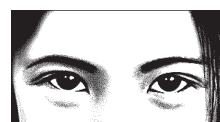
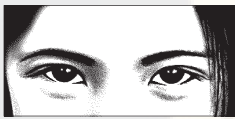




# Lessons learned paper from five years of Mobile Data Collection at Terre des hommes



**Terre des hommes**  
Helping children worldwide.



## Terre des hommes

Helping children worldwide.

Terre des hommes (Tdh) is the leading Swiss organization for children's aid. Since 1960, Tdh has helped build a better future for vulnerable children and their communities, making an impact with innovative and sustainable solutions. Active in more than 45 countries, Tdh works with its own teams and/or local and international partners to develop and implement field projects which significantly improve the daily lives of over 3 million children and their relatives, in the domains of health, protection and emergency relief. This engagement is financed by support from private individuals and institutions, with administrative costs kept to a minimum.



Founded in 2006, CartONG is a technical non-profit organization based in France, which specializes in mapping, mobile data collection and information management tools and services for the humanitarian and development sectors. CartONG works in partnership with local, national and international organizations (such as Doctors Without Borders, UNHCR, Solidarités International, Action Contre la Faim, Agence Française de Développement, Handicap International, ACAPS, the Bioforce training institute, etc.), supporting sustainable approaches to humanitarian projects and aiming to foster collaboration and innovation within its partner organizations and the local communities it works with. CartONG has been Tdh's technical partner on information management since 2015.

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# Acronyms and institutional terms

**CM**

Case Management

**CP**

Child Protection

**DDC**

Digital Data Collection

**DRR**

Disaster Risk Reduction

**EHA**

Emergencies and Humanitarian Aid

**FACET**

Facility Evaluation Tool for WASH in Institutions

**GIS**

Geographic Information System

**HAD**

Humanitarian Aid Division

**HQ**

Headquarter

**ICT4D**

Information and Communication Technologies for Development

**leDA**

Integrated e-Diagnostic Approach

**IM**

Information Management

**IMCI**

Integrated Management of Childhood Illness

**JMP**

WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation and Hygiene

**KAP**

Knowledge, Attitudes and Practices

**MDC**

Mobile Data Collection

**MEAL**

Monitoring, Evaluation, Accountability and Learning

**M&E**

Monitoring and Evaluation

**MENA**

Middle East and North Africa

**MHPSS**

Mental Health Psychological Support

**NFI**

Non-Food Item

**PCM**

Project Cycle Management

**PM**

Project Manager

**Q&A**

Quality and Accountability

**RASTA**

Rapid Assessment Tool

**SMART**

Specific, Measurable, Achievable, Relevant, Time-bound

**Tdh**

Terre des hommes

**WASH**

Water, Sanitation and Hygiene

**WELD**

WASH, Environment, Livelihood and DRR

**WIH**

Wash in Health care facilities

**WINS**

Wash in Schools









## 1. Background

This lessons learned document reflects on five years of experiences gained by Terre des hommes implementing Mobile Data Collection (MDC) projects, including lessons that can help Tdh delegations and other organizations make the best use of MDC in their programs. The document builds both on the institutional knowledge acquired over the years as well as on the experiences shared by three delegations (Iraq, Mali and Nepal).



# 1.1 The history of MDC in Terre des hommes: from pilot to institutionalization

## MDC and the aid sector

In the last decade, Mobile Data Collection has been used more and more by humanitarian and development organizations for **situation analyses, project monitoring, follow-up** of activities and vulnerable populations, among other uses (some NGOs are even today planning for all of their quantitative data collections to be carried out on mobile devices).

Using smartphones and tablets in the field used to be associated with an increase in potential security risks for field staff (which may still be the case in a few specific contexts) and was often considered to be of limited added-value by NGOs. However, the rapid proliferation of mobile devices throughout the world and their significant price cuts have made them common data collection tools for humanitarian and development actors, due to the numerous advantages they bring (fig. 5). This can also be associated to trends in the sector that see a constant push to have more “information driven” decision making processes, therefore requiring more rapidly accessible data and easier ways of collecting this data.

Today, very few people in the sector doubt the relevance of MDC for many different kinds of uses (fig. 7)- the main challenges concern more the question of how to implement these tools in the most **effective and ethical way**, and also to choose tools that can be used widely across an organization in the long run without a considerable investment in time and resources.

### From 2013 to today: the growth of MDC in Tdh

Although development NGOs are typically slower to adopt Information Management technologies than humanitarian NGOs, the fact that Tdh combines both development and humanitarian programs under its roof meant that it moved to MDC-type technologies quite rapidly.

Already in **2013** Tdh asked CartONG for support on a food security project in Burkina Faso where it wanted to monitor the nutrition situation every six months and required more rapid access to survey results and in-built indicators in the forms for increased data

quality. This was then followed by a project (then still considered an “innovation”) that was part of the early recovery program in the Philippines following Typhoon Haiyan in **2014**, which was coordinated by the Humanitarian Aid Division. This project, financed by an internal “Innovation” fund, had a considerable leverage effect on the uptake of the technology in the organization, that is interesting to note as such funding is rarely dedicated to “low tech” type technologies.

Once the effectiveness of the tool was recognized, the Quality & Accountability unit at headquarters took on the task of streamlining the use of MDC and scaling-up its use across all delegations, starting in 2015. This was made possible by the creation of M&E teams in the delegations that acted as catalysts for better information management practices (box 1).

An informal strategy to help define how to increase field and HQ teams’ capacities over time was devised (with the support of CartONG, Tdh’s technical partner on information management), with a focus on:

- **Guidance and toolkit:** Production of reference documentation<sup>[1]</sup> for field teams.
- **Capacity development:** Field regional trainings, selected one-to-one mentoring sessions for new Monitoring & Evaluation staff joining Tdh and awareness raising sessions organized at headquarters (fig. 2).
- **Ongoing technical support:** Support for field operations (for technical and methodological questions and for voluntary validation of forms before deployment) by HQ and through an MDC hotline accessible through email.

2013

One successful project



2014-16

HQ involvement on a few key projects



2017-19

Full organizational endorsement



<sup>[1]</sup> See Tdh/CartONG “Mobile Data Collection Toolkit - A guidance for the use of MDC in the humanitarian and development field”, <https://www.mdc-toolkit.org/>

### Box 1 Zooming in: Information Management at Tdh between HQ and the Field

In Terre des hommes, information management support for the humanitarian and development projects in the field is provided by the Quality and Accountability unit in HQ through the Information Management Advisor who works under the lead of the Head of the Unit. The Information Management Advisor has a functional (work) link

to the Monitoring and Evaluation or Information Management staff in the different delegations, depending on their structures. The M&E and IM staff in most delegations provide direct technical support to the project managers, who are responsible for the data collection, management, and analysis for their projects.

This strong investment by HQ over the past 3 years has helped Quality and Accountability and program staff in field operations to become more autonomous over time in using the technology (fig. 1).

“ The impulse to use MDC started with the Humanitarian Aid Division receiving a small innovation fund in 2015. We wanted to invest in a project using MDC, but at the time, we didn't know which tool to use. So we started by purchasing some smartphones and reinforced the partnership with CartONG to support us in choosing the most adapted MDC tool to implement in Tdh ”

(Bruno Pascual, HAD Wash specialist at HQ)

With eight 5-day in-country CartONG trainings organized since 2015, a total of 74 staff in 23 countries were trained on MDC throughout Tdh's main intervention zones. At HQ level, with three (2-day) awareness raising sessions organized since 2014, 31 staff members were also trained on MDC key concepts and stakes (fig. 2). The key aspect of these trainings is that they encompass both the technical side of an MDC implementation but also the methodological side, to ensure that all components of the process are catered to.

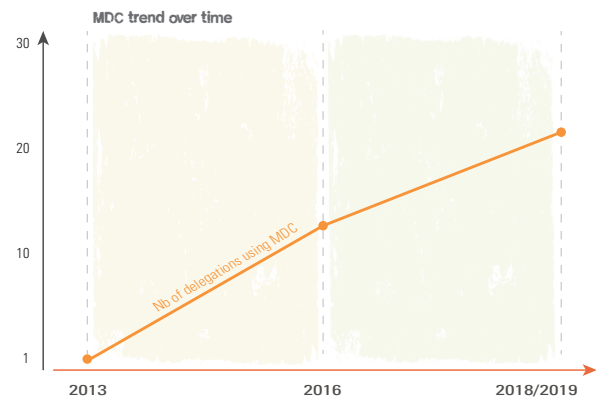
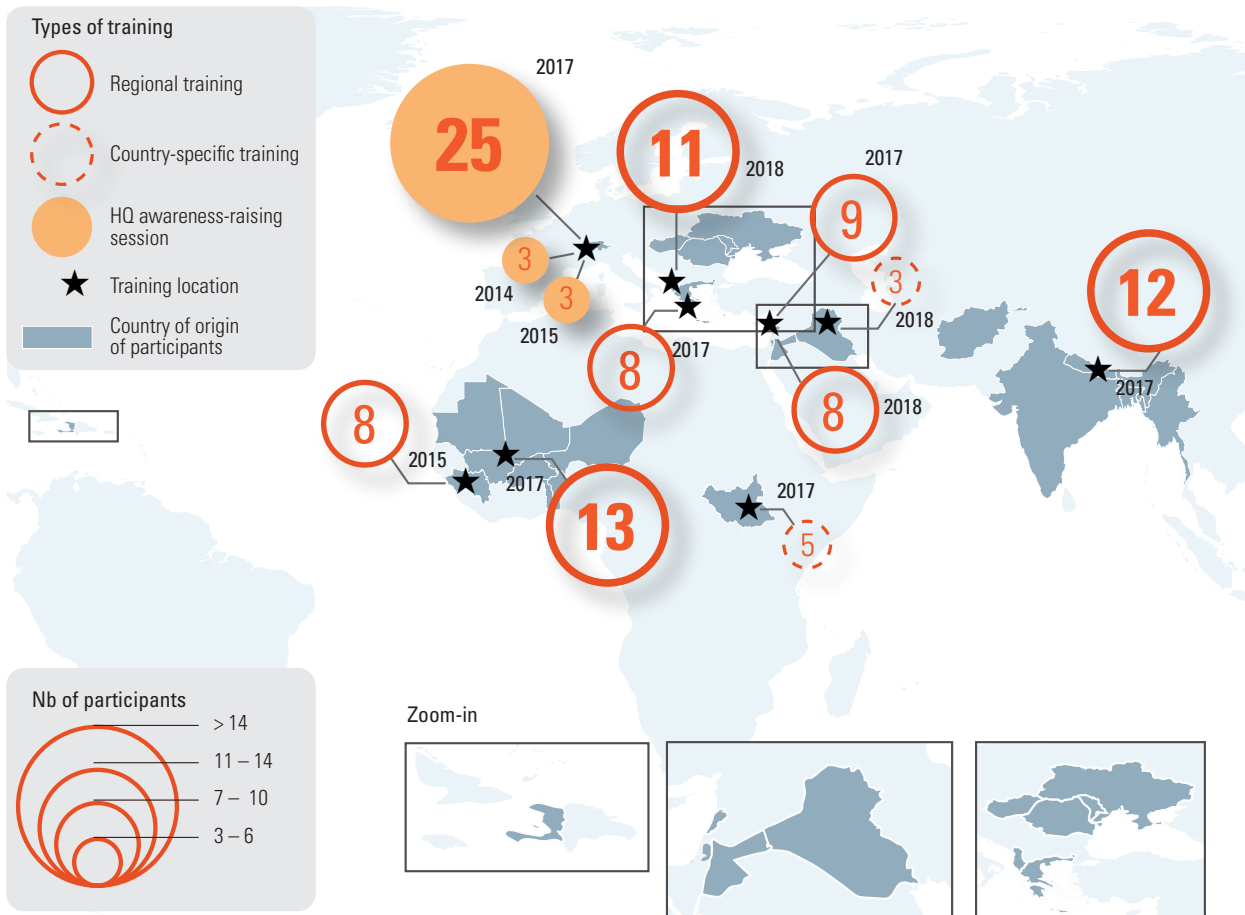


Figure 1 MDC trend over time looking at the approximate number of delegations using MDC

“ As the post-training evaluations demonstrated, these trainings were very successful both in terms of capacity building per se, but also in terms of building networks between relatively new positions within regions (the M&E positions having only emerged in the last 4-5 years in most Tdh delegations). This definitely helped creating space for sharing experiences and resources, as well as strengthening personal bonds between people ”

(Francesco Frezzetti, Information Management Advisor at HQ)



**Figure 2** Capacity-building institutionalization strategy in practice since 2015





## 1.2 Objectives and Methodology of this study

### Why this study?

The rationale for developing this study is to help Tdh build on the success of Mobile Data Collection implementation and explore further the potential of such technology to contribute to a better data literacy culture, as well as feed into the sector's reflection on such questions. Indeed implementing Mobile Data Collection has impacts that go beyond mastering a new technology: it implies among other things changes in terms of Human Resources, logistics, budget, planning and team management. This study, therefore, aims at highlighting lessons learned from the MDC rollout of the 5 previous years, and thus hopefully will play a vital role in the scaling up of these learnings on the methodological, ethical and technical components (*see section "Lessons learned"*).

