

The arbitration required between possibilities of new technologies and usefulness for populations

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The resurgence of new technological tools requires humanitarian actors to take stock of their possibilities, applicability and interest for populations.

The growing operational capacity and professionalisation of humanitarian action are pushing actors to become more inclusive with communities and enhance the effective impact of their interventions on beneficiaries receiving aid. Donors and non-governmental organisations (NGOs) both subscribe to the need for developing innovative techniques and incorporating cutting-edge technologies that can facilitate the implementation and monitoring of humanitarian aid programmes.

Various initiatives bringing together actors in the field, private businesses and public institutions are currently underway. In early 2018, at the World Economic Forum in Davos, USAID [the US Development agency, editor's note] and MasterCard announced the launch of the Smart Communities Coalition and that of the Power Africa project, whose intent is to revitalise refugee camps by providing improved access to energy, Internet and digital payment facilities. In addition, private businesses like BRCK Education are delivering digital education to isolated communities. As for NGOs, they have been developing, managing and using new technological advances that, as such, can help them set up, monitor and evaluate the effectiveness of their humanitarian programmes. This was the case when drones were launched by the NGO Medair to gauge the severity of the disaster left in the wake of typhoon Haiyan in the Philippines in November 2014¹, when a system for the distribution of coupons was set up by Action Against Hunger (*Action Contre la Faim*-ACF) in Mali² with the use of NFC devices³, and when a retinal scan was implemented by UNHCR in Egypt⁴ for biometric identification.

At ACF, the research and analysis department and IT department have developed technological tools that can improve the distribution of humanitarian aid in various fields of intervention: food security and livelihood, mental health and supportive care services, nutrition and health, water, sanitation and hygiene. Yet in harsh environments, there remains the challenging task of actually implementing these technological innovations, along with safeguarding their sustainability and their proper use in volatile situations and diverse cultural settings. Looking at specific projects, we question to what extent target populations actually derive any benefit from these innovations. And in doing so, we try to clarify what constitutes a real need because the field of technology has

¹ Medair, "Testing the Utility of Mapping Drones for Early Recovery in the Philippines", <http://drones.fsd.ch/wp-content/uploads/2016/04/Case-Study-Philippine.14april2016.pdf>

² The Cash Learning Partnership, "Projet KACHE: des tests sur le terrain au Mali au déploiement à grande échelle dans les opérations d'ACF", www.cashlearning.org/actualites/actualites/post/306-projet-kache--des-tests-sur-le-terrain-au-mali-au-dploiement--grande-chelle-dans-les-operations-d-acf

³ Near Field Communication: "contactless" communication.

⁴ United Nations High Commissioner for Refugees, Global Appeal 2018/2019.

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advanced and what constitutes an integral part of the developmental process of an NGO like ACF that seeks to find ways to align its humanitarian action as closely as possible with the needs of populations receiving aid.

Strengthen human development through participation and innovation

As commendable as it may be, is this stated objective actually attainable given the number of challenges to overcome? First, at the national policy level, regulations must be established so that recent issues that have arisen in the public sector (i.e. involving privacy and data security) can be properly managed. Governance policies related to information and communication technologies often inadequately take into consideration the fact that mobile/Internet networks should be continuously accessible everywhere in the country at a time when network connectivity is very often indiscriminately interrupted. In addition, access to reliable information by a well-informed, well-educated user population should be an essential consideration. This aspect is often delegated to third parties in the private sector, or even to NGOs, especially in the least accessible areas. These NGOs play an important role in extending access to new mobile technologies. Providers should be legally required to provide uniform coverage everywhere and close the gaping connectivity gap between urban and rural areas. Added to this problem, is the absence or shortage of basic amenities (e.g. electricity and solar chargers) and the lack of Internet connections.

In addition, the general lack of skills, low levels of acceptance and a gender inequality must be taken into consideration. Technological tools must be simple to use and perceived as potentially emancipating before they can be fully adopted. It is therefore crucial to consider the negative implications of using certain applications in situations where literacy may denote a social or gender privilege. Having recourse to voice systems in areas where the literacy rate is low or imbalanced can help to alleviate this problem.

In this, an NGO can help to ensure that the user is valued and plays a central role in the development and adaptation of technological applications, so that the user's security and cultural background are taken into consideration.

