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Research Paper **34**

Accessing the Inaccessible in Difficult Environments: The Uses and Abuses of Crowdsourcing

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The Developmental Leadership Program (DLP) is an international research initiative based at the University of Birmingham, and working in partnership with University College London (UCL) and La Trobe University in Melbourne.

DLP aims to increase understanding of the political processes that drive or constrain development. Its work focuses on the crucial role of home-grown leaderships and coalitions in forging legitimate institutions that promote developmental outcomes.

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Acknowledgements

Executive summary

This paper discusses the increasing interest in crowdsourcing and other social media as research data collection methods in conflict-affected regions. It draws on a literature review and the author's experiences of setting up a crowdsourced data collection project in eastern Democratic Republic of the Congo (DRC). It argues that crowdsourcing can be a useful supplement when conducting research in difficult-to-access areas, but should not replace field research. Reliance on remotely gathered data can give researchers an incomplete understanding of realities on the ground, which privileges the voices of those with most access to the technology.

Crowdsourcing has been hailed by some writers as having unlimited potential to encourage civic participation in developing countries, or to empower people who would otherwise have no way of making their voices heard. It has been suggested that the increasing availability of communication technology will help 'shrink' the numbers of marginalised people around the world because, through the internet and social media, they will be able to speak directly to a global audience.

This thinking coincides with ever more risk-averse insurers and research managers who feel obliged to place stringent constraints on how research in hostile environments is carried out. Crowdsourcing and other social media-based methods of collecting data are increasingly seen as a 'safe' alternative. They are also seen as quick, efficient ways of collecting 'big data', increasingly used in social science research. There is even some thinking that if big data is big enough, it will become objective rather than subjective and need little interpretation – it will speak for itself.

This paper questions these apparent advantages. It asks what evidence there is that mass reporting and criticism of political processes and events have helped bring about positive change. It also asks how useful crowdsourced data might be for research. Why is it needed? What might be its limitations? And what can it actually tell us about the worlds we study?

Key findings

Social media and communications channels are ultimately controlled by elite actors. Whether those actors are sovereign governments or proprietors of social media platforms, they can prevent the flow of information from reaching its intended audience without breaking international law or pointing a single weapon at a civilian.

Crowdsourcing and other social media give even so-called 'fragile states' an authoritarian power that is underestimated. Governments threatened by internet mobilisation can shut down communication channels and, if so inclined, track the ringleaders' internet footprints.[1] We have seen this in Iran and the DRC, and there are widespread reports of Russian, Chinese and American control of internet channels.

The Twitter Revolution fallacy diverts attention from deep-seated systemic problems; while such 'revolutions' may partially stem the excesses of such systems, they do not resolve them. At best, we can say that when in early 2015 the DRC government tried to do something constitutionally outrageous by seeking to delay presidential elections, the people protested; the government responded with brutal repression; and now, although such repression has lessened, protestors face high levels of risk and any type of social media dissent is viewed as suspicious. To hail this as a triumph of democracy would ascribe some quality of democracy to what remains a highly repressive system.

The evidence suggests that crowdsourcing can be a risky research method. The current literature and case studies suggest that the use of crowdsourcing technologies does not translate into wider civic empowerment. In most cases, crowdsourcing as a methodology is also not free from elite interference. My own experience has been that, at almost every stage, my efforts to collect data through crowdsourcing in eastern DRC had to give way to the whims of a political and bureaucratic elite.

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1   It is true that groups of experienced 'hackers' such as Anonymous are not so easy to identify, but the point of the Twitter Revolution is that the untrained 'everyman' can use it, and this 'everyman' does not know how to protect his or her anonymity.

Involving local associates in this kind of data collection poses serious ethical problems for researchers, practitioners and donor agencies. Where oppressive authorities have come to view social media with suspicion, the use of it – however innocent – may be used to justify punitive treatment. The remoteness of the technology may blind researchers to the ethical implications of such data collection and the dangers that such research could pose to informants.

The Fourth World is not 'shrinking' (Castells, 2010) – we are just looking at it from further away. Castells (2010) and others hail the growth of mobile phone ownership as the means by which isolated communities can be mapped and their voices heard. However, a reliance on remote crowdsourcing may lead researchers to lose solidarity with their subjects and return to a view of people in conflict-affected states as exotic 'others' to be viewed with caution from a distance. Use of digitally collected data in such settings should only supplement fieldwork, extensive analysis and face-to-face interactions. It should not be seen as a substitute.