“ *I hope this study will help our delegations make use of the full potential of MDC tools but also to reduce the inadequate uses that sometimes occur* ”

(Sophie Mareschal, M&E Advisor at HQ)

### Methodology

This study is based on information obtained through interviews with Tdh staff in the field delegations of Iraq, Mali, and Nepal, and information shared by Tdh staff at HQ and CartONG, as well as a literature review, in order to complement and illustrate Tdh's internal approach towards MDC (**fig. 3**).

The interviews were conducted between the 3<sup>rd</sup> and 21<sup>st</sup> of January 2019; remotely for field staff and face-to-face with people working at headquarters in Lausanne. Each interview with field staff lasted for about 1.5 hours, while interviews in HQ ranged from 1 to 2 hours.

The field staff interviewed had different profiles, from IM, MEAL or Q&A officer to project manager in the WASH, Construction, Camp Coordination and Camp Management, Child protection, Health and NFI sectors. This allowed this study to draw on the experiences and perspectives of people working in different Tdh contexts.

People interviewed at Tdh headquarters were specialists on WASH, IM, M&E, DRR and ICT4D.

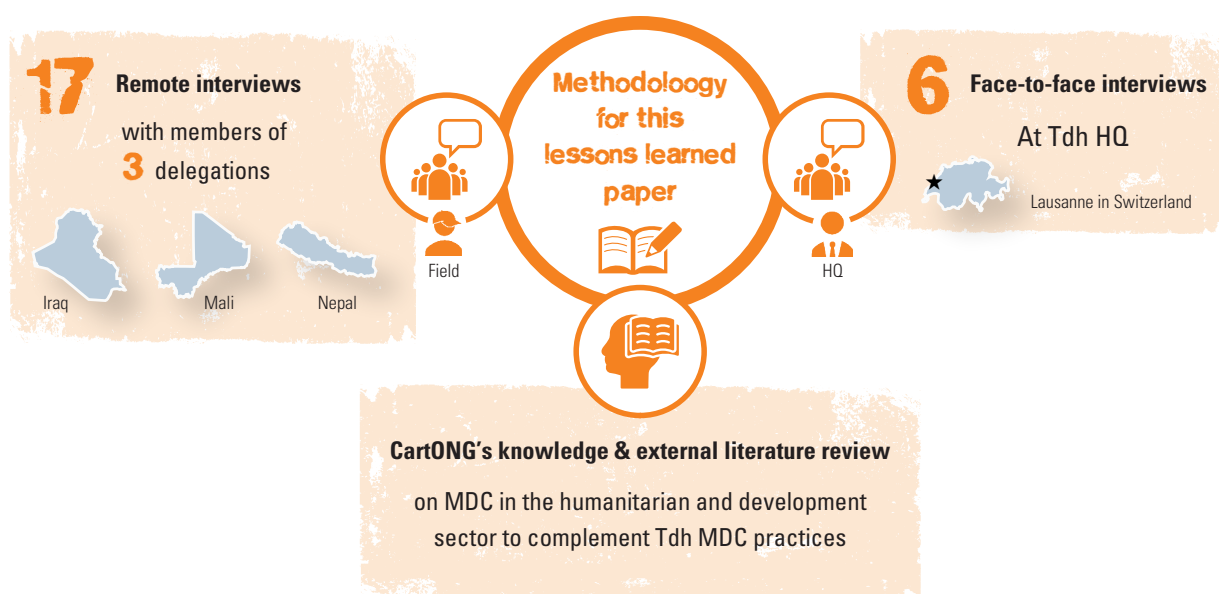


Figure 3 Presentation of the methodology

# 2. What MDC is and why we use it

## 2.1 The winding path of defining MDC

Defining Mobile Data Collection (often used interchangeably in the humanitarian and development sector with the term “Digital Data Collection - DDC”) is usually thought to be rather straightforward: one commonly used definition is **the use of a mobile device such as a smartphone or a tablet for collecting data.**

The *aid* sector however often uses the term “MDC” to describe specific tools that use mobile devices to collect **“survey”-type structured information.** Among the most commonly used in the sector are standard and generic MDC tools such as ODK, Kobo, ONA and SurveyCTO (fig. 4). This narrower definition of MDC excludes specialized tools such as mobile banking, tools for advanced longitudinal surveys or sector specific case management such as leDA (box 2), SMS based data collection directly from beneficiaries and tools with a strong component for collection and management of geographical information.

**Between the standard and low-cost tools referred to here as “MDC tools” and the more customized, technologically advanced “sector-specific tools” that were overall pretty well defined before now lies a more and more blurry area where functionalities from both groups overlap.** Standard MDC tools now tend to incorporate more and more complex features that are closer to “sector-specific” features. This can correspond to using advanced calculations to support decision-making directly in the tool (evaluating risk, identifying water quality issues of an infrastructure or generating a medical or nutrition diagnosis), being able to do basic case management follow-up of an entity, or to have a strong built-in geographic dimension to the data collection (beyond just taking a GPS point). At the other end of the spectrum, formerly highly specialized sector-specific business tools are starting to become useful across different sectors”

“ I see two main approaches to MDC, one based on low-cost ODK type tools and the other one based on more complex workflows, such as CommCare (leDA project in Tdh) or other ICT4D sector specific platforms ”

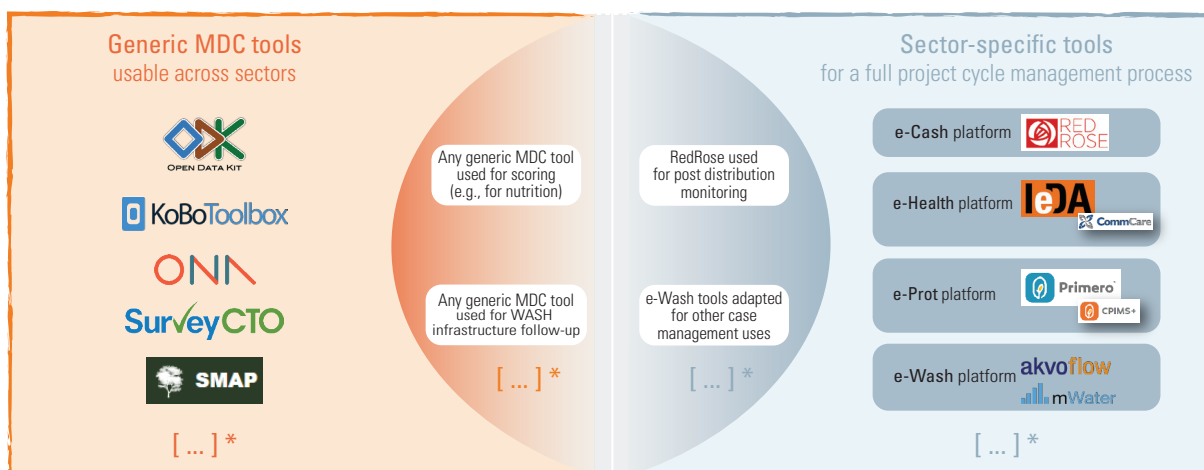
(Amara Amara, ICT4D Strategist at HQ)

### Box 2 Zooming in: leDA, ICT4D mobile flagship project

One of the key mobile projects in Tdh is the Integrated e-Diagnosis Approach (leDA) for the integrated management of childhood illness in West Africa.

Since its beginnings in 2011 as a pilot project for 39 health centers in Burkina Faso, and since the adoption of mobile technology for this project in 2014, leDA has become a flagship project run by Tdh’s ICT4D team, covering 200,000 consultations per months, running in 720 primary health centers which cover 45% of Burkina Faso’s territory, with plans to scale up to between 1,015 to 1,020 health care facilities by the end of 2020. As of 2017 the project has also been implemented in Mali and a total of 2 million children have been registered in the database since 2014.

leDA represents a large-scale innovation project for Tdh. It aims to sustainably improve and maintain the quality of health care services in West Africa, it manages a large volume of sensitive data (more than 4 million data entries and 2 million children registered) and it envisions the use of machine learning algorithms to check the plausibility and quality of the collected data (e.g., identification of potential errors or bias in the way the data was collected) and to develop models for epidemiological surveillance in the region.



Generic MDC tools are integrating more and more complex features

Sector-specific tools are becoming more and more generic

<b>Generic tools</b> (that could be applied to all thematic sectors)	<b>Different tools per thematic sector</b>
Focus on <b>data collection</b> (survey or regular data); <b>Form-based</b>	For the digitalization of a <b>full business workflow</b> ; <b>Workflow-based</b>
Can be used easily by <b>any program team, IM or M&amp;E</b>	Requests involvement of <b>ICT4D team</b> , strong thematic <b>expert involvement</b>
<b>Supporting</b> an operational methodology; Can be used at <b>any step of the project cycle management</b>	Tool is <b>at the center</b> of the operational methodology

\* Tools mentioned are examples to support the understanding of the illustration

Figure 4 Categorization of data collection tools using a mobile device: generic MDC tools versus “sector-specific” tools

Mobile Data Collection is also often associated with Monitoring and Evaluation teams, as it is regularly used by many operational NGOs to support the monitoring of projects (be it with structured interviews based on close-ended surveys or standard quantitative surveys). However, MDC has several other quantitative uses that are already occasionally put in place but which could (and probably should) be more widely considered. These include needs assessments, beneficiary registration, logistical aspects such as log book follow-up or other types of cross-cutting uses (fig. 7).





## 2.2 MDC versus paper-based data collection: advantages and disadvantages

Insights shared by the three delegations confirm positive and negative aspects of MDC that are commonly identified by the wider humanitarian sector (fig. 5), and the studies done by many other organizations<sup>[1]</sup>. The two most cited positive aspects of MDC are improved data quality and accuracy, while the two most cited disadvantages of using MDC are aspects related to the perception by the beneficiaries (e.g., reluctance to answer survey questions when being approached with a mobile device) and the longer preparation phase.

