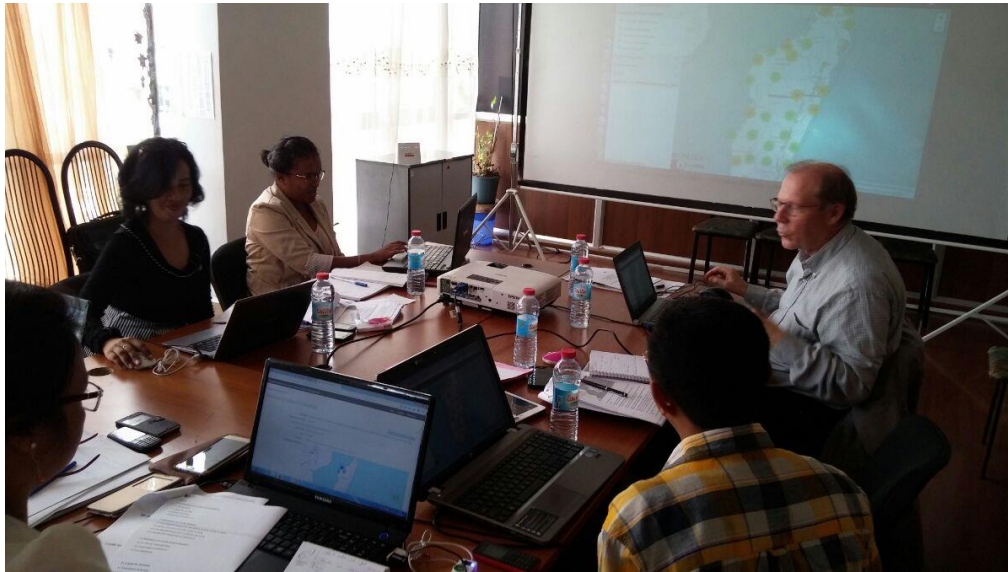
OVERVIEW	Members involved	2 volunteers	Budget	0€ (volunteer contribution not estimated)
	Partners	Comité National de Lutte contre le SIDA	Location	Madagascar
	Beneficiaries	CNLS and their local partners and beneficiaries		
	Content	Creating an interactive platform to localize projects of NGOs fighting AIDS		

Our volunteers had developed last year a web-mapping platform for the Executive Secretariat of the **National Committee for the Fight against AIDS** (Comité National de Lutte contre le SIDA, CNLS), supported by [UNAIDS](#) in Madagascar: <https://cnlsmadagascar.cartong.org/>



Two of the volunteers most involved in the development of the tool had the opportunity to go to Madagascar in April to train the CNLS' staff on how to use the platform and update its data, with the objective that they would be able to then maintain it in the future. The mission was funded by the internal CartONG "Call for Ideas", a mechanism to reinvest part of our surplus on volunteers' projects and ideas. The mission was a great experience both for our volunteers and our Malagasy partners. We will now

continue the discussion with CNLS to see if they'd like further support or improvement of the platform.



On the same area of work, we decided this year to put on hold our project “Atlas Solidarité Madagascar”: although the concept remains completely valid and there is local interest for such a tool, we feel that we don't have the capacity to carry this initiative alone with only the support of our volunteers. The project could however restart if we manage to identify suitable local partners and/or donors willing to accompany the initiative.

Key figures for 2017:

- 2 volunteers deployed
- 4 CNLS staff trained on how to use the platform

CAPACITY BUILDING¹

Capacity building remains one of CartONG's key fields of interests, to help the geographical information community in the humanitarian field be as independent as possible in their projects.

1. GIS & mobile data collection courses for Bioforce's students

OVERVIEW	Staff involved	5 staff (MDC & GIS Specialists)	Budget	6,400€
	Partners	Institut Bioforce	Location	Lyon, France
	Beneficiaries	Future NGO workers: logisticians, WASH and project coordinators		
	Content	GIS and mobile data collection training in humanitarian context		

In 2017, we **continued running our technical training cycles in GIS and MDC at Institut Bioforce**, a school specialized in training future humanitarians.



Additionally, a CartONG staff was also **deployed in September in Chad** to give the **first CartONG/Bioforce combined training** in Monitoring & Evaluation and MDC for the Diakoni NGO (for staff and partners in Chad, and Niger), in collaboration with a Bioforce consultant. The training was composed of 3 days on project cycle management, with a strong emphasis on M&E and of 2 days on MDC.