The widespread use of mobile data collection tools: lower costs, time saved

The Mental health and care practice, gender and protection sector at ACF have developed applications that manage programme activities, communicate outcomes and share technical expertise. In order to properly respond to the needs of field operatives, a data management system, the Individual Beneficiary Form (IBF), was developed by the information platform Voozadoo 4 in collaboration with Epiconcept. This system was built from responses received from questionnaires that gather updated information from aid beneficiaries (e.g. their participation in activities, their use of the referral system between departments, a satisfaction survey, etc.) from the time they are admitted to the programme to their discharge. The IBF is accessible for data entry and consultation both online and offline to avoid dependency on the quality of Internet connectivity. Putting the project into operation requires establishing a coordination policy that is consistent throughout the various departments and between field operatives and ACF headquarters. One of its most significant components should be staff development. This iterative process, although time-consuming and strewn with pitfalls, is a vital step to assure better interactive data management and decision-making practices in a context where real-time access to data is a matter of cost and time efficiency.

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In addition, communities are regularly approached by humanitarian organisations that want to conduct quantitative studies, but these studies often require the presence of one or more household members, who then may end up being prevented from doing their daily chores for several hours. To minimise this inconvenience, tablet computers have been suggested for faster and more reliable data gathering. Since 2017, the quantitative phase of the Link NCA studies (Nutrition causal analysis) have been successfully carried out thanks to the KoBoToolbox and ODK Collect applications. Developed by the Harvard Humanitarian Initiative, KoBoToolbox has been specifically designed for humanitarian organisations to plan, collect and analyse data. Its use has made it possible to simplify the development of questionnaires, standardise questions and optimise the duration of interviews.

Ethical guidelines that guarantee the safety of personal information

The protection of personal information, once collected and analysed, is an issue for the humanitarian sector. Is biometric data recorded primarily for the benefit of refugees who are fleeing a conflict? Does the use of a mobile phone for money transfers mainly serve the residents returning to the city of Mosul, or the local telecom company seeking new customers? Doesn't the emergence of payment terminals, smartcards and e-vouchers in a village in the Sahel generate a culture shock when elders or the less educated are effectively left by the wayside? From an ethical and legal point of view, the humanitarian sector with its strong moral obligations needs to prepare itself for this historical technological revolution in its practices. But there runs the risk that these new technologies will be deployed at such a pace such that ethical considerations will be insufficiently taken into account before programmes and tools can be implemented, thus placing beneficiaries in precarious situations when it comes to having their personal information exploited. It is vital that NGOs take full measure of these points and give themselves the means to address them in a consistent fashion.

No NGO can avoid asking itself these questions. The appropriateness of using new technologies and the selection of technological tools must be evaluated in advance just as any technical innovation in any specific sector would be. Medium- and long-term effects cannot go unheeded. A post-intervention assessment can measure the effectiveness of technology after it has been deployed. For example, the evaluation of a payment scheme set up in Niger by ACF with RedRose technology revealed that this type of technology was ill-adapted for use in the Sahel⁵.

However, given the General data protection regulation (GDPR), we are moving towards a basic regulatory framework, but will the governments of the countries where we intervene proceed in the same manner?

What impact for people's health?

Ever since early 2017, ACF has been fully committed to e-health as a means to further decrease maternal, newborn and child mortality rates, and further upscaling of malnutrition initiatives. Digital solutions, in fact, can help set up channels for health systems. They can improve the quality of patient care, in particular by providing diagnostic tools and associated health training solutions, they can lead to a better understanding of health problems and facilitate decision-making issues thanks to their capacity to access centralised health information. ACF has adopted this perspective in its partnership initiative with *Terre des hommes* and World Vision, each partner

⁵ Implementation report of "KACHE" in Keita (September 2016), ACF: 60% of beneficiaries stated they appreciated the technology for receiving aid during training and awareness sessions, and all agreed in saying that they hated this technology once aid had been distributed. 98% were of the opinion that the NFC card system performed no better than the former system.

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having developed applications that provide guidance to health personnel in the areas of diagnosis and treatment, the first partnership initiative following WHO's protocol of Integrated Management of Childhood Illnesses and the second following the protocol for the management of acute malnutrition (PCMA)⁶. It is now a matter of steering PCMA toward integrated technological solutions that have been developed, then testing it for deployment in the countries targeted by the partnership. Here, mobile health applications offer the opportunity to accelerate the scaling up of healthcare.