“ MDC has become close to systematic for quantitative surveys ”

(Harber Mahamane, Monitoring & Evaluation Unit Coordinator, Mali)

Data protection issues were also frequently mentioned during the interviews (not surprisingly in particular in the war-torn Iraq context where protecting vulnerable populations' data takes on a new dimension). MDC can improve data security in certain contexts by centralizing data in an online- and password-protected- database with restricted access, thus excluding the risk for paper forms being scattered or lost. In some existing MDC tools, there is also the possibility to encrypt the data to increase the level of data protection. However, by having all data in one place, it also exacerbates the risk of large volumes of data being compromised if unauthorized users gain access to the server, especially in MDC platforms that are not sufficiently secure, which therefore requires certain skills and a significant change in practices compared to the data protection of a paper workflow.

“ MDC improves data protection aspects as it is very easy to lose a paper form that could contain personal sensitive information. By using MDC, all the data is centralized in a single database in a computer, protected by a password and only the PM and the M&E have access to it. But I am also aware that tools such as Kobo do not have sufficient data security measures in place for the collecting of sensitive data ”

(Anais Guerin, Roving NFI Distribution Project Manager, Iraq)

Interviewees found it difficult to precisely quantify the impact MDC can have in terms of time efficiency, data accuracy or cost. However all of them reported that the benefits of implementing MDC significantly outweigh the initial costs.

“ On some projects we used to spend two weeks just for the data entry by data clerks, between the time to capture the information and the data cleaning that was necessary. Now it might take less than two days to collect similar data and the data is of much higher quality ”

(Atheer Shawkat Killinchi, IM officer, Iraq)

[2] "Mobile Survey Toolkit", Oxfam,

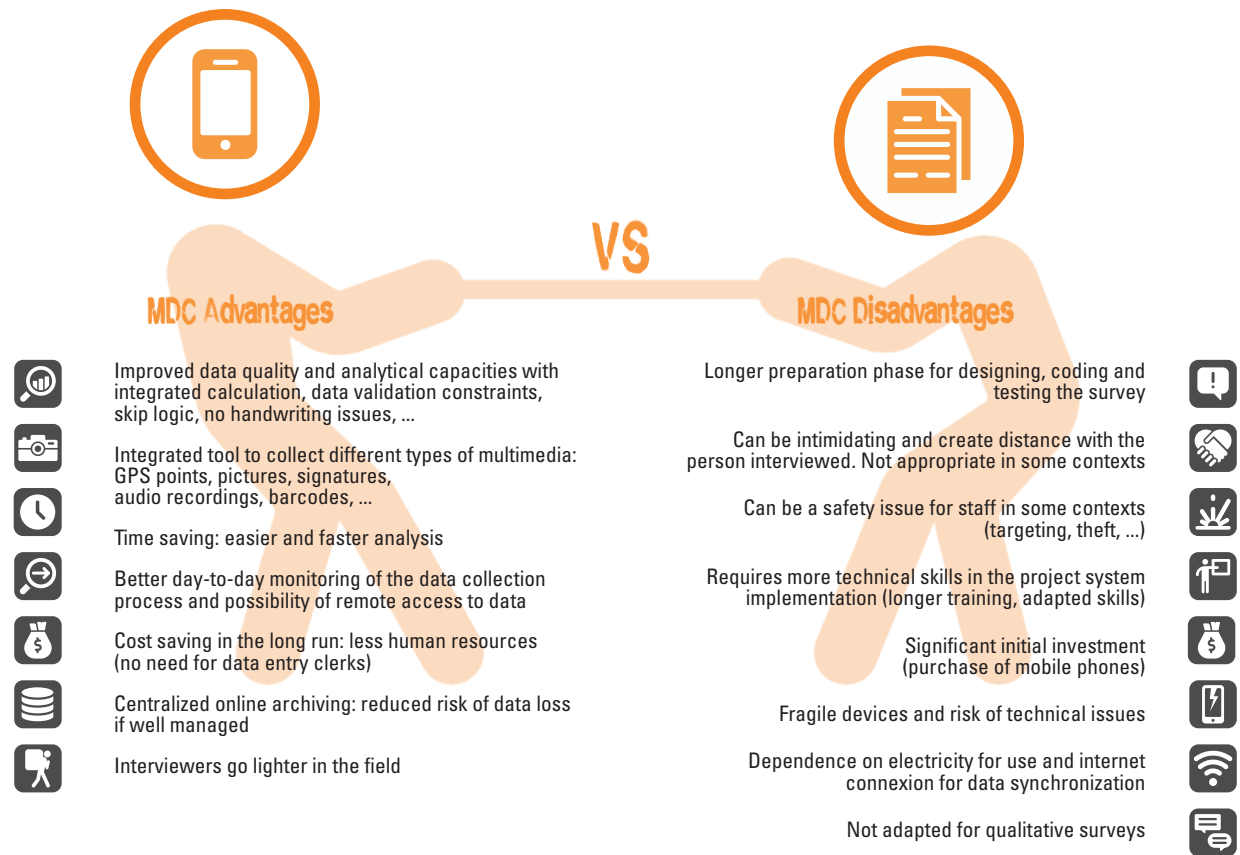
<https://oxfamlibrary.openrepository.com/bitstream/handle/10546/617456/gd-mobile-survey-toolkit-270716-en.pdf?sequence=1>

"Paper-to-mobile data collection: a manual", U.S. Global Development Lab, FHI 360:

[https://www.fhi360.org/sites/default/files/media/documents/Paper\\_to\\_Mobile\\_Data\\_Collection\\_Manual\\_1.0.pdf](https://www.fhi360.org/sites/default/files/media/documents/Paper_to_Mobile_Data_Collection_Manual_1.0.pdf)

"Benchmarking of Mobile Data Collection Solutions", Tdh, UNHCR, CartONG:

[http://blog.cartong.org/wordpress/wp-content/uploads/2017/08/Benchmarking\\_MDC\\_2017\\_CartONG\\_2.pdf](http://blog.cartong.org/wordpress/wp-content/uploads/2017/08/Benchmarking_MDC_2017_CartONG_2.pdf)



**Figure 5** Paper-based versus MDC: advantages and disadvantages



# 3. MDC practices in Terre des hommes

## 3.1 A snapshot of three delegations

### Three contexts with three different uses of MDC

The delegations in Iraq, Nepal and Mali used MDC for different activities and with different intensity in 2018. The figure below (fig. 6) gives a snapshot of the MDC projects in place at the end of 2018 (one should of course keep in mind that the size of the three delegations, the volume of operations, and types of interventions are very different and therefore the figures and types of projects are proportionally different!).

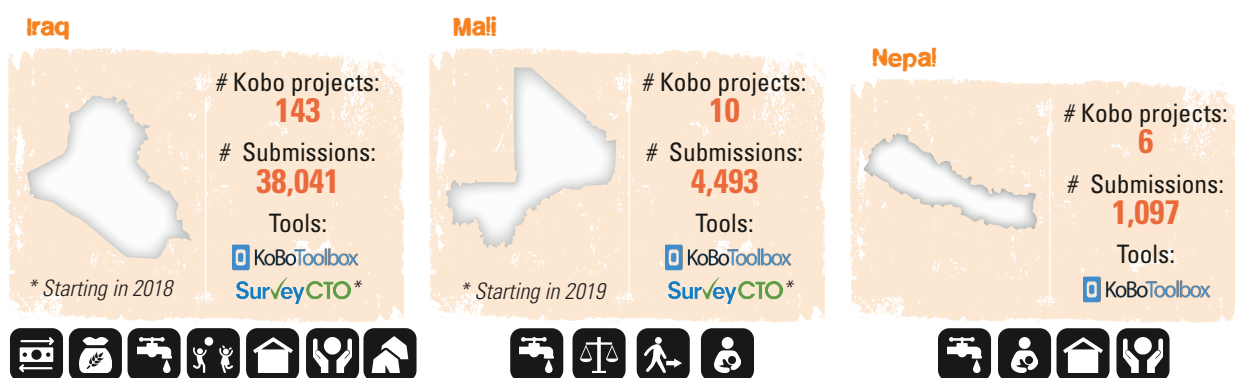


Figure 6 Snapshot of MDC practices in 2018 in Iraq, Mali and Nepal

### Typology of MDC uses




Examples of MDC uses have been categorized across Tdh programs and according to the project cycle management phase in which they take place (fig. 7).

















































































































It highlights programs where MDC is already well implemented and frequently used, such as WELD and EHA, while other sectors haven't been mentioned in the course of the interviews (e.g., Migration or Tackling Child Labor programs).

Looking at the different examples of MDC uses based on the project cycle management phases, one can notice that MDC activities take place throughout all the different phases of the project cycle, except for the strategic planning and evaluation & learning steps.

Although this typology might not fully represent MDC activities of all Tdh delegations across the globe, it has the advantage of highlighting areas of activities (Tdh programs) in which MDC is predominant (or on the contrary, completely absent), at a glance.



-  Known use in Tdh
-  Known use in the sector (but not reported in Tdh)
-  Could be relevant in the sector (but current usage unknown)

MDC usage example	Tdh programs								
	Protection Transv.	WELD	Advocacy	Juvenile Justice	Migration	Exploitation	Health	EHA - Emergency	
Multisectorial Assessment - survey at household level (e.g., RaSTA)									MDC uses supporting the Situation Analysis step
Sectorial assessment - survey at infrastructure level (e.g., shelter survey, equipment of school, youth center or health center, water point assessment...)									
Sectorial assessment - survey at household or individual level (e.g., nutrition survey such as SMART, food stock level, vulnerability assessment...)									
Sectorial assessment - survey at service or practitioner level (e.g., assessment of quality of services provided by youth center or social service; assessment of practice or workers' skills, ...)									
Knowledge-Attitude-Practices Survey									MDC uses supporting the Monitoring process
Well-being survey									
Post Distribution Monitoring Survey (in kind or cash)									
Satisfaction / quality service survey									
Other survey at household or individual level aiming at measuring the outcomes (e.g., post harvest survey, "feeling safe" child survey.)									
Pre/post training survey									
Frequentionation survey (to a service, infrastructure, water point ...)									
Attendance survey (to activities, meetings, workshops, trainings, awareness sessions, etc.)									MDC uses supporting the Implementation of activities
Daily or weekly reporting of activities done or target reached (e.g., daily reporting of visits done by social worker or health promoter, weekly activities implemented by a local partner ...)									
Beneficiaries registration (and eventual selection) for protection activities, distribution, capacity building, or health services									
Activities checklist (e.g., step to follow, equipment to take before starting, summary of what has been done, etc.)									
Case management (light)									
Distribution of items (follow-up)									
Service delivery reporting and follow-up (e.g., water trucking delivery ...)									
Laboratory test (e.g., water quality check, health ...)									
Equipment/infrastructure construction or maintenance follow-up (done by NGO staff, contractor or beneficiaires)									
Follow-up of infrastructures, services or supported organizations (e.g., FACET in schools or in health centers, water point check, follow-up of community health associations)									

**Figure 7** Typology of MDC uses: looking at the use of MDC across Tdh programs according to the project cycle management

## 3.2 MDC tools in Tdh

As is the case for any new technology, the specific needs of field programs and the expected uses of MDC have to be taken into account when looking for an appropriate tool to use in a specific context.

While KoboToolbox would be recommended to conduct a shelter assessment in the context of a Camp Coordination and Camp Management project for instance, SurveyCTO could be preferred to run a survey on Mental Health and Psychosocial Services among children, if personal data is collected, because of its data protection features. This is just one example to illustrate the aspects a delegation, or a country office of any organization, should consider, when looking for an appropriate tool.

To help delegations choose the most appropriate product out of the myriad of MDC tools available on the market, Tdh HQ has produced a decision tree recommending tools depending on specific project needs (fig 8).