Key figures in 2017:

- Awareness raising sessions in 6 different Lyon training courses
- 20 staff trained in the field on Mobile Data Collection applied to agricultural-related projects

2. Agence des Micro Projets: development of a toolbox for associations running micro-projects wishing to use ICTs

OVERVIEW	Staff involved	7 staff (2 Project Coordinators & 5 IM or Design Specialists); 5 volunteers (to help with vulgarization and write-up)	Budget	10,000€
	Partners	La Guilde	Location	Remote
	Beneficiaries	All small associations using the toolbox and benefitting from the study		
	Content	Development of a toolbox for associations running micro-projects wishing to use ICTs (and study on their use of ICTs)		

¹ All the training sessions that also include an information management component are covered in the IM section rather than this one for the convenience of readers.

CartONG was requested by the Agency of Micro Projects of La Guilde Européenne du Raid to **undertake a study on the use of ICTs available and usable for small associations of international solidarity**, which often underuse new technologies that could be very relevant to their work.



After launching a survey to understand the current uses and needs of micro-projects in the humanitarian and development field, to which 95 organizations replied, we published a research paper (in French) for small organizations' supporting entities - such as donors, regional councils, etc. - to help them both understand the advantages and constraints that using ICTs can entail but also provide them with key recommendations for accompanying these micro-projects. The second phase was designed to help these micro-projects in a more concrete fashion, by **producing a toolbox (also in French) with 26 one-pagers** on recommended tools, methods and feedback from organizations. We hope this toolbox will give small associations - but why not also bigger ones! - the relevant support to get them started with some of these ICTs that they probably have frequently heard about but have never dared using.

Key figures in 2017:

- 95 organizations answered the survey on the needs of NGOs in terms of ICTs
- 26 one-pagers on tools, methods and feedback experiences were published
- 1 study on the use of ICTs was released

3. MDC training for SOS Faim

OVERVIEW	Staff involved	1 staff (MDC Specialist)	Budget	5,500€
	Partners	SOS Faim	Location	Bamako, Mali
	Beneficiaries	SOS Faim's farmer group representatives and the farmer groups themselves		
	Content	One-week training on MDC		

For SOS Faim, we did a **one-week training on MDC** in Mali for their field partners working in the agricultural sector.



Key figures in 2017:

- 12 farmer group representatives trained

INFORMATION MANAGEMENT

Information Management (IM) aims at improving the quality of data used by humanitarian actors over time and its rapid dissemination for decision-making. We contribute through mobile data collection and general IM support for our partners.

1. Mobile data collection for UNHCR Public Health Section

OVERVIEW	Staff involved	15 staff (2 Project Managers, 2 GIS Specialists, 1 Communication Specialist, 5 IM Specialists, 4 GIS Web Developers, 1 IT Specialist, 1 Database Manager & 1 Business Analyst)		Budget	94,000€
	Contractor	UNHCR – PHS Section	Location	Remote: Egypt, Iraq, Chad, Niger, Malawi, Burkina Faso, Burundi, Ethiopia, Chad, Eritrea, Uganda In-country: Bangladesh, Ethiopia, Cameroon, Chad, Republic of Congo	
	Beneficiaries	UNHCR teams at headquarters and in the field, as well as nutritionists and WASH specialists from partners			
	Content	To improve the way nutrition and health data is collected in the field through the use of mobile technology and in the operational data analysis (through web applications, Excel dashboards and map production).			

With the Public Health Section of UNHCR (PHS), CartONG continued the **large-scale deployment of the WASH KAP survey** with 3 training missions of UNHCR Water, Sanitation and Hygiene Managers and implementing partners in charge of managing the refugee camps in Ethiopia, Cameroon and Chad. The goals of the training sessions were, first of all, to learn how to adapt the standardized WASH KAP surveys to local settings, to also learn how to deploy it in the field, and lastly to teach them how to use the analysis tools which come with it. CartONG also conducted a field mission to directly implement the WASH KAP survey in the Republic of Congo in December. Documentation was also published on the subject for the first time on the UNHCR WASH website.