It is almost impossible to assess the quality of data gathered digitally in conflict-affected regions. Analysts who have no first-hand experience of the realities on the ground cannot determine whether their information comes from the disempowered, or from those with the loudest voices who are able to control the media and manipulate the message for their own ends. It is difficult to verify 'truth'. And without face-to-face contact with respondents, it is also difficult to gain any sense of context – their social status, their communities, their cultures and values.

Mobile phones are not a gateway to empowerment. Only expensive smartphones give access to platforms such as Twitter and Facebook, and these phones are still only within the reach of elites. The truly disempowered and marginalised remain voiceless, and a focus on the social media revolution is allowing us to forget that.

We should ask ourselves whether crowdsourcing and social media enable real change. The hype says they work as a catalyst, making it easy to mobilise mass movements that can face down the power of the state and demand change. However, the evidence suggests that the 'safety valve' theory is closer to the mark, and recent social media inspired 'uprisings' have so far turned out to be little more than a 'release of the tensions of hierarchical society' (Howard, 2004).

Modern technology might help conflict analysts to become aware of the needs of marginalised and isolated populations. However, instead of uncritically hailing technology for allowing us to see this isolation, we should also consider why, in the 21st century, such isolation still exists.

Introduction

'Crowdsourcing's potential cannot be overestimated, especially in Africa, where mobile networks have grown expo-nentially, bypassing all other infrastructure development on the continent in terms of speed and widespread use' (Bott, Gigler & Young, 2014, p. 4)

'Rather than critically interrogate the loss of ground truth, science normalises our remoteness from the world by providing a workaround to recoup distance digitally. In so doing, what Hannah Arendt has called world alienation is being vastly augmented' (Duffield, 2015, p. S77)

This paper explores the usefulness of crowdsourcing as a method of remotely gathering data in conflict-affected environments. Since the Haiti eathquake in 2010, crowdsourcing has emerged as a practical and low-cost approach to gathering large amounts of data quickly, particularly in periods of 'crisis'. Though not without its critics, this use of crowdsourcing has been largely hailed as a positive innovation that has empowered non-elite populations to improve service delivery from the bottom up. Building on this apparent initial success, and the belief that 'crowdsourcing has potential to change the reality of civic participation in many developing countries' (Bott, Gigler & Young, 2014, p. 1), there has been a rise in development initiatives that use crowdsourcing.

This growing interest in, and funding of, projects using crowdsourcing is reflected in social science research.[2] At the time of writing, a search for 'crowdsourcing' in Web of Science™ brought up more than 300 articles in social science journals since 2008[3] on topics ranging from the use of citizen science in archaeology to Amazon's Mechanical Turk. Despite the wide spectrum of research topics, however, most of the articles could be placed in one of two categories: those that analysed iniatives and communities that involved crowdsourcing, and those that used crowdsourced data for their research.[4] A similar search of journals using the science and technology filter revealed nearly 1,000 papers, and the titles of many of these articles suggested a focus on crowdsourcing technologies and information management.[5] Notable by its absence, however, was any research on how useful crowdsourced data might be. Why is crowdsourcing needed? What might its limitations be? And what can the data it produces actually tell us about the worlds we study?

This article draws on my own experience of trying to use crowdsourcing whilst conducting research into the dynamics of armed conflict in the eastern Democratic Republic of the Congo (DRC). It is divided into four sections:

- The first section discusses the practical constraints that affected my fieldwork in the eastern DRC and the method-ological challenges that I faced when collecting and processing my fieldwork data.

- The second section discusses my decision to use crowdsourcing as a supplementary research methodology. In this section I draw on existing examples of crowdsourced information to explain both the potential of crowdsourcing as a data collection method, and the reservations that have been voiced about the use and methodological rigour of crowdsourced data.

- The third section discusses my difficulties in setting up and collecting data through the crowdsourcing platform Frontline SMS. While the technological facilities to collect data through Frontline were very effective, a number of bureaucratic and political constraints within the DRC have prevented the smooth running of the project so far. Although crowdsourcing is often hailed as an open-source methodology of the marginalised, this often obscures the many ways in which it is ultimately authorised, controlled and manipulated by elite actors.

- Finally, the paper discusses how the data collected by crowdsourcing can be, and is, used. This section highlights that, while crowdsourcing appears to be rather useful in big data studies, its use is more problematic for small-scale projects run by individual researchers working in conflict zones.