The four tools in question are the following:

### How to choose the MDC tool most suited for your project:

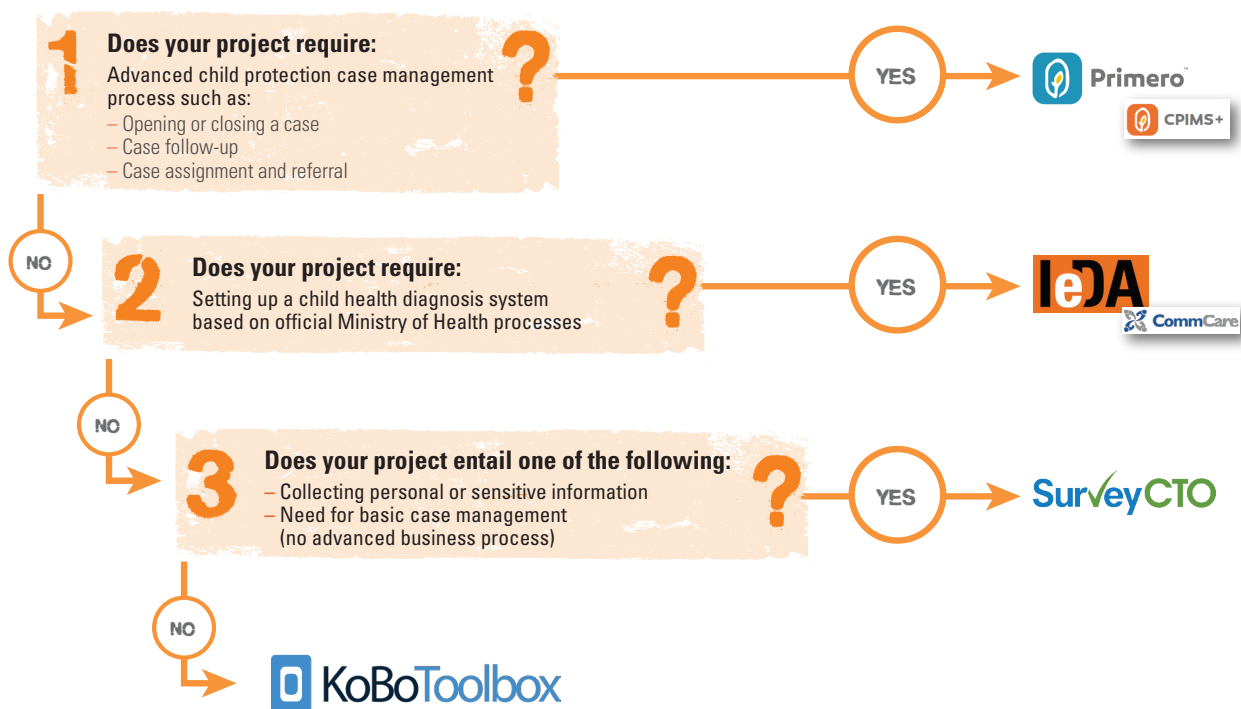


Figure 8 Decision tree to help Tdh teams to identify the most appropriate data collection tool using a mobile device

- **Kobo toolbox**<sup>[3]</sup>: the most widespread tool of the sector, used in many Tdh contexts and well adapted for one-shot or recurring surveys and near real-time monitoring as long as it doesn't include sensitive data (as the tool as it is today is not sufficiently secure, with amongst other aspects encryption being very difficult to set up and a little unreliable and there being limited granularity of user rights).

Kobo can be considered to be the preferred tool for beginners to get started with MDC. It is easy to learn and use and it is free for humanitarian and development actors.

**HQ recommends using the ODK Collect app with the Kobo online platform as it is more up to date than the Kobo Collect app.**

- **SurveyCTO**<sup>[4]</sup>: a widespread tool from the ODK ecosystem with adequate data protection features for mobile data collection (dedicated server per account, EU storage, sufficient level of encryption, very detailed user access control, etc.), basic case management capacities (linking different forms to a single "case" that you can update for basic follow up) and a very quality-oriented approach to monitoring data collection.

**HQ recommends SurveyCTO for the collection of personal or sensitive information or for basic case management in contexts where CPIMS+ and leDA/CommCare are not available.**

- **CPIMS+**<sup>[5]</sup>: Initially developed by UNICEF, IRC and Save the Children, CPIMS+ is one of the three modules of the PRIMERO<sup>[6]</sup> project. It is an advanced child protection case management tool providing digital forms and workflows to assist with documenting case management processes, from identification and registration, to assessment, case planning, referrals and transfers, and case closure of vulnerable children.

By the end of 2019, CPIMS+ had seen the roll-out of version 2 which includes mobile functionalities and better data protection.

- **leDA**<sup>[7]</sup> (a health approach based on the "Registre Electronique de Consultation" developed on the CommCare platform): leDA – Integrated e-Diagnosis Approach – is a project used in Terre des hommes to implement a mobile diagnosis support tool for integrated management of childhood illness designed for healthcare workers.

The leDA project is driven by the ICT4Dev team, supported by large funding and only implemented in Burkina Faso and Mali as of today (*see "Zooming in: leDA, ICT4D mobile flagship project"*). It is based on CommCare, a mobile solution with case management features that was developed by Dimagi.

**The first two - Kobo and SurveyCTO - fall into the category of "generic" MDC tools, while CPIMS+ and leDA/CommCare are more sector-oriented and advanced platforms for very specific use cases (see fig. 5).**

<sup>[3]</sup> Kobo toolbox: <https://www.kobotoolbox.org/>

<sup>[4]</sup> SurveyCTO: <https://surveycto.com>

<sup>[5]</sup> CPIMS+: <https://www.cpims.org/>

<sup>[6]</sup> Primero: <https://www.primero.org/>

<sup>[7]</sup> leDA: <https://www.tdh.ch/en/ieda>







## 4. 10 Lessons learned on MDC practices in Tdh

This study is not trying to make a case for the added value of MDC as this has already been documented by many different actors of the sector, and none of the interviewed staff from the study questioned this.

“ *MDC is a good way forward for Tdh, we have the capacity to start MDC and to easily manage it in our projects* ”

*(Suresh Khadka, M&E Manager, Nepal)*

However, it is important at this stage, as Mobile Data Collection is becoming more and more common in the organization and in the sector, to take a step back and reflect on the lessons learned to be shared with future implementers.

Insights shared by the three delegations regarding key opportunities and challenges faced in their projects while using MDC, as well as inputs from HQ staff and CartONG on the broader implications of MDC in their work are presented below. Drawing on these observations, recommendations are suggested to improve MDC practices within Tdh.

It can also be an interesting exercise to link these lessons learned to the Principles of Digital Development (PDDs) adopted by Tdh in 2018<sup>[8]</sup>, first created in 2012 by international donors and multilateral organizations to promote best practices in the use of digital technologies in development. Although mostly focused on the development of tools, rather than the implementation of existing tools (which is the usage Tdh has of MDC), a number of these PDDs can also be relevant for the latter.

## 1 Stick to paper if you are not able to allocate sufficient time to plan your MDC

MDC saves time by producing ready-to-share and ready-to-analyze data without the need for double data entry (entering the data first on a paper form, and then in the database at a later stage). Double data entry can be a very time consuming step, both in terms of HR and of survey timeline (fig. 9), without mentioning the impacts on the quality of the data.

However, setting-up an MDC system implies a longer preparation phase, in particular to develop and test the forms. It is therefore necessary to adapt the planned time span of each step to ensure that the MDC deployment is a success: the more time you allocate for a quality-oriented approach in your tool ahead of its deployment, the less time you will need during the stressful deployment phase and the faster you will be able to access the results.

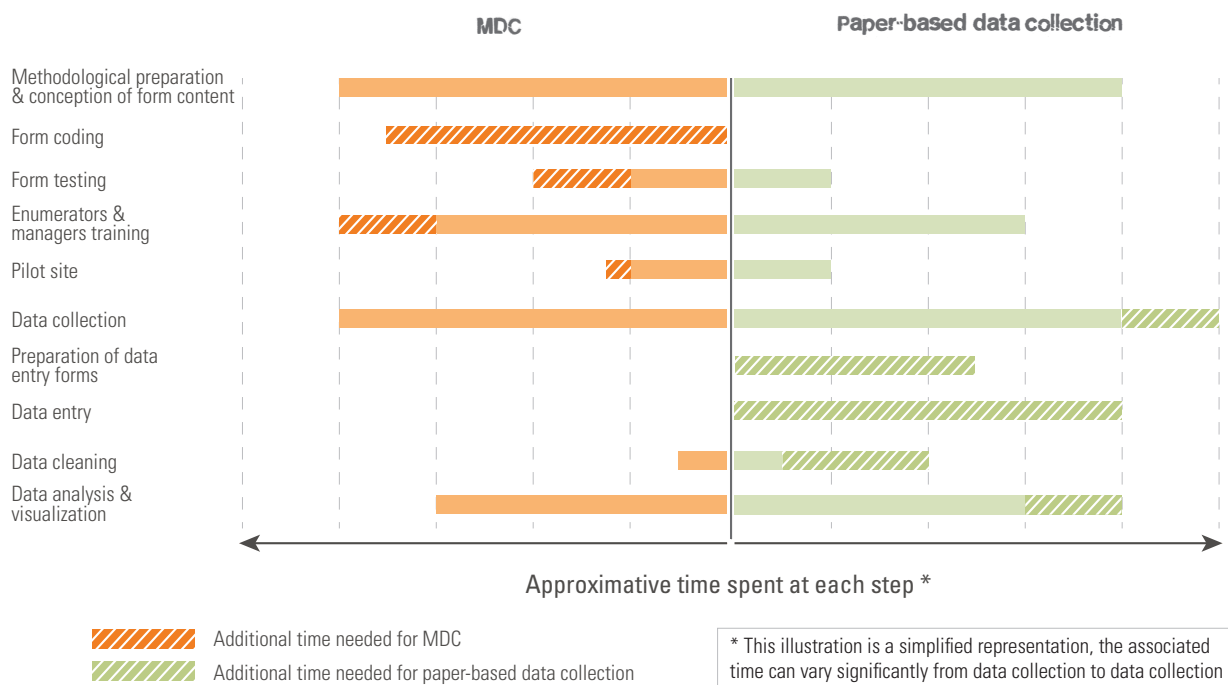


Figure 9 Time spent at each step of the data collection workflow with digital and paper-based data collection

[8] See Tdh, "ICT4D FRAMEWORK", 2018

Beyond the rapid access to survey data, MDC tools facilitate the interpretation of results through online data visualization functionalities (fig. 10). MDC tools also offer different features that facilitate the management, pre-analysis and cleaning of data by automatically creating summary reports with graphs that can be easily disaggregated (per data collector, type of respondent, answer to a given thematic question etc.) and by visualizing geolocated data on a map.