On the side of the Standardized Expanded Nutrition Surveys – the nutritional surveys of UNHCR deployed in 100 refugees sites each year, 95% of which are conducted on mobile phones – the support of CartONG has mostly consisted in **reviewing the content of the 6 existing modules**, and in creating a new one on demographics, which will be deployed in 2018. In parallel, the usual remote support to UNHCR staff in the field was carried on, in particular - and this is a first - through a series of webinars. An implementing mission also took place in Bangladesh in the second part of 2017, to allow for the deployment of a large-scale nutritional evaluation regarding the situation of the Rohingya people. Two articles were also written to help promote the use of MDC (one that will be published in the next edition of the Field Exchange journal: "How

UNHCR Tripled Their Ability to Support Mobile Data Collection in the Field" and one internally in HCR: "Improving Nutrition Surveys: New Developments and Changes at UNHCR").

In addition, CartONG has kept **supporting the implementation of other data collection tools**, such as the Medical Referral Database, the Health Access and Utilization Survey, a HIV surveillance module, the FACT or the Balanced Score Card, as well as we kept working on the initial need assessment work for UNHCR regarding an

application for monitoring nutrition-related cases. This evaluation work relies on the Agile method to identify as close as possible the needs of each different types of users within UNHCR.

Lastly, it is worth mentioning the publication of a benchmarking study conducted by CartONG in 2017 to help Mobile Data Collection field teams choose software and material matching their needs. The study was a benchmarking of

17 MDC solutions applied to the humanitarian sector – co-financed by UNHCR, Terre des hommes and CartONG – which also explores more general concerns such as differentiating factors between solutions as well as provides tips to help humanitarian organizations budget MDC.

Key figures in 2017:

- 105 people trained through 5 field missions
- 37 people trained through webinars on the mobile implementation of nutrition surveys

2. Mobile data collection for Terre des hommes-CH

OVERVIEW	Staff involved	10 staff (1 Project Manager, 4 IM Specialists, 1 Sector Specialist, 1 Web Developer, 1 Designer, 1 Communication Specialist & 1 GIS Developer)	Budget	72,500€
	Contractor	Terre des hommes-Lausanne	Location	Global
	Beneficiaries	TDH's teams and beneficiaries		
	Content	Supporting mobile data collection surveys and capacity building		

In 2017, CartONG has **concentrated on capacity building of HQ & the field**. Most notably, this was achieved through five field trainings (for the Eastern Europe, for South Sudan, for the MENA, Asia & West Africa delegations) to foster greater autonomy of the delegations, in terms of MDC methodologies and technical skills from survey design to data analysis as well as the release of an "**MDC Toolkit**" of 40 documents – created throughout the year, under a free license- to support the use of mobile data collection by the Tdh's field teams as well as all the actors of the humanitarian and development sectors. The "MDC Toolkit" is combined with a "Data Visualization Toolkit" whose purpose is to help field staff improve their data visualization practices, and which may be found in the "Analyze your data" section of the website.



Beyond this, the usual **field and HQ hotline** on Mobile Data Collection continued operating, a co-financed MDC benchmarking was produced (with UNHCR) as well as an infography linked to the 2016 project evaluating child protection case management tools. CartONG also helped HQ with strategic questions on scaling up IM & MDC and supported Tdh on improving its data protection practices in the field through a "**data protection quick wins**" project to produce documentation on best practices (comprised of an overview document on the main issues concerning data protection as well as a basic self-assessment tool to increase awareness on data protection, and tutorials to help the field secure the ways they work with data).

CartONG also designed an online dashboard with Power BI linked to the FACET WASH Health Facility (see [an example with test data](#)) and School evaluation mobile data collection tools ([here](#)).

Key figures in 2017:

- 69 activations of the hotline
- 21 delegations trained at the occasion of 5 regional trainings
- 40 documents published online

3. Information Management support for IRC

OVERVIEW	Staff involved	2 staff (1 Project Manager & 1 IM Specialist)	Budget	19,000€
	Partners	International Rescue Committee	Location	Iraq
	Beneficiaries	Direct beneficiaries were the Cash Consortium Iraq NGOs supported by the project, indirect beneficiaries were the NGOs' beneficiaries		
	Content	Support to the Cash Consortium Iraq to help chose the best tool for MDC, as well as improve and streamline its data collection, management and visualization systems		

In 2017, CartONG **supported the Cash Consortium Iraq** (composed of Mercy Corps, Danish Refugee Council, Norwegian Refugee Council and the International Rescue Committee), who has so far provided cash assistance to newly displaced households and conflict affected vulnerable households across nine governorates.