The paper agrees with Duffield (2015) that remotely collected data can never be a subsitute for area specialism and 'ground truth' when studying conflict-affected environments. Crowdsourced data may be a useful tool for supplementing field data, but the stand-alone data in itself may create more problems than it solves. Crowdsourcing may be a useful way to gather data when collecting data from the ground is not possible, but it needs to be recognised as a compromise, not a panacea. Crowd-sourcing is often praised for empowering civic participation, and its advocates argue that this adoption of technology for empowerment can drive demand for innovations, which then drive improvements in crowdsourcing's technology. However, it is important to be aware of both the limits of the technology and the empowerment it purports to promote.

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2   See for example, Oxford Internet Institute's 2014 Conference, 'Crowdsourcing for Politics and Policy' http://ipp.oii.ox.ac.uk/

3   The terms 'Crowdsourcing' and 'Crowdsourced' were typed into the search bar and then the 'Social Science' filter was applied to the results generated.

4   These are not distinct categories, and a significant portion of articles fell into both.

5   It is beyond the scope of this research to discuss in detail these scientific publications. Rather the search was designed to indicate that much of the research is focussed on improving the ability to crowdsource and the management of crowdsourced data, but there is a dearth of research questioning the specific utility of crowdsourcing in itself.

Fieldwork under fire: difficult subjects in hostile places

When I first wrote a proposal for a research project to study the dynamics that drive armed group recruitment and mobilisation in the eastern DRC, it was not difficult to justify the importance and usefulness of the research. It was 2013, and after more than a decade of supposedly 'post-conflict' peacebuilding initiatives in the DRC, the problem of armed groups in its troubled eastern regions seemed as dire as ever. More than 50 armed groups[6] of differing means and motivations controlled large swathes of the provinces of North and South Kivu. While some of these groups were characterised as little more than bands of petty criminals,[7] others had sophisticated military and political structures. At the time, perhaps the most prominent of these was the March 23 Movement (M23), which had captured the North Kivutian capital of Goma in November 2012. It was only after the UN established a Force Intervention Brigade – the first of its kind – that the M23 forces were finally defeated. However, the M23 was made up of dissatisfied elements of another previously 'defeated' group, the CNDP, and the underlying causes behind the M23's initial mobilisation have still not been addressed. Furthermore, many other potent armed groups remain active in the eastern DRC and show no sign of becoming less aggressive.[8]

Publicly, at least, donor governments are committed to ending the cycle of violence in the DRC. Between 2010 and 2012, the DRC received more donor aid from the OECD than any other African country (OECD, 2014, p. 7). The UK Department for International Development (DFID) will spend £790 million on programmes in the DRC between 2011 and 2016, and contribute £61 million to the UN Peacekeeping Force in 2014–15.[9] As I developed my project proposal, several policy makers working in DFID, the UK Foreign and Commonwealth Office (FCO), the Australian Department of Foreign Affairs and Trade (DFAT), the UN and the OECD were enthusiastic about its usefulness. They agreed that solving the problem of armed group violence once and for all depended on understanding what drove this violence in the first place. Similarly, while some of the academics I consulted may have disagreed with my working assumptions and the theoretical approaches I intended to use, they[10] agreed that research into the dynamics of armed groups' violence was needed. From the outset, then, I had a well-funded and well-received project that I was excited to begin working on.

The major problem in the initial stages of setting up this project was ethical approval for the research. In a recent article on remote methodologies and area studies, Mark Duffield notes that 'the increasingly decisive role of insurance companies and ethical research committees means that obtaining university agreement for Africa-based research, for example, is increasingly problematic' (Duffield, 2015, p. S86). This was indeed reflected in my own experience. I was told by colleagues that the double threat of conducting research with 'difficult subjects' (members of armed groups) in 'hostile environments' (the eastern DRC) was going to 'set off loud alarm bells' within the University Ethics Committee. It helped that I was trained as a Conflict Analyst and so had training for, and experience of, being in conflict zones. I also had a very helpful departmental research committee who gave full support to my proposal. Even so it took me months to prepare my ethics application – a 7,000-word plan of action for mitigating the manifold risks I might encounter – and a further three months before it was approved.

The next barrier to overcome was organising the fieldwork. Fieldwork is an integral part of the research project, as one of its basic propositions was that current approaches to the problem of armed groups in the eastern DRC do not adequately understand the dynamics that drive their activity. The research therefore proposed conducting fieldwork to ask questions – of armed groups, populations affected by armed groups, and agencies working to address the problem of armed groups – about why they think armed groups exist and persist. The aim was then to analyse the differences in these perceptions to better understand why current interventions are not fit for purpose, and to identify potential entry points for better interventions. Fieldwork and ground truth were therefore of paramount importance to an understanding of the multiverse of realities[11] in which different armed groups, different communities, and different intervenors operate.