However, keep in mind that a poorly prepared MDC project can turn into a nightmare. Ill-conceived constraints or options for answers can block your enumerators from doing their work in the field, with sometimes no possible loophole to finalize and send through submissions (if the GPS point is mandatory but the phone has a technical issue making it impossible to capture it for example). **It's therefore less risky to use paper if you do not have the time to prepare your project properly as it offers more flexibility to the enumerators!**

“ MDC allows us to optimize the time resources available. It makes the project more efficient by taking advantage of what the technology can offer. With precise and near instant analysis, MDC better informs project managers and coordinators and facilitates decision-making ”

(Coline Michon, Child Protection Project Manager, Iraq)

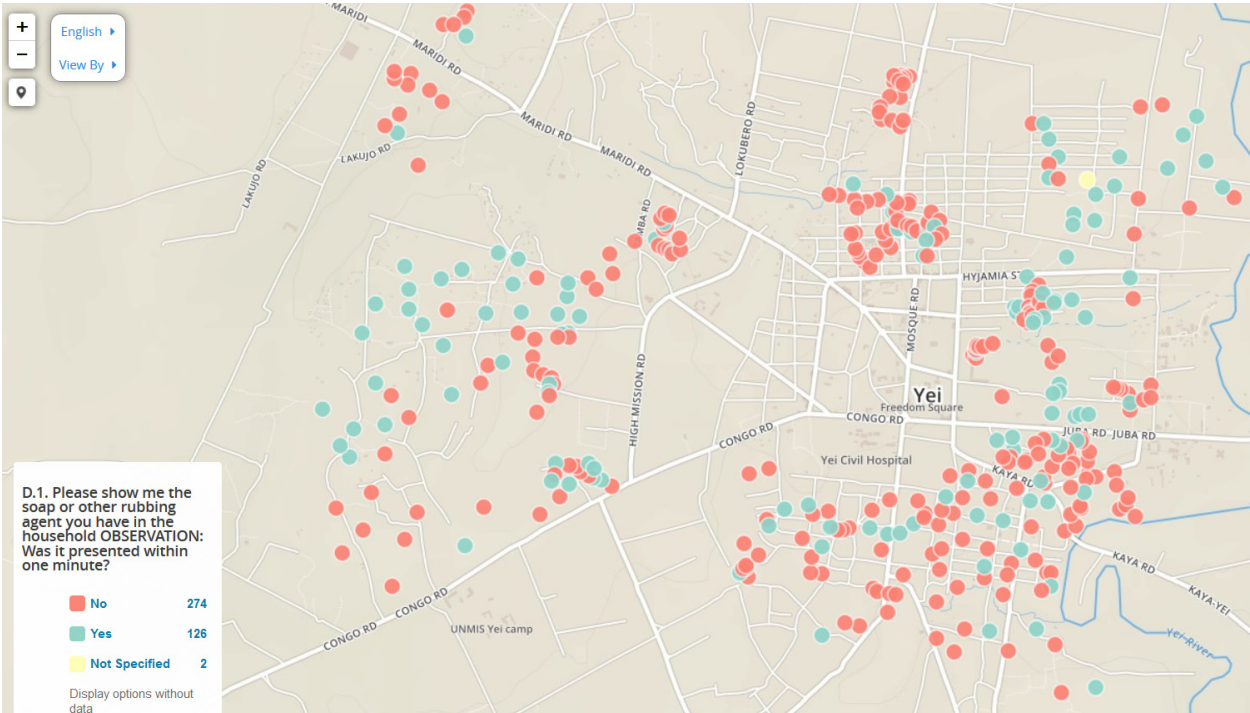


Figure 10 Kobo Toolbox online map of Tdh WASH KAP survey data in South Sudan

[9] UNHCR WASH KAP survey and tools: <http://wash.unhcr.org/wash-monitoring-system/wash-kap-survey-modules/>



## MDC is an enabler to improve the way you analyze your data

Too often, MDC is used just as a way to digitalize existing paper forms. However, the value of MDC can be increased if one approaches it not just as a data collection platform, but as a first step towards analysis.

Of course, defining your analysis plan, even before you design and deploy your survey is recommended for any survey, either on paper or mobile. This, in order to gain time but also efficiency for your analysis of results<sup>[10]</sup>. A step that MDC can make possible however is including your analysis plan directly in your tool by pre-calculating your indicators or scoring system (box 3) (i.e., like in FACET where scores are given depending on the results) which greatly increases the tool's value by making your analysis much more off-the-shelf once you look at your data (without needing to regenerate all the graphs during the whole process of data collection to update the preliminary results).

### Box 3 Zooming in: The FACET Tool

The FACET Tool<sup>[11]</sup> is a good example of a tool specifically developed in Kobo. First developed in 2016 by Eawag-Sandec, Terre des hommes and CartONG, published in 2018 with support from JMP, FACET is a simple, adaptable tool that enables mobile data collection on WASH services in schools and primary health care facilities (HCF).

FACET is based on JMP recommended service ladders and Core and Expanded indicators and is applicable across humanitarian and development settings. The data collected is directly analyzed with standard online-offline analysis tools and can be used for project design, monitoring, evaluation and advocacy. The process encourages integrating health authorities in the planning and as part of survey teams.

A manual<sup>[12]</sup> covers how FACET works, local context adaptation, survey planning and training enumerators.

Service Level for Water (Core list):
Limited
Service Level for Sanitation (Core list):
Limited
Service Level for Hygiene (Core list):
Basic
Service Level for Waste Management (Core list):
Limited
Service Level for Environmental Cleaning (Core list):
Basic

Beyond that it also means that you can very easily check your intended analysis with your test data before you deploy the tool. This reduces the risk of forgetting a key variable (e.g., that important disaggregation variable that you might need for your donor but that you have in the past forgotten to collect!) and encourages data minimization (strictly limiting the collection of data to the data that is absolutely necessary for your specific analysis purpose) in line with data protection and efficiency goals.

“ MDC facilitates the analysis process by encouraging users to reflect much more during the survey design phase on the set of questions to ask in order to collect the necessary data (it helps to identify what information to collect, from whom, how regularly and for which indicators), as well as on the visualization output of the results. These aspects might be overlooked when using paper-based data collection ”

(Francesco Frezzetti, IM Advisor at HQ)

<sup>[10]</sup> See Tdh analysis plan template:

[https://docs.wixstatic.com/ugd/9fcbf8\\_b6a8c37d394f48a196e52e0e619296b1.xlsx?dn=FR%20-%20EN%20New%20analysis%20plan%20Tdh.xlsx](https://docs.wixstatic.com/ugd/9fcbf8_b6a8c37d394f48a196e52e0e619296b1.xlsx?dn=FR%20-%20EN%20New%20analysis%20plan%20Tdh.xlsx)

<sup>[11]</sup> See "The Facility Evaluation Tool for WASH in Institutions (FACET)", <https://www.sandec.ch/facet>

<sup>[12]</sup> See "The Facility Evaluation Tool for WASH in Institutions (FACET) - Manual", [https://www.eawag.ch/fileadmin/Domain1/Abteilungen/sandec/publikationen/SESP/FACET/FACET\\_Manual\\_EN\\_low.pdf](https://www.eawag.ch/fileadmin/Domain1/Abteilungen/sandec/publikationen/SESP/FACET/FACET_Manual_EN_low.pdf)



## Easier is better when it comes to analysis tools

Considering the high staff turnover that project teams regularly experience and the lack of time to keep up-to-date with tools that is inherent to the aid sector, **delegations should not aim to roll out complex, advanced statistical analysis tools such as R, SPSS or Stata that require a lot of time for the on-boarding of new staff** (that usually come with various backgrounds in terms of tools that they know). **They should instead facilitate the adoption of tools that everyone can master with little training, such as Excel**, making sure that all staff members - including project managers - understand to a certain degree the basic features of tools like Excel (pivot tables, statistical formulas...). This is not always the case today even for technical staff to be able to apply methodologies consistently.

More investment should therefore go -in the overall scale-up strategy- into ensuring a minimum level of data management skills for those needing it at field level with

the M&E teams as advocates rather than having one or two staff highly trained in using advanced tools that few master and therefore are not easily transferable.

Having program teams being more confident in the use of Excel -or more advanced set-ups of Excel compatible with MDC such as the Kobo Excel Analyzer or the FACET Excel Analyzer (fig. 11) - could empower them to more frequently analyze their data rather than encouraging M&E teams to always do the analysis, and it also encourages more joint analysis to move to the more advanced phases of analysis (anticipatory and prescriptive)<sup>[13]</sup>.

**The Data visualization toolkit<sup>[14]</sup>** is also there to help create less usual visualizations of data very easily for staff for whom it is not the main component of their position.

**Data visualisation toolkit.**

Terre des hommes has developed a set of tools to guide you into improving data visualisation. You will find in this toolkit:

**A. Excel Template.**

Import your data in the chosen template. You can then export the chart for your report.

- Use the 1st page to help you choose the best chart.
- Copy-paste your data in the corresponding tab.
- Export the result in your report.

**B. Documentation.**

**BASIC RULES.** A review of the basic rules with examples. Simplify by unnecessary details. Communicate first.

**CHOOSE THE BEST CHART.** Connected examples to help you understand which chart is best for which type of data.

**TEST YOUR SKILLS.** Which chart better fits the dataset? Is it the most effective chart to communicate?

**REMEMBER.** One page reminder on the different chart types and their goals.

**C. To go further.** You can also find guidance in these external documents.

Logos for Terre des hommes, cartONG, and iD are visible at the bottom.

“ We have developed an online dashboard based on Power BI (a self-service online Business Intelligence tool)- as well as an Excel-based tool, the FACET Excel Analyzer, to provide field teams with predefined analytical tools to help them in their data analysis efforts, but we came to realize that the Power BI component is not used in the field. This is due to connectivity constraints and because the offline tool already does what is needed in terms of data analysis and visualization. It might be less enticing but it definitely meets the needs of the field. The need for the tools available to better communicate on the findings of a project data collection was also identified. FACET 2.0 (currently under development between Tdh, Eawag and CartONG) will better mirror the way that the JMP (WHO / UNICEF) presents data in global publications for better communication with stakeholders at national-and potentially global-levels ”

(John Brogan, WASH and DRR Specialist at HQ)

[13] See ACAPS "Analysis Spectrum", [https://www.acaps.org/sites/acaps/files/resources/files/acaps\\_analysis\\_spectrum\\_poster.pdf](https://www.acaps.org/sites/acaps/files/resources/files/acaps_analysis_spectrum_poster.pdf)

[14] See Tdh "Data visualization toolkit", <https://www.mdc-toolkit.org/analyse-your-data/>

**Box 4 Zooming in: The FACET offline Excel Analyzer**

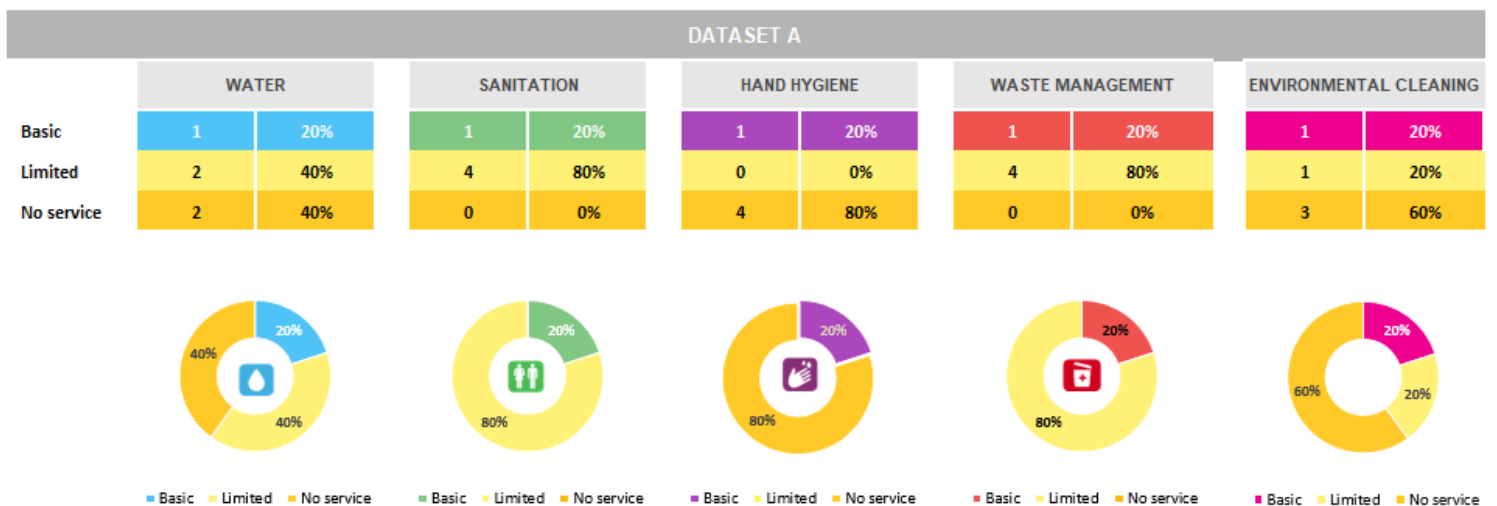
The FACET Excel Analyzer, based partially on the Kobo Excel Analyzer developed by UN OCHA, is an easy-to-learn and easy-to-use offline tool based on Excel.