CartONG deployed an IM specialist for six weeks and provided follow-up remote support, to help improve and streamline its data collection, management and visualization systems.

Key figures in 2017:

- 10,000 beneficiaries followed
- 4 NGOs working on the same tools and surveys at the end of the project

4. GIS awareness raising session for Solidarités International

OVERVIEW	Staff involved	2 staff (1 Project Manager & 1 GIS Specialist)	Budget	600€
	Contractor	Solidarités International	Location	Paris
	Beneficiaries	Solidarités International's teams and beneficiaries		
	Content	Awareness raising session on GIS for SI's field technical coordinators		

In 2017, we intervened at Solidarités International's field technical coordinators' week during one day to **raise awareness** on the use of Geographical Information Systems.



Key figures in 2017:

- 15 technical coordinators trained

FINANCIAL REPORT

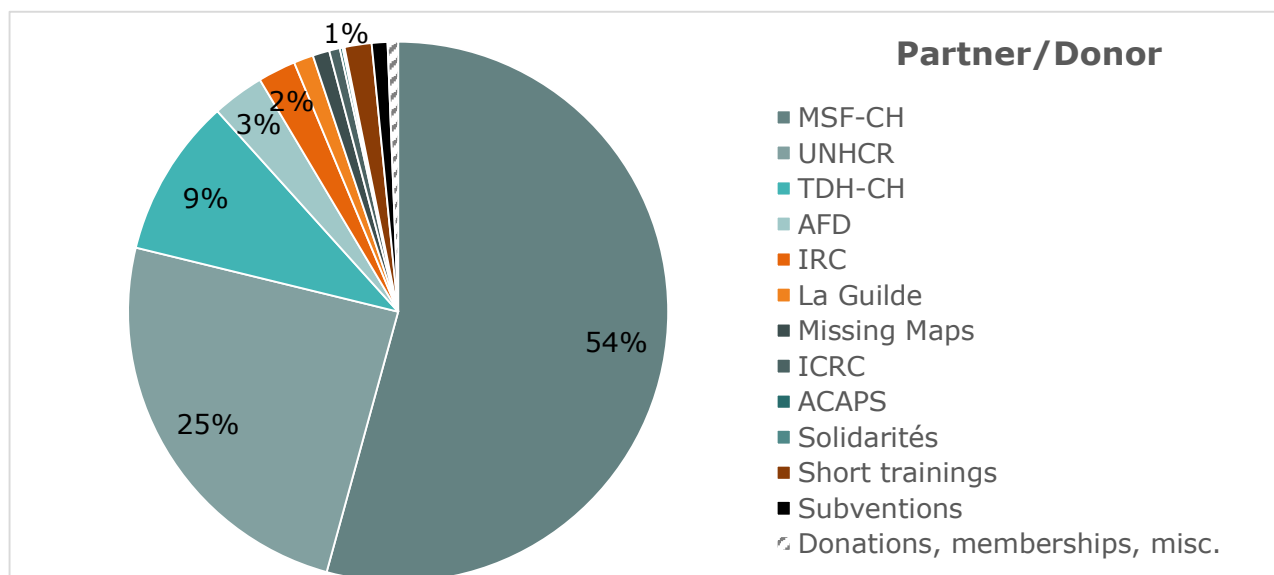
2017 accounts

After a year of stabilization, CartONG again produced a significant positive surplus in the context of a new growth in activities. We had a positive balance of **47,410€**, which will allow us to both maintain our security savings at the ratio we have established, as well as invest in new activities (cf. next section).

Our overall budget has grown to **850,530€** (+24%), with a strong increase of activity with our three main partners. On the negative side, this means a reduced diversity of our funding sources, our two main partners representing again this year more than three quarters of our income.

This however reflects the **success of our capacity building strategy with our core partners**, with long-term activities implemented sustainably. Nonetheless, we will remain careful in the coming years to continue our work of project acquisition in order to avoid being too dependent on some of our partners.

Our budget is as usual **funded mostly by our humanitarian partners** (95.8%) the rest coming from public subventions (0.9%²), corporate partner donations (0.2%), short training sessions (1.7%), individual donations and membership fees (0.2%), events & mapathons proceedings (0.8%) and miscellanea (0.4%).