The University Ethics Committee had approved a period of fieldwork to conduct interviews with a wide range of actors in the eastern DRC, but the caveat was that it had to comply with the University's insurance guidance. The University's insurers refused to insure staff travelling to any region for which the UK FCO guidance was 'advise against all travel'. It turned out that

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6   Armed groups are being created and disbanded on a daily basis, and it is often difficult to clearly define where one armed group ends and another begins. This figure has been taken from the most recent conflict map provided by Christoph Vogel's armed group mapping project. A more detailed breakdown of this figure can be found here: http://christophvogel.net/mapping/

7   My own research showed that while these groups did engage in banditry and petty criminality, there were often subtle social and/or political motivations behind their actions which these simple characterisations often obscured or ignored.

8   For example, at the time of writing, operations have been announced to go after the notorious Democratic Forces for the Liberation of Rwanda (FDLR), a group initially led by ex-genocidaires from Rwanda. While several anti-FDLR operations have been launched in the past, they have not proven successful in eradicating it, and since the announcement little action has been taken against the group.

9   Hugo Swire, Minister of State for the UK Foreign and Commonwealth Office, House of Commons Debate, 27 January 2015 http://www.theyworkforyou.com/wrans/?id=2015-01-20.221357.h&s=Congo#g221357.r0

10   I received extensive feedback on the proposal from colleagues at the Developmental Leadership Program and the University of Birmingham, Christoph Vogel from the University of Zurich and Judith Verweijen at the Africa Nordic Institute.

11   In a forthcoming research paper on armed groups and political inclusion in the eastern DRC, I discuss this idea further, but a brief explanation of this term is offered below.

Goma, my first port of call for my planned fieldwork was one such place. In fact the only area in the eastern DRC I could visit and comply with the insurers' conditions was the capital of South Kivu, Bukavu (for which the FCO advised against all but essential travel).

I had picked Goma as an entry point for fieldwork for a number of strategic reasons. I had a good network of informants based in Goma with whom I had established trusted links during previous research. For several months I had been building up a good relationship with a Goma-based 'fixer'[12] who I wanted to use as a research associate. I had planned to use these already established networks to build up new contacts in other areas, including Bukavu. Finally, I knew from past experience that it was physically possible to cross into Goma from neighbouring Rwanda. Even when the travel ban on Goma was lifted, travel anywhere outside of the towns of Goma and Bukavu was forbidden. By adhering to these restrictions, and not travelling to more interesting field sites outside of Goma and Bukavu, I was exemplifying Miller and Bell's observation that 'decisions taken around access are closely bound up with questions of ethics and may be increasingly influenced by ethics committee requirements' (Miller & Bell, 2002, p. 63).

Having finally met all the University's requirements for fieldwork, my next hurdle was to obtain a Congolese visa. The DRC is widely described as a 'fragile state' – a term I have questioned both for its use as a concept, and its application to the DRC. Certainly, if fragile states are characterised as lacking bureaucratic capacity (Perera, 2015), the Congolese visa process would suggest that the state is far from fragile. A Congolese visa application required the usual documentation demanded by most countries (a completed form, a valid passport, a letter of invitation, flights to and from the country, and details of accommodation whilst in the country). However, I was to visit the east of the country (a thousand miles away from the main international airport in Kinshasa), and internal commercial flights within the DRC did not conform to any of the aviation standards that the University insurers would be happy with. So I was not flying to and from the DRC, but rather to and from Kigali international airport in neighbouring Rwanda. It was common for international visitors to enter the eastern DRC via Rwanda, Uganda or Burundi.[13] But entering the country from Rwanda would require a special form, the Engagement de Prise en Charge. The form, along with $100 payment, needed to be taken to the Director General of Migration for his stamp of approval. He was based in Goma – so I was being denied entry to Goma because I hadn't visited an office in Goma. Only with the kind assistance of a friend based there,[14] who submitted an application on my behalf and emailed me a copy of the form, was I finally able to produce all the correct documentation for a three-month visa to carry out fieldwork in the eastern DRC.