It has the advantage of allowing project managers who are not at ease with Excel's advanced features - such as pivot tables or other statistical tools - to analyze survey data against core indicators, for example the JMP indicators for the FACET surveys in a couple of clicks.



© TdH/Atheer Shawkat Killinchi - Iraq

**1 - Service Level Indicators**



**Figure 11** JMP service level indicators calculated with the FACET Excel Analyzer for Wash in health care facilities

## Integrate the MDC implementation in the M&E approach to make it more impactful

MDC as a new tool is often thought of independently of the procedures in place, while it should -like any data collection tool- be based on the project's information needs defined in the M&E and in the analysis plan (rather than starting one's blank form directly in an online form builder with no prior reflection, as is sometimes the case). The M&E plan should outline the scope of the monitoring, the indicators and their measurement modalities, the reflection on potential data quality issues and mitigation measures, the set-up of the information management system and the timeline. The analysis plan should include the desired methodology for data collection, how the data will be analyzed and visualized <sup>[15]</sup>.

Beyond this, it is interesting to note that **using MDC in a project has the frequent side-effect of leaving out qualitative aspects, with an exclusive focus on quantitative data, as this is what such tools are suitable for**. While mobile devices are not appropriate to record large amounts of qualitative information gathered during a focus group discussion or key informant interviews, these types of information are often essential to fully understand a situation on the ground. Therefore, **combining qualitative and quantitative approaches** (with for example an initial focus group discussions or key informant interview prior to a data collection, or planning to use a qualitative approach to wrap up a quantitative survey...) **is usually the best way to gather an accurate picture of a situation** <sup>[16]</sup>.

“ I complement the Wash KAP surveys done with MDC with focus group discussions, recorded on paper. A Wash KAP survey in itself cannot give a full picture of a specific context, especially in schools where it is better to take the time to sit down with the children and to organize a focus group discussion ”

(Francesca Rampoldi, Wash Project Manager, Iraq)

There are also **cases in which, even for quantitative surveys, Mobile Data Collection is not appropriate** or needs to be handled carefully, taking into account the security context, the topic (related to protection or not...) and the target population. For example, in high-risk security environments a mobile device might increase the visibility of field staff and expose them to additional risks, making them potential targets for attacks, or it could also scare off adults who might not want to answer or engage if they see a mobile phone (without being given an explanation on why it is being used). Program staff should also consider the target population. Tdh is primarily a child protection NGO, and although the use of mobile phones for some types of activities with young people could be explored further, running standard MDC with children should be carefully considered, both because of the strong respondent induced biases it can entail and also to ensure basic respect of the child we might be discussing sensitive topics with <sup>[17]</sup>. This is also often valid for other types of vulnerable populations or sensitive topics that require some sort of data collection.

<sup>[15]</sup> See Tdh, CartONG, “General M&E principles and advice”, 2017

See Tdh, “PCM in emergencies and humanitarian crisis handbook- how to design and implement a monitoring system handbook”, 2018

See Tdh, “Analysis Plan”, 2018

<sup>[16]</sup> See Tdh “Note on choosing the right approach” to know more:

[https://docs.wixstatic.com/ugd/9fcbf8\\_e4385e1798b54a2faa7666e53b3d40c7.pptx?dn=1.1%20EN\\_Choosing%20the%20right%20approach\\_guiding%20questions.pptx](https://docs.wixstatic.com/ugd/9fcbf8_e4385e1798b54a2faa7666e53b3d40c7.pptx?dn=1.1%20EN_Choosing%20the%20right%20approach_guiding%20questions.pptx)

<sup>[17]</sup> See Tdh “Technical note: errors and bias in surveys”: [https://docs.wixstatic.com/ugd/9fcbf8\\_a167a4cc25224765a7d60f8c581793b7.pdf](https://docs.wixstatic.com/ugd/9fcbf8_a167a4cc25224765a7d60f8c581793b7.pdf)

5

## Ensure roles and responsibilities between M&E teams and PMs are clearly spelled out

One of the findings of the interviews is the importance of **having roles and responsibilities between project managers and Monitoring & Evaluation teams clearly spelled out**, which is critical to a successful scale-up of MDC in a delegation.

While, generally speaking, **PMs should** not have to actually technically conceive MDC tools from scratch (or at least not for “M&E type” surveys), they should **retain significant ownership of the data process and the analysis**. For this reason, they need to have sufficient knowledge to communicate their needs efficiently to the MEAL or Q&A officers that support them. It is essential that the roles and responsibilities of these two sets of profiles are clear for Tdh delegations, with procedures in place, to ensure an efficient collaboration, and that each has the right level of information and knowledge on MDC.

“ A significant challenge within Terre des hommes to support the definition of responsibilities is that different delegations can have very different setups, making it difficult to draft standard roles and responsibilities for the different functions- it requires coming up with scenarios for the different types of contexts ”

(Francesco Frezzetti, IM Advisor at HQ)

**Having program staff more involved can also help with a wider use of MDC, beyond basic surveys, for the successful daily running of an activity for operational purposes** (for example, to report daily on the number of Hygiene Promotion visits, to follow up on the construction of an infrastructure...), that could also lift a considerable weight from PMs’ shoulders.

6

## MDC makes possible more efficient supervision of teams

Using Mobile Data Collection gives you the opportunity to **double-check the data entered in the system as soon as the enumerators have been able to send it through to identify suspicious data** (such as unexpected values, particularly low time spent filling a submission, a photo taken that does not match what is expected...). **This enables more efficient day-to-day monitoring of your survey and of your enumerators compared to paper-based surveys.**

“ In the three last multisector assessments the HAD conducted (in Colombia, Uganda and Nigeria), by checking the time spent during the interview, we realized that a significant part of the sample data was suspicious, with submissions filled in 5/10 minutes for surveys requiring on average 20/25 min). Beyond a presence with every field team during the survey, only MDC could have told us that there was an issue in the data. It clearly reinforced the importance of a strong focus on training and orientation of the enumerators ”

(Raphael Bacot, DAH ICT Specialist at HQ)

Some tools, like SurveyCTO, pose a strong accent on quality control allowing the evaluation of the plausibility of the collected data in near real-time. This way, survey managers can identify issues more quickly, for example by looking for extreme values, incoherent data, incoherence between enumerators or teams, the time spent in the field to record submissions or by double checking the GPS locations of the submissions. This can help to assess the plausibility and quality of the collected data.

“ With SurveyCTO we have the ability to calculate the time spent [with an interviewee] or audit key questions of the data collection, which helps us monitor the data collectors, especially when the data collection occurs remotely. This helps to improve the data quality ”

(Atheer Shawkat Killinchi, IM Officer, Iraq)



Through this ongoing feedback loop between data collection and data quality checks, MDC offers the possibility to timely resolve some issues while the survey is still ongoing, as for example in cases of misunderstandings by data collectors. **This is particularly relevant in cases where data collection happens in several locations at once or in contexts where projects can only be monitored remotely** for reasons of security or due to other access constraints. MDC is not *the* solution to all the problems that remote management of a data collection entails (and will never replace close field monitoring and mentoring of teams), but it does help in different ways, by giving a snapshot of the data while it is being collected, and also offering different triangulation possibilities that can be helpful to cross check the data even from afar (GPS points, photos, time spent or audio audit, ...).

“ For a recovery project taking place in four different locations, MDC allowed us to closely monitor and supervise the progress of the construction activities from Kathmandu. It is a very helpful tool, as even though we can't visit each site every day, we still have the possibility to do daily monitoring of the collected data and to give feedback and instructions accordingly to the site supervisor when necessary ”

*(Abhishek Mishra, Construction Coordinator, Nepal)*



7

## Data protection should not be the fifth wheel on the wagon

MDC makes data protection practices a little more user friendly than they were when on paper. However, it must not make one forget that MDC also requires setting up certain procedures to ensure that the personal and/or sensitive data that is collected is properly secured. Today, there seems to be a **double data protection standard between paper and mobile, with new technologies now in place but procedures that still need to evolve to ensure that they respect the basic “do no harm” humanitarian principle** in the same way that paper did. In a humanitarian setting, where turnover of staff is often important and data is more often than not particularly sensitive, data protection (with amongst other things strict user access control) should be a strong priority, and **all profiles of staff should be trained according to the type of risks they can face**<sup>[18]</sup>.

“ I’m always surprised to see how smartphones used for data collection in certain field operations might not have a pin code or antivirus –in contexts where if the same data collection was on paper there would have been advanced processes in place, with a precise storage place with a lockout procedure, that only one or two people would have access to ”

(Claudia Grigore, data protection Task Force member, CartONG)

Name	Shared by	Created	Last Modified	Submissions
Rabid Health Center Assessment 2018		November 2, 2018	November 12, 2018	1
Shelter Assessment Shirqat-ECHO4 Nov.2018		November 11, 2018	November 12, 2018	308
KAP Survey For Children in Schools Oct 2018 Hawija-Tuz		October 14, 2018	October 31, 2018	264
School Rehabilitation and Equipment Telfar 2018		October 24, 2018	October 24, 2018	353
SAD CP Registration Form OFDA3-ECHO4 2018		October 17, 2018	October 17, 2018	2566
CDBB Parents Questionnaire		September 29, 2018	September 30, 2018	186
Basic Literacy And Numeracy Classes Oct 2018 Telfar		September 28, 2018	September 29, 2018	113
Education Assessment Tal Afar Sep 2018		September 14, 2018	September 14, 2018	22
School Assessment BS Sep 2108		September 2, 2018	September 7, 2018	278
SCHOOLS_REHABILITATION_FOLLOWUP_TAL_AJAR_2018		April 24, 2018	September 5, 2018	30
Bajji CP Assessment V02		September 4, 2018	September 4, 2018	41
KAP Survey For School Aug 2018 Anah		August 17, 2018	September 2, 2018	104
Kirkuk CP Assessment Aug 2018 V02		August 14, 2018	August 14, 2018	2
PDM ANAH Hygiene Household Kits OFDA2 July 2018		August 8, 2018	August 14, 2018	69
Kirkuk CP Assessment Aug 2018		July 31, 2018	August 12, 2018	120
FACET Wins in Haweja Schools baseline OFDA3 August 2018 QAT WASH in Schools		August 12, 2018	August 12, 2018	6

[18] See Tdh/CartONG "Data protection starter kit": <https://www.mdc-toolkit.org/data-protection-starter-kit/>



## MDC is not a one-shot capacity building exercise

As already mentioned in the previous lesson learned, training is of primary importance to ensure quality Mobile Data Collection. Information Management skills need to be brushed up occasionally (especially as most IM and M&E staff in Tdh have many other responsibilities besides MDC). The level of expertise required depends on the profile, and **it is important to address these different needs via different channels**: trainings and/or awareness raising sessions, focused briefings, available documentation, remote support and also capitalizing on past experiences.