Our **expenses** amounted to **803,110€**. They were split between salaries & social charges (82.8% vs. 82.5% in 2016), equipment expenses (1.7% vs. 1.6%), office costs (1.8% vs. 1.4%), transport & missions fees (6.4% vs. 6.8%), insurance, bank & various fees (3.9% vs. 4.8%), training (0.3% vs. 0.4%), taxes (1.7% vs. 1.2%), amortization (1.1% vs. 1.3%), and currency exchange losses (0.3%).

² Support from the French government to all small business and associations with employees ("Aide embauche PME") as well as via the "service civique".

The repartition of the expenses is therefore very stable. The permanent team has continued growing with the recruitment of an IT, a support service coordinator (for one of our biggest partners), a full-time admin & communication officer, as well as a database manager & another GIS specialist. We now count 13 stable employees (including 7 permanent contracts) in addition to our interns (~2/year), *service civique* volunteers (2) and regular consultants (3).

With the **always growing diversity of projects and tools implemented**, stabilizing the core team is essential to retain our best talents, provide consistent quality across all activities as well as ensuring regular training and offering evolution for our staff.

Part of these expenses included the spending of the remainder of the surplus from 2015 (CNLS volunteer project mission) as well as the allocation of the **2016 surplus**. 6,200€ were mostly put in security saving (5,580€, 90%) and the rest was allocated to a budget for day-to-day volunteer activities (620€, 10%).



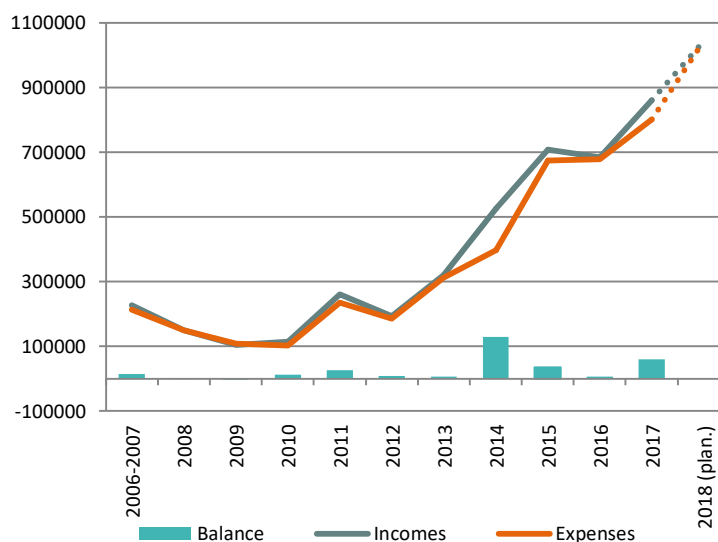
Our complete financial report compiled by our accountant is available for partners & donors, contact us to receive a copy.

PERSPECTIVES FOR 2018

1. Budget and investments

We have established a **provisional budget for 2018 of 1,014,000€**. With an again rather good visibility on next year's projects, we were able to establish this planned budget crossing the 1 million euros threshold for the first time in our history.

The expected distribution of expenses will be the following: 862,800€ for staffing (including consultants), 65,000€ for transport and mission fees, 39,000€ for equipment, 26,200€ for office costs, 36,400€ for insurance, bank & various fees, 2,800€ for training, 5,600€ for taxes and 5,000€ for amortization. The ratio staffing (85%) / missions & equipment (10%) / office and other costs (5%) will remain rather stable.



2. Staff projects

Several key partners have already renewed their support for 2018, allowing us to foresee the following projects:

- We will continue supporting **MSF-CH's GIS Unit**. We will keep supporting them with remote mapping, training, and development of web apps, including but not limited to the Map Centre! We will also accompany them on the implementation of the GEOMSF project and this ambitious effort to scale up the work done by CartONG and MSF over the past 4 years.
- We will continue supporting the **UNHCR Public Health Section** on the nutrition and WASH surveys and data analysis projects.
- We will work with the **FICSS section of UNHCR** on implementing their GIS strategy and development of existing tools as well as new tools (Map Portal, mobile camp mapping, CCCM webmaps).
- We will continue providing support to **Terre des hommes-Lausanne** and **Solidarités International** on their mobile data collection and information management activities.
- We will continue expanding the scope of the **Missing Maps project**: we will organize a field mapping mission for Disaster Risk Reduction in Madagascar and we also have several other planned projects on top of our regular mapathons and outreach activities.
- Our **Data collaborative project** in DRC will also move into implementation early in the year!
- We will continue conducting training sessions for **Bioforce** students (WASH, logisticians and project coordinators) and other partners.
- Last but not least, 2018 will be the year of the **6th GeOnG conference**, with the goal to beat the performance of our 10-year anniversary edition.