In addition, Geographic Information Systems make it possible to track spatial and temporal changes – be they migratory flows, trade flows or health flows (the spread of diseases – through the surveillance of infectious foci and epidemics). Data analysis also makes it possible to build predictive models. In May 2017, a team of scientists was able to predict a cholera epidemic in Yemen that broke out in June⁷. As for water, hygiene and sanitation, it is possible to represent the impact of water supply on local households – or of outbreaks of infectious waterborne diseases – by studying the measurable distances between households, water points, and flows of people and water. Such mapping helps to better understand and learn about the context of a project during its preparatory phase and to follow it through during the entire process. This makes it possible to better plan for, intervene in, evaluate and analyse complex recurring epidemic situations.

A certain vision of the human

Technological innovation holds great potential for improving the effectiveness of interventions and programme implementation processes, at least in the short-run. But its effectiveness must be confirmed by long-term studies that measure the local impact they may have in highly volatile situations.

Once applied, it must also be examined in light of the ethical issues it raises, particularly with regard to protecting the personal information of people at risk. While the use of new technologies by humanitarians has become routine, this does not necessarily mean it is innocuous for aid recipients. And to what extent does a gap in access to new technologies create what we commonly recognise in the West as a “digital gap” that would thus in turn create a new type of vulnerability?

When it comes to the obvious preponderance of images in the communication, dissemination and/or comprehension of information, the development of multimedia technologies now enables us to create supporting materials that let us visualise data. Here again, how do we plan to make use of personal information? Software mapping applications, such as ArcGis or OpenStreetMap, or Qlik and PowerBI for the creation of dashboards make it possible to assess zones of intervention (locating populations, health infrastructures, water points, ongoing projects, etc.). Admittedly, a solid understanding and maps of the area are additional assets for the design process of a project, but, say a locality has been stricken by a cholera outbreak, has it given its consent to be included in the corresponding database of a country where this disease is highly stigmatised? Far from calling into question the usefulness of a database, this would still require a legal framework and active participation on the part of the beneficiaries concerned, who could also derive a preventive advantage.

⁶ See Enric Jané, Guillaume Foutry and Simon Sanou, “The use of digital tools at large scale: lessons from a health programme in Burkina Faso”, in this issue, p. 40-52.

⁷ Sarah Derouin, “Satellites Predict a Cholera Outbreak Weeks in Advance: A test in Yemen showed satellite data could foresee an outbreak four weeks before it exploded”, 3 January 2018, www.scientificamerican.com/article/satellites-predict-a-cholera-outbreak-weeks-in-advance/

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At the programme level, new technologies must serve as tools and not as an end in themselves. Projects should not be designed to promote technology per se, but to achieve broad objectives. Technology can transform the way development aid is traditionally distributed in the field, and in this way ultimately reduce costs and increase productivity.

With the growing adoption of modern technologies, not only is humanitarianism itself being transformed, its human aspects are also being affected. An ever-greater number of studies published in recent years speak of the growing use of new technologies in our world, where now everything must go fast at the least cost. More than ever, these times require us to remain watchful.

Translated from the French by Alain Johnson

Biographies

Karine Le Roch • A doctor of clinical psychology, Karine joined the team at Action contre la Faim (ACF) in the mental health and care practice, gender and protection sector, in 2012 as research project leader and MEAL (Monitoring, Evaluation, Accountability and Learning Department) co-ordinator. Since 2016, she has been overseeing the development of a data management system to monitor mission programmes.

Nicolas Dennefeld • A graduate in artificial intelligence, Nicolas has worked in several fields in IT: development, user support, teaching and project management. Since 2014, he has been with ACF where he is in charge of coordinating information systems in the field.

Caroline Antoine • Caroline began her career in the humanitarian sector in 2008 in charge of the health programmes of various missions. She joined ACF in 2013 at the Chad mission as head of the health and nutrition department, before returning to head office as operational technical officer and then as health co-ordinator. Caroline is currently in charge of health strategy development at ACF and of the operational resources needed for its implementation.

Melchior de Roquemaurel • A graduate in political science (Toulouse 1 Capitole University) and in geopolitics and forecasting (IRIS), Melchior co-ordinated the 2016 edition of the Research 4 Nutrition conference organised by ACF before joining the Link NCA project, in charge of institutionalisation and events. He has also contributed to the rollout of mobile data collection tools for this project.

Jonathan Bureau • Following a Master's degree in environmental economics (Bordeaux University) and a Master's in development project analysis (CERDI) Jonathan began working at ACF in the MEAL department. He later joined the Link NCA project team, in charge of databases and mobile data collection tools.

Myriam Ait-Aissa • An agronomist (ENSA Toulouse) specialising in human nutrition, Myriam has been ACF research and analysis department co-ordinator since 2009 and heads the innovation task force.

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