*“ It's difficult to maintain the capacity in MDC, particularly for XLSForm coding, if you don't practice on a daily basis. I sometimes forget some details, but I can discuss and get some help from other colleagues in the M&E team ”*

*(Prakash Bohara, Health Program Coordinator, Nepal)*

Offering yearly training opportunities in every delegation is not a financially viable option for Tdh. However, **finding ways to locally transfer skills from staff with experience to others can help steadily consolidate MDC** within program/project teams, IM and M&E staff over time (such as in Iraq where an email is sent every week from the IM staff to program staff with interesting IM tips and tricks). **Developing further ways to ensure horizontal transfer of skills and capacity could help the teams be more efficient** but also help improve their data protection practices, with common standards and processes in place.

The MDC Toolkit<sup>[19]</sup>, a public website co-produced by CartONG and Tdh with tutorials and training material for field operations that supports the whole process of MDC, from thinking through the prerequisites of using MDC to the preparation of your forms and tools and the analysis of your data, has had more than 30,000 website visitors since it came out in early 2018. However, **the internal Tdh dissemination of such material is very dependent on strong communication channels between HQ and the field** that are still one of the weaker links being worked on by HQ.

<sup>[19]</sup> See Tdh "MDC Toolkit": <https://mdc-toolkit.org>

*“ I check out the MDC Toolkit for documentation from time to time, in particular the data protection component ”*

*(Kaleb Coulibaly, Health Monitoring & Evaluation officer, Mali)*

## It is essential to improve the capitalization around MDC experiences

The question of improving the internal feedback on MDC experiences has only just been touched on in Tdh, with no particular procedures in place except from a shared repository of forms that is maintained by HQ.

*“ We don't capitalize well enough on past deployments. Following-up on previous surveys by keeping records of the key facts (e.g., sampling size, number of beneficiaries, length of the data collection period, ...) as well as the main challenges and limitations experienced during the deployment in terms of translation issues, relevance of the questions asked, potential interpretation biases for instance, would help improving forms for future deployments over time and is something that we have only just started to do ”*

*(Raphael Bacot, DAH ICT Specialist at HQ)*

Beyond this, it has happened frequently that forms were created from scratch at the beginning of a project, instead of taking advantage of existing forms and adapting them to a specific context. This aspect is not specific to MDC, as paper-based data collection faces the same issue. However, the most commonly used MDC tools in Tdh (Kobo and SurveyCTO) have the advantage of sharing the same standard XLSForms format, through which all delegations can build and share their forms.



**Some standard forms, which can be adapted by field offices to their local contexts** (FACET, MHPSS, WASH KAP...), **have been created** (or adapted from other actors), **but having more of these available would further reduce duplication**, making field operations gain time by avoiding recoding forms from scratch and also ensure a certain level of quality of the forms, although it will always require adaptations and contextualization. However, this would require a validation process at HQ level and solid communication practices, in order to select and validate the forms to be stored and shared, as well as developing the capacity of field staff to adapt standard forms to their specific contexts and needs. **The definition of a standard form also needs to be thought out carefully, as a form can be standard per sector, per region, per data collection approach.**

“ *We all create surveys and assessments on Kobo on our side, while we could benefit from what is already implemented in different projects in other bases or delegations. It would be beneficial to have ready-to-use standard forms in different languages available to all project managers* ”

*(Coline Michon, Child Protection Project Manager, Iraq)*

“ *MDC assessments are regularly conducted in Iraq in different projects. We tend to reuse more and more the same tools, which is the advantage of having a large collection of forms available on Kobo. There is a clear trend towards standardizing forms per sector, so that they can be used and customized when needed to fit specific contexts* ”

*(Pierrick Kervella, MEAL Manager, Iraq)*

## Remember that MDC is a long-term organizational approach and investment

10

A key learning from HQ is that **Mobile Data Collection requires a sound level of energy and resources for it to be used wisely and widely**. Like many new tools, even if it surfs on the wave of new technology, **MDC takes a long time to permeate the different geographies and profiles of an organization like Tdh**. Implementing such technology at a global level takes a lot of investment, change management, and a lot of careful considerations, in terms of communication and dissemination of processes, procedures and documentation, but also in terms of HR. However, in the Tdh case, it is certain that the organization has reaped the benefits of this investment over time.

“ *In 2018, the financial director gave as golden rule the fact that 5% of the budget of projects should be dedicated to M&E, while before in some delegations it could correspond to 0,25%. This will hopefully help with the development of standardized forms, buying licenses, and capacity building where before it could be very complicated* ”

*(Bruno Pascual, HAD Wash specialist at HQ)*



**5. Conclusion:  
Where do we see MDC  
going in the future**



## 5.1 Tdh's vision for MDC in the next five years

The overall vision for MDC in Tdh revolves around the following points:

- **Increasing usage in order for MDC to be more widely adopted** in Tdh delegations and used for a wider range of topics and usages (i.e., not only for the one-shot monitoring of a project).
- Ensuring **better integration of quantitative and qualitative approaches** to avoid an excessive focus on quantitative data at the expense of qualitative insights. A mixed method approach, for example combining MDC with focus group discussions, key informant interviews or field observations, has to be developed as well as further exploration of the potential of technological qualitative tools (with automatic voice recognition and integrated analysis tools etc.).
- Ensuring **better data protection** by selecting the appropriate tools for the dedicated activities and by providing adequate training and support in the proper use of these solutions, based on Tdh guidance (e.g., Data Protection Starter Kit, Data Protection in Case Management, etc.).
- **Helping expand the knowledge of the global community** and improving the practices of the other NGOs and organizations **by maintaining and updating the existing MDC toolkit**<sup>[20]</sup>, a website providing guidance on how to effectively and ethically set up and deploy Mobile Data Collection.
- Exploring the **potential for participatory MDC**<sup>[21]</sup> **for better empowerment and accountability** (fig. 12), in particular of children. This could be either through self-administered forms or by directly involving beneficiaries in the different stages of the data collection project cycle, depending on the project and the context, such as using the quick access to data to help give more frequent feedback to the communities, sharing interesting findings -in other words making it a tool for increased communication rather than the barrier it can sometimes be seen.

“ It would be of great interest to further explore the empowerment potential of MDC. For instance, youths could participate in the data collection process from the design stage onwards in order to strengthen their capacities and facilitate the enjoying of their rights ”

(Sophie Mareschal, M&E Advisor at HQ)

### Box 5 Zooming in:

#### Improving the potential of MDC for population participation

There is room to improve the role Mobile Data Collection could play in Tdh as part of the participatory continuum for real accountability: MDC should do better in feeding back survey results to beneficiaries. Having near-time access to preliminary results, project managers could easily share basic summaries and graphs with all stakeholders (i.e., including local communities) while the data collection process is still ongoing.

However, this doesn't replace the need to share final project results with the communities. Processing preliminary survey results "on the fly" could also be used to feed participatory methods, such as community meetings or focus group discussions to gather additional qualitative information<sup>[22]</sup>.

Teams should be aware however, that MDC can sometimes disempower those it is supposed to serve, by creating new barriers through the implementation of a tool that beneficiaries do not have access to. This limitation can be overcome by properly training enumerators so that the devices do not have negative effects on face-to-face relations with beneficiaries. One should also ensure that MDC does not lead to "robotization" of data collection (giving the beneficiary the impression of talking to a "robot", such as it can sometimes be seen for SMS-based or interactive voice response data collection) that can create beneficiary fatigue and frustration.

[20] See Tdh "MDC Toolkit": <https://mdc-toolkit.org>

[21] See Groupe URD "Participation Handbook": <https://www.urd.org/en/publications-20/Books/Participation-Handbook>

[22] See E. Tomkys and S. Lombardini, Oxfam GB, "Going digital using digital technology to conduct Oxfam's effectiveness reviews", 2015



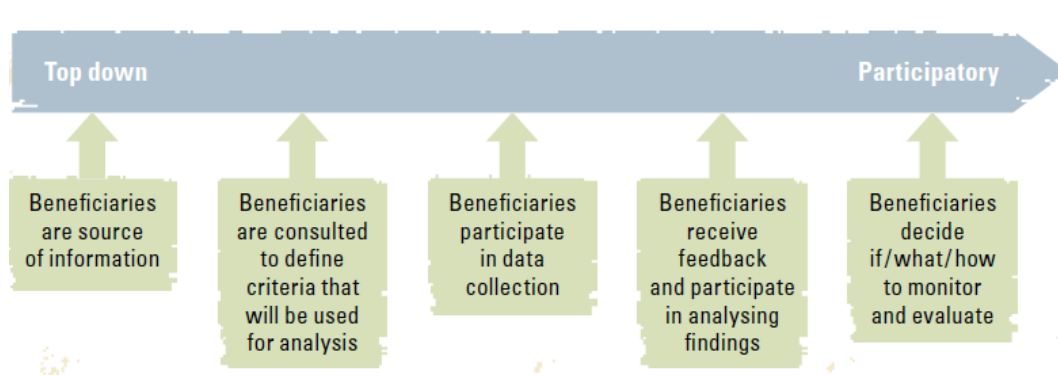


Figure 12 Participatory continuum for monitoring<sup>[23]</sup>

## 5.2 Future trends in the MDC sector as seen by CartONG

MDC is a constantly evolving technical ecosystem that develops new and improves existing technical and “user-design” functionalities. The key aspects presented below describe the trend the MDC sector seems to be following, as foreseen by CartONG.

- **Improved focus on the quality of data collection**, making use of the possibilities of some tools in terms of automated data quality checks, to improve the day to day monitoring of certain large scale surveys
- **More generic MDC tools to manage “light” case management**, being able keep the MDC features, flexibility and user friendly conception tools without going into a sector-specific business process, such as being able to create a “case” (be it a person, an infrastructure, a place...), follow up on it and close it, with affordable tools that have adequate data protection and that make it easy for you to manage the dataset of cases. It is what many tools of the ODK world make possible today but with a lot of difficult workarounds that are not easily scalable.
- **Better integration of GIS in MDC tools**, as it is easy to have basic GPS points in your data collection tools, but much less frequent to have the adequate management of the data in your analysis tools (especially if we are talking of lines or polygons) or making the base maps available offline for more precise collection. Different tools are starting to have these components but none are available off the shelf inside an affordable and user friendly “generic” MDC tool.
- **Enhanced integration of MDC into more global platforms** that are not solely focused on data collection but also offer a wide range of possibilities, such as the integration of analysis tools and open data, in a very secure environment to ensure the protection of vulnerable populations’ data.
- **More methodological support in-built in tools** for the design of the questionnaire and its implementation. A good example of this is IRC’s needs app<sup>[24]</sup> in which one is accompanied at each step of the survey conception with an online wizard asking questions and according to the answers furnishing documentation and a set-up survey. Although this is a very costly approach today, it does support better implementation, and hopefully will not require such a high investment in the future as the open source tools and libraries evolve to streamline the setup of such approaches.

<sup>[23]</sup> See Tdh, “Project Cycle Management in Emergencies and Humanitarian Crises Handbook”, 2018, p. 94

<sup>[24]</sup> See “Needs app”: <https://needsapp.rescue.org>

# 6. Appendix

## 6.1 Interview grid for remote interviews

### Introduction

- Can you rapidly present yourself and your position and role within your delegation?
- What is your understanding of Mobile Data Collection, what does it entail for you?
- What is your general experience with Mobile Data Collection at Tdh (and/or in prior organizations so we understand where you are coming from)?