→ And we hope to meet new partners in 2018!

3. Volunteers' projects

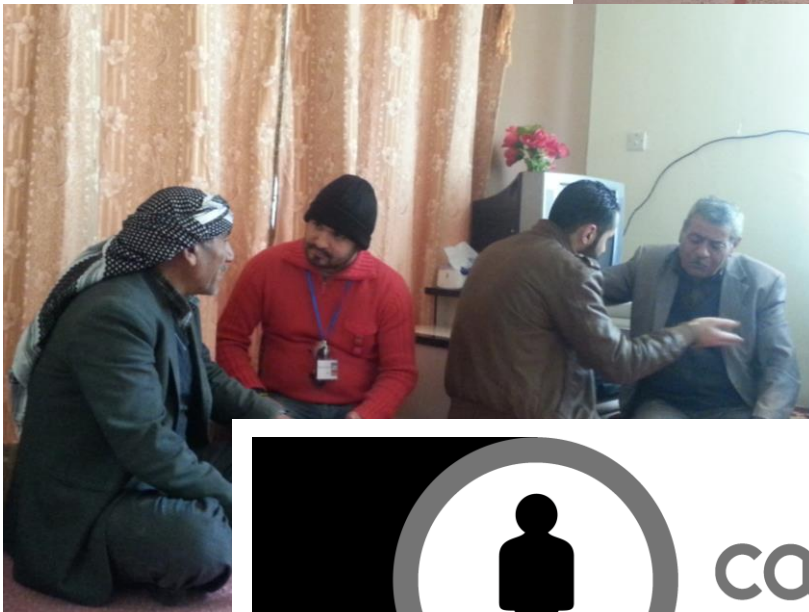
We are planning to make progress on several projects:

- Continue contributing to **OpenStreetMap** via the Missing Maps project but also support local OSM communities around the world.
- In continuity of the ongoing *service civique* mission at CartONG (2017/2018) focusing on the mapping of the existing assistance mechanisms for cross-border migrants in France, we have exciting ideas of activities to support migrants and organizations working with migrants in France to which our volunteers' involvement will be key!
- We will continue working on the existing and potential interactions between CartONG's staff and volunteers, in terms of providing support to each other within their respective capacities.
- And any other relevant idea that our existing or new volunteers may bring forward!

Mapping remote & in the field



Mobile data collection



Capacity building



FILE	HOME	INSERT	PAGE LAYOUT	FORMULAS	DATA	REVIEW	VIEW	ACROBAT	POWERPivot
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4	end	TimeEndRecorded							
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6	select_one camp	CAMP_c	Tick the camp in which you conduct this survey	Cocher le camp dans lequel vous effectuez cette enquête					
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8	integer	ZONE	Zone number	Code zone / numéro					
9	integer	BLOCK	Block number	Code bloc					
10	date	SURVDATE_c	Date of interview	Date d'entretien					
11	integer	CLUSTER_c	Cluster number	Numéro de grappe					
12	integer	TEAM	Team number	Numéro d'équipe					
13	integer	HHH	Household number	Numéro du ménage					
14	begin repeat	C	Child questionnaire	Questionnaire enfants					
15	calculate	CAMP							
16	calculate	SURVDATE							
17	calculate	CLUSTER							
18	calculate	TEAM							
19	note	ID	Child ID	ID de l'enfant					
20	text	NAME	Name of the child	Nom de l'enfant					
21	calculate	HH							
22	select_one yesnoabs	CHCONST	Consent given for conducting all measurements?	Le ménage a-t-il donné son consentement à la prise de mesures sur l'enfant ?					
23	select_one sex	SEX	Sex of the child?	Sexe de l'enfant ?					
24	select_one yesno	XDOBK	Do you know S(NAME)'s birthdate ?	Connaissez-vous la date de naissance de S(NAME) ?					

Information Management