My experience of obtaining authorisation for fieldwork was reminiscent of Joseph K. in Franz Kafka's *The Trial*. However, while at times I felt I was caught in a bureacratic nightmare that I neither controlled nor understood, not all of my interaction with the ethics and insurance process was negative. Indeed, some parts of it were incredibly valuable to the research. The ethics process itself was more than a box-ticking exercise and helped clarify the purpose and conduct of my data collection from the earliest stages. It encouraged me to think critically about who the research was for, what interest it would serve, and also got me thinking about the best way to organise my fieldwork in light of the time, security and funding constraints. Similarly, measures initially designed to keep the insurers happy – such as working with a local Congolese 'fixer' and sending a short field update every day to my direct line managers – proved invaluable. I would regard my fixers more as research partners who helped me arrange meetings with a wide array of relevant actors, and negotiated access to armed groups I would never have been able to meet on my own. The daily field updates were collated into one report when I finished my fieldwork[15] and gave an important overview of my experiences, against which I could pin more detailed accounts of interviews and meetings.

The fieldwork experience, while relatively short, was intensive. It is important here to note a distinction between what Duffield (2015) describes as the immersive experience of participant observation, and my experience of an intensive period of semi-structured interviewing. 'Partipant observation cannot be rushed. Ideas and conjectures grow at walking pace, and secrets worthy of the name reveal themselves slowly' (Duffield, 2015, p. S81). But this approach requires embeddedness within a community and fieldwork of at least a year in order 'to observe a complete seasonal cycle' (Duffield, 2015, p. S80). In contrast I had just two months to cover two vast provinces[16] and speak to as many *different* communities as I could through fast-paced guided interviews which rarely lasted more than two hours each. In 60 days I recorded nearly 200 such interviews, and also had encounters at various conferences, social events, and through radio communications.

The data collected was rich in detail – respondents were forthcoming about their views on armed groups and, in general, these views were augmented with narratives on the problems in the Congo, the international system, and the 'true' intentions of certain actors. Yet most of the 'evidence' presented by respondents was anecdotal and difficult to verify. In fact, the verification process often created more uncertainty than certainty. I coined the term 'Bermuda Triangulation' to describe the phenomenon whereby the more sources I consulted on a subject, the more obscure any sense of verifiable truth became (Perera, 2014a).

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12   The term fixer here is used to encompass the myriad functions performed by my research associates during fieldwork as translator, security adviser, local guide, logistician, research collaborator, confidant and reviewer.

13   I myself had entered the DRC for a day in this way in 2008, as a guest of a UN worker who had arranged for me to meet some recently surrendered combatants interned at a camp close to the Rwandan border.

14   I am extremely grateful to Timo Mueller, who kindly obtained the relevant paperwork for me.

15   Many thanks go to Edward Avenell for collecting all my updates and putting them into one document for me.

16   North Kivu is approximately 60,000 km^2 and South Kivu around 65,000km^2

Even so, strong general analytical trends emerged from the research.[17] In particular, the research showed that different types of actors saw the world very differently, and as a result their priorities for security and development varied greatly. In other words, I was exposed to a 'multiverse of realities' in which different actors had wildly different perceptions of what the main problems were and, as a result, what needed to be done. Each reality was justified with both anecdotal and empirical evidence, and each view of reality was equally plausible. The question therefore was not 'is this view valid?' but rather 'why is this view held?' and 'is it compatible with other views?'

The fieldwork had allowed me to create a patchwork of competing perceptions about the social and political problems of the eastern DRC, and identify where different actors positioned armed groups within these problems. From this I could demonstrate that wildly divergent views on how to address the problems of the Congo were held by the communities 'in need', the actors 'assisting them', and by the armed groups themselves. They all had equally divergent attitudes and beliefs about armed groups. While there are several studies of how aid communities frame the world in which they operate (Apthorpe, 2011; Cunliffe, 2014; Autesserre, 2014), few studies have examined the disparity between these framings and the framings of the communities they help or, perhaps more significantly, of the enemies they perceive. The field data helped me get a sense of these disparities.

However, fieldwork constraints meant that the perceptions of one of the most significant categories of actors were still missing: communities based in the areas where armed groups tend to operate. I had been able to speak to respondents from a few different armed groups who had taken the trouble to visit me in Goma and Bukavu. Although there were many armed groups who were not represented in my data, I had interviewed enough current and former members to at least formulate some basic conjectures. Communities from the areas that were inaccessible to me because of procedural, security and infrastructural constraints, however, were still completely unrepresented in the data sample. To my mind, this group were likely be the most significant informants for an understanding of the dynamics of armed group violence. They are the actors who face the the everyday insecurity of living in an environment dominated by armed violence; they are the actors to whom the failure of the state as a provider of both security and services is most evident; and they are the populations most vulnerable to armed group recruitment. Their *voices* had to be included in the research somehow. My solution, therefore was to supplement my field data with data collected from these populations through remote methodologies – I would use communications technology to crowdsource my data.