### MDC project specific

- For which project(s) did/do you use MDC and why?
- Which MDC tool(s) did you use/have experience with?
- How was it introduced in your project(s)?
- What were the success factors you faced and for which activity?
- What were the challenges/frustrations you faced and for which activity? How were they or could they be overcome?
- What were the added-value and/or additional constraints for the project(s) compared to a traditional paper-based data collection?
- In particular, how did you proceed with the analysis of the data and what differences did you see with non-MDC projects on this? How was it done before the implementation of MDC?
- What were the positive or negative impacts or changes brought by the use of MDC (e.g., operational, logistical, HR, organizational, IM impacts ...)?
- Can you quantify (or try to quantify!) the impact of MDC on your role and/or within the project (e.g., time saved per week)?
- Have there been any surprises – positive or negative for you in the use of MDC?
- Did you receive any feedback from the beneficiaries, data collectors, data analysts after having implemented MDC tools and if so what was it?
- How would you evaluate the overall MDC skills of your team/yourself/delegation?
- How could it be improved?

### MDC experience sharing

- Do you share tools between NGOs in your area of intervention? If yes, are there any standard tools and/or forms that you share among partners or other stakeholders?
- Are there any MDC practices that have been dictated by funding partners, clusters or other NGOs? Do you have projects that are part of a consortium? If yes, is the MDC component ever discussed within the consortium and if so how?

### Recommendations

- Can you think of others uses for MDC in your delegation (in other contexts, sectors etc) that are not in place and the reasons why it is not implemented yet?
- Do you think extra support is needed to successfully implement or improve MDC in your delegation and if so of what type (overall support from HQ, technical training on a tool, specific support during the implementation phase, awareness raising of teams...)?
- Would you advocate for the use of MDC in future projects in Tdh (where MDC would be relevant)?

### Open question for the interviewee

- Do you have any questions regarding this Case Study on MDC practices within Tdh?
- Do you have any questions or needs regarding MDC in your project/delegations that you would like to have shared with HQ or CartONG (Note: you will not get any technical support/advice directly during this interview)?
- Do you know or already use resources available within Tdh related to MDC tools and if so which ones?
- Imagine that you had a case study on MDC available when you started working with MDC tools for the first time, which information would have been useful to have?
- Optional: are you interested in participating in a focus group discussion related to this case study if such a format is deemed necessary after the round of interviews?

## 6.2 Tdh and CartONG resources

**Mobile Data Collection Toolkit** - A guidance for the use of MDC in the humanitarian and development field (made available by Tdh & CartONG, 2018):

<https://www.mdc-toolkit.org/>, Retrieved: 14 January 2019

**Benchmarking of Mobile Data Collection Solutions**

<http://blog.cartong.org/2017/08/14/mdc-benchmarking-2017/>, CartONG, Tdh, UNHCR, June 2017, Retrieved: 14 January 2019

**Data Visualization Toolkit**

<https://www.mdc-toolkit.org/analyse-your-data/>, CartONG, Tdh, 2018, Retrieved: 14 January 2019

**Data Protection Starter Kit**

<https://www.mdc-toolkit.org/data-protection-starter-kit/>, CartONG, Tdh, 2018, Retrieved: 14 January 2019

**Choosing a digital Case Management tool for Child Protection : Findings from the Terre des hommes study**

<https://www.tdh.ch/en/media-library/documents/digital-case-management-tool>, CartONG, Tdh, April 2017, Retrieved: 14 January 2019

**Mobile data collection: more quality, less cleaning!**

<http://blog.cartong.org/2018/11/15/mobile-data-collection-more-quality-less-cleaning/>, CartONG, UNHCR, November 2018, Retrieved: 14 January 2019

**Project Cycle Management in Emergencies and Humanitarian Crises Handbook - Situation analysis, strategic planning and monitoring**

[https://www.tdh.ch/sites/default/files/tdh\\_gcp-urgences\\_v2\\_en\\_interactif\\_ag20180716.pdf](https://www.tdh.ch/sites/default/files/tdh_gcp-urgences_v2_en_interactif_ag20180716.pdf), Tdh, July 2018, Retrieved: 14 January 2019

**Design and implement a monitoring system - Methodological guide**

[https://www.tdh.ch/sites/default/files/tdh\\_gmm\\_en\\_nouvelleversion\\_ang.pdf](https://www.tdh.ch/sites/default/files/tdh_gmm_en_nouvelleversion_ang.pdf), Tdh, January 2016, Retrieved: 14 January 2019

## 6.3 External resources

**ACAPS Questionnaire design - How to design a questionnaire for needs assessments in humanitarian emergencies**

[https://www.acaps.org/sites/acaps/files/resources/files/acaps\\_technical\\_brief\\_questionnaire\\_design\\_july\\_2016\\_0.pdf](https://www.acaps.org/sites/acaps/files/resources/files/acaps_technical_brief_questionnaire_design_july_2016_0.pdf), ACAPS Technical Brief, July 2016, Retrieved: 14 January 2019

**Conducting mobile surveys responsibly- a field book for WFP staff**

<https://www.wfp.org/content/conducting-mobile-surveys-responsibly-field-book-wfp-staff-may-2017>, WFP, May 2017, Retrieved: 14 January 2019

**Digital Data Collection in Plan: A review of current practice and lessons learned**

<https://www.ictworks.org/wp-content/uploads/2016/03/Digital-Data-Collection-Plan.pdf>, Erica Packington and Hannah Beardon, Plan International Finland, October 2015, Retrieved: 14 January 2019

**Digital Data Collection Vs. Data Collection on Paper**

<http://www.developmentoutlook.org/2012/07/digital-data-collection-vs-data.html>, Development Outlook, Retrieved: 14 January 2019

**Going Digital - Using digital technology to conduct Oxfam's Effectiveness Reviews**

<http://oxfamilibrary.openrepository.com/oxfam/bitstream/10546/578816/4/cs-going-digital-effectiveness-reviews-290915-en.pdf>, Emily Tomkys and Simone Lombardini, Oxfam GB, September 2015, Retrieved: 14 January 2019

**Oxfam Mobile Survey Toolkit**

<https://oxfamilibrary.openrepository.com/bitstream/handle/10546/617456/gd-mobile-survey-toolkit-270716-sessionid=5416998BAEC4EFE307BDAD4CB5F0E0CA?sequence=1>, Emily Tomkys and Laura Eldon, Oxfam GB, 27 July 2016, Retrieved: 14 January 2019



### **FHI 360 Paper-to-mobile data collection: A manual**

[https://www.fhi360.org/sites/default/files/media/documents/Paper\\_to\\_Mobile\\_Data\\_Collection\\_Manual\\_1.0.pdf](https://www.fhi360.org/sites/default/files/media/documents/Paper_to_Mobile_Data_Collection_Manual_1.0.pdf), U.S. Global Development Lab & FHI 360, Retrieved: 14 January 2019

### **Choosing the Right Tool for Data Collection: Paper vs. Digital Tools vs. IVR**

<https://blog.socialcops.com/academy/resources/choosing-right-tool-data-collection-digital-tools-paper-digital-ivr/>, Gaurav Jha, SocialCops, Retrieved: 14 January 2019

### **Questionnaire Design and Development - IRC Research Toolkit**

<https://www.rescue.org/sites/default/files/document/2492/ircquestionnairedesignanddevelopment-ext1.pdf>, International Rescue Committee, Retrieved: 14 January 2019

### **Principles for Digital Development**

<https://digitalprinciples.org/about/>, Retrieved: 14 January 2019

### **Using mobile phones in data collection: Opportunities, issues and challenges**

<http://blogs.worldbank.org/edutech/using-mobile-phones-data-collection-opportunities-issues-and-challenges>, World Bank 18 April 2014, Retrieved: 1 March 2019

### **Technologies for monitoring in insecure environments**

[https://www.gppi.net/media/SAVE\\_\\_2016\\_\\_Toolkit\\_on\\_Technologies\\_for\\_Monitoring\\_in\\_Insecure\\_Environments.pdf](https://www.gppi.net/media/SAVE__2016__Toolkit_on_Technologies_for_Monitoring_in_Insecure_Environments.pdf), Rahel Dette, Julia Steets and Elias Sagmeister, SAVE, September 2016 retrieved: 14 January 2019.



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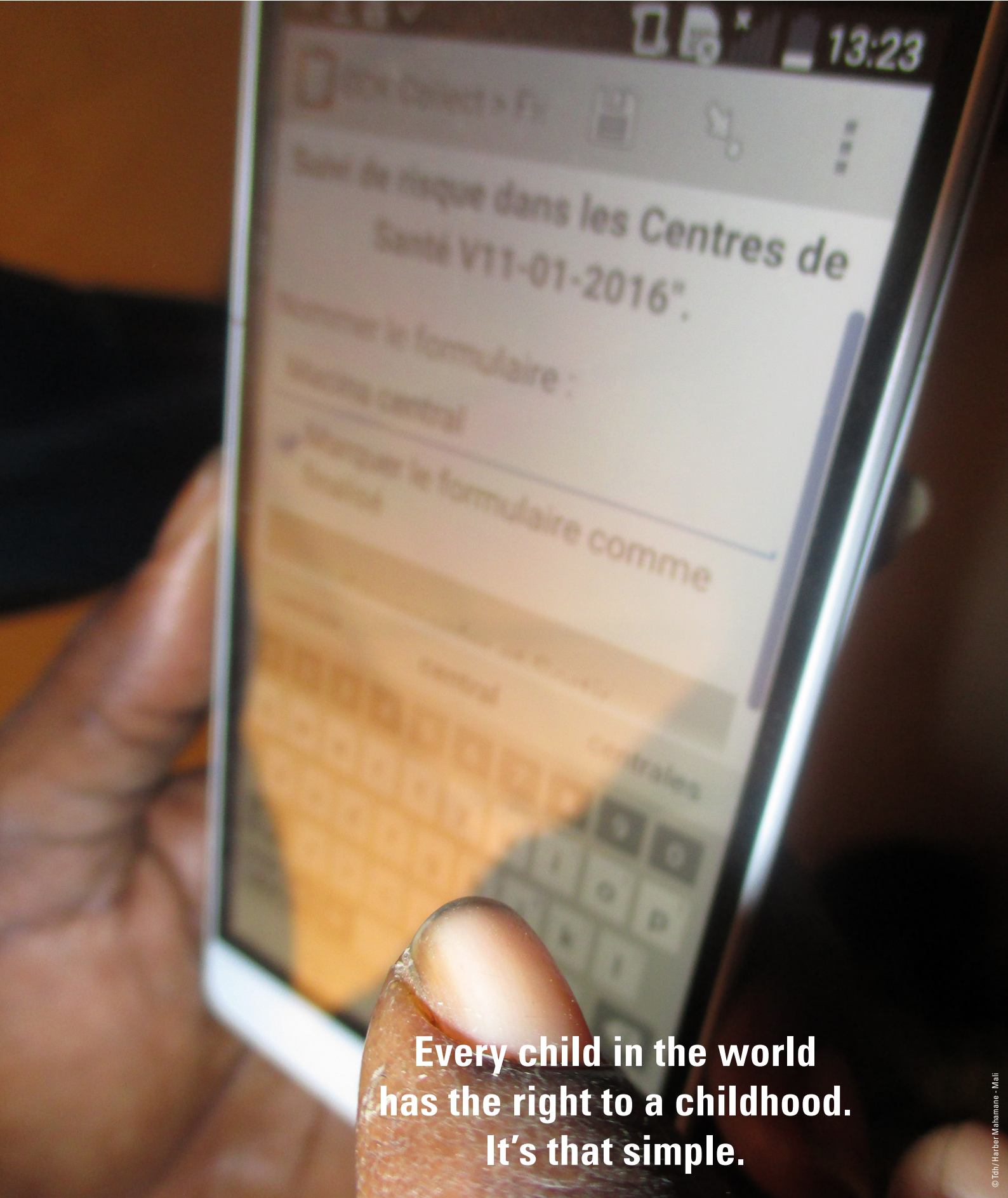
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**Every child in the world  
has the right to a childhood.  
It's that simple.**



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