From shrinking worlds to other worlds

Since the 1990s, adherents to the 'shrinking world' thesis (Kirsch, 1994) often posit that advances in communications technology have played a pivotal role in bringing the world together. Initially, some scholars noted that the limited availability of such technology created what Manuel Castells described as the 'Fourth World' of people marginalised and excluded by a lack of access to it (Castells, 1998). In the last decade or so scholars (including Castells himself) have noted a rapid 'Rise of the Fourth World' (Castells, 2010) or the 'Shrinking Fourth World' (Donner, 2008). Much of this phenomenon has been attributed to the increasing ubiquity of the mobile phone. It is now estimated that one third of the world's population own one (Katz, 2008). Lara Srivastava argues that this is because 'the lack of fixed-line infrastructure, the relatively low cost of deployment, and the advent of low-cost prepaid services stimulated the rapid adoption of mobile services' (Srivistava, 2008, p. 16). While the expansion of access to the internet has not been as rapid, this has also raised hopes that technology can be used to gather information from areas too dangerous or remote to access. The use of social media sites such as Facebook and Twitter during the Arab Spring seemed to cement the idea that dissemination of, and access to, a wide range of information was becoming increasingly universal. It was thought that the democratising effect of this phenomenon would have inexorable potential to be harnessed for good. From these beliefs, an enthusiasm for crowdsourcing grew.

Crowdsourcing in its broadest sense is the practice of harnessing collective action and capabilities to achieve a particular task, and this has been a feature of human society since time immemorial. The actual term came into public parlance after it appeared in a 2006 article in *Wired* magazine (Howe, 2008). Since then, crowdsourcing has 'become a mega trend…fuelling innovation and collaboration in research, business, society and government alike' (Bott & Young, 2012, p. 47). This trend has not gone unnoticed by the international development community: 'Ushahidi, See-Click-Fix and Fix My Street may not have been the very first, but so far have certainly been the most impressive and visible demonstration: how dots and sprinkles of individual experiences and observations can be captured and amalgamated into powerful collective accounts of anything from dysfunctional local services and flawed elections to ethnic violence or humanitarian crisis and – rather recently – corruption' (Zinnbauer, 2014, p. 3).

Indeed, since the 2008 Kenyan election crisis, a number of crowdsourcing initiatives have been rolled out in a number of developing countries. Examples include an SMS project to allow beneficiaries to provide feedback on humanitarian assistance in Somalia (Humanitarian Innovation Fund, 2013), crisis-mapping during the Libyan revolution (Meier, 2009), reporting human rights abuses in Guinea (Bott, Gigler & Young, 2014), and interactive community mapping in Kenya (Shkabatur, 2014).

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17   A forthcoming paper 'Within and Without the State' in addition to the DLP research paper on 'Armed Groups and Political Inclu-
      sion' will discuss in more detail these trends.

The success of these initiatives has been mixed. In general, however, projects that have focused on crisis-mapping and received government or donor support (such as in the aftermath of the Haiti earthquake, and UNDP's Sudan Crisis and Recovery Mapping Analysis) have had more impact than projects that focus on non-crisis issues and may threaten elite actors (like, for example, the GV10 initiative to report human rights abuses in Guinea).[18]

There is a lack of empirical evidence for the potential of crowdsourcing to help change things for the better beyond data collection in crisis situations to better inform the crisis response. Still, proponents of crowdsourcing are convinced that it has intrinsic potential that has just not been fully realised. For example Bott, Gigler and Young argue that 'crowdsourcing has not yet had a decisive impact on political governance systems, but the continuous rise of social media, especially among youth, and its increasing use to consolidate support for common interests and advocacy suggest that its importance will continue to grow, especially if coupled with real-life interests, needs, and commitment of its users' (2014, p. 5).

Even with the collection of data that is not explicitly political, such as volunteered geographical information (VGI), the quality of data collected by non-specialists has been questioned and its use has fallen short of expectations (Goodchild & Glennon, 2010). However, even these critics believe that the risks associated with this type of data collection are outweighed by its benefits, and that the problems identified are caused by its relative newness. While critical of VGI in its current form, Goodchild and Glennon argue that 'the potential of such data, and of geospatial data and tools more generally, has not been realised, that the benefits of such technology have fallen far short of expectation, and that research is needed on several key issues if the situation is to improve' (Goodchild & Glennon, 2010, p. 231). For Goodchild and Glennon, therefore, the potential of VGI to produce quality data is there, it just has not yet been realised.

This optimism about crowdsourcing's potential seems to be based on the idea that more data is inherently a good thing – a belief that is also echoed in the growing trend towards using Big Data in social science research. Boyd and Crawford define Big Data[19] 'as a cultural, technological, and scholarly phenomenon that rests on the interplay of: (1) *Technology*: maximizing computation power and algorithmic accuracy to analyze, link, and compare large data sets; (2) *Analysis*: drawing on large data sets to identify patterns to make economic, social, technical, and legal claims; [and] (3) *Mythology*: the widespread belief that large data sets offer a higher form of intelligence and knowledge that can generate insights that were previously impossible, with the aura of truth, objectivity, and accuracy' (Boyd & Crawford, 2012, p. 663). Big Data's most vehement advocates argue that the sheer volume of the data available for collection mean that eventually the need for interpretation will become defunct – for such advocates, the information will speak for itself.

But, as some critics of Big Data have noted: 'A model may be mathematically sound, an experiment may seem valid, but as soon as a researcher seeks to understand what it means, the process of interpretation has begun…working with Big Data is still subjective, and what it quantifies does not necessarily have a closer claim on objective truth – particularly when considering messages from social media sites' (Boyd & Crawford, 2012, p. 667).

These criticisms of Big Data were in my mind when considering whether or not to use crowdsourced data for my project, but there was no intrinsic reason why crowdsourcing couldn't be used on an appropriate scale: 'The size of data should fit the research question being asked; in some cases, small is best' (Boyd & Crawford, 2012, p. 670). I could therefore collect data remotely from the crowd and treat it like 'small data' needing interpretation and analysis. How this data could be analysed, however, presented new challenges. Face-to-face interview data allows the researcher to place the information in the context of the informant; to understand who the informant is, how their position in wider cultural, social, economic and political landscapes shapes their information, and how typical their information is in relation to other similarly-positioned informants. Understanding that context, however, can only come from questioning their information while they are presenting it – asking those follow-up and probing questions that can only effectively be done in longer conversations. This was difficult enough to elicit from a two-hour interview during fieldwork; from a 140-character Tweet or SMS, it would be nigh-on impossible.

This anxiety about the lack of context for crowdsourced data echoes Duffield's anxieties about the declining importance of area expertise in academic research and the consequent feeling of alienation from research subjects: 'The paradox is that the digital collapse of distance has been accompanied by a terrestrial pulling apart' (Duffield, 2015, p. S90). I was already acutely aware that my fieldwork was but a fragment of a snapshot through a small window of Congolese life. I was already trying to compensate for its shallowness by reading works by (and speaking to) people who had deep embedded knowledge of the context. I was drawing on my protracted periods of research since 2008 in the African Great Lakes examining the dynamics of change among the FDLR armed group, and keeping up with new developments by following Congolese and international media.

Crowdsourcing could widen the available pool of information, but I was acutely aware that these new margins of the pool would be very shallow indeed. So, for me, crowdsourcing supplements more traditional research methods until we find a better way to collect face-to-face data from informants who are inaccessible to us. It is *not* a substitute – the fact that these populations cannot be reached should be a problem that must be overcome, not worked around. We should not fool

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18   See Bott, Gigler & Young (2014) for more detail about this.

19   They capitalise the term to distinguish Big Data as a phenomenon from the data itself.

ourselves that this virtual fix has fixed the underlying real-world problem: that around the world there are large populations with whom we cannot physically communicate because of their territorial and political inaccessibility.

Crowdsourcing the Congo: the never-ending obstacle course

Although not widespread in the DRC, crowdsourcing has been used there before, particularly in the Kivu provinces. After Ushahidi's initial success in mapping post-election violence in Kenya in January 2008, the not-for-profit organisation launched a crowdsourcing platform in the DRC in November 2008 to map the incidence of violence there (Global Voices, 2008). In 2009 Columbia University launched its *Voix des Kivus* pilot project 'to examine the potential for using SMS technology to gather conflict event data in real-time' (van der Windt, 2012, p. 1). Both these projects tried to collect data in real time and did so, but there were limits to what they could achieve beyond that. As Peter van der Windt noted: '*Voix des Kivus* did not create new modes of governance; only part of the data was distributed beyond the system; the usefulness of the information provided was limited because the project did not scale-up; and the voice provided to participants was not acted upon by external actors' (van der Windt, 2012, p. 10). These problems reflect the concerns I raised earlier in this paper about whether crowdsourced data can be a panacea for the problems of governance in the modern world. The *Voix des Kivus* experience seems to suggest it cannot. It also demonstrates that while technology may give previously silenced voices a mouthpiece, there are no real reasons why global, or indeed national, elites would listen to them.

My own crowdsourcing project, like *Voix des Kivus*, would also be a methodological experiment, but one which was more modest in reach. (It did not, for example, seek to produce new modes of governance or share the data publicly.) The *Voix des Kivus* project used trained phoneholders to report incidents to a Ushahidi platform, by crowdseeding before crowdsourcing (van der Windt, 2012). My plan was to allow any respondent to send information to a Frontline SMS platform (Frontline SMS, 2014). My crowdsourcing project aimed to build on the work of *Voix des Kivus* to explore the potential of using SMS technology, but the methodological aspect of the experiment was also to examine what potential this technology had as a tool for a single researcher with a small research budget.[20] Most crowdsourcing initiatives have so far been large-scale, generally with generous budgets from governments or international funding agencies. *Voix des Kivus* was used to gather real-time data and respondents were encouraged to report events (rather than give opinions) using pre-assigned codes that could then be imported to a database for automatic generation into tables and graphs (van der Windt, 2012, p. 3).[21] In contrast, I wanted to gather data about perceptions of insecurity, attitudes to armed groups, and opinions about problems of governance. These could not be coded into numerical values; texted information would almost certainly require follow-up questions, and data would have to be processed manually.

The technology to support the project consisted of a smartphone kept in-country which had been synced with my computer while I was in the DRC. The Frontline app was installed on both phone and computer. The DRC-based phone would then receive texts from respondents and those texts would be accessible on my computer in the UK through the app. Similarly, I could type text replies into my computer's Frontline app in the UK and they would be routed through the Congolese phone to respondents. The project was designed so that information about it, including the Freetext number for receiving information, would be spread via radio programmes,[22] moto-taxi networks, and through the networks of community leaders, armed group members and local NGOs that I had contacted during fieldwork. Respondents would be asked to volunteer their gender, age and location, but no further identifying markers, and they would be assured that their data would be kept confidential. No financial compensation would be offered for participation, but as an incentive to participate every 50th respondent would win $1 of phonecredit which would be transferred directly to their phone. A Congolese research associate was to sync the phone on a regular basis, translating into and from Swahili the questions and responses, and transferring the phone credit to the 'winning' respondents. Only I and this person would have access to the raw data as it came in.

I have already detailed anxieties about the data's ultimate usefulness. I also initially believed that the success of the crowdsourcing project would rest on my ability to resolve two key challenges: that of the technology itself, and of verification. The challenge of verification could never be fully resolved; without face-to-face contact with respondents who were guaranteed anonymity, it would be impossible to verify whether they were who they said they were, and whether what they were reporting was 'true'. Corroboration from other sources might partially mitigate the second difficulty, as might asking personal contacts with deeper knowledge of the area about the credibility of the claims. However, in reality the intractability of this problem could not be overcome. A large caveat about the quality of the data would, therefore, have to be inserted into my analysis.

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20   The funding for this project (£5035) was provided by the British Academy as part of their Small Research Grant scheme.

21   In the Voix des Kivus project, 'to facilitate the sending of messages, code-books with pre-assigned codes to events were distributed. The codes were organised in ten categories: (1) presences of military forces, (2)attacks on the village, (3) deaths related to armed combat,(4) local violence and property loss, (5) displacement, (6) health events, (7) natural disasters, (8) development and NGO activities, (9) social events and (10) special codes. The codes were distributed in French and Swahili to the phoneholders. If no event took place during the week the phoneholder would send the code '00'. If an event took place that was not listed in the code-book or the reporter preferred to provide more detail, the code '98' followed by text could be send [sic]. Per SMS more than one event could be reported by separating codes by ';'.' (van der Windt, 2012, pp. 3-4)

22   Most notably through Radio Okapi, Radio Mandaleo and Radio Kivu One

The technology itself presented several challenges. The cheapest way to run the platform was to download the Frontline-Cloud application onto a pay-as-you-go smartphone, and then sync that to my computer. I wanted the texts to be free to respondents (so the cost of texting did not discourage participation) and so had to take out a contract with a DRC-based phone company and buy a smartphone from that company. There are several mobile phone providers operating in the DRC, but based on affordability, reputation and range of coverage in the eastern DRC, a decision was made to run the Freetext project through Tigo.

The Frontline platform is relatively new. Its application did not work on all smartphones, and there were many smartphones on which it had not even been tested. None of the phones that had been tested and found to work with Frontline SMS were available in the DRC. Once a phone was bought, if the application did not fully take, the phone could not be returned. In Frontline's own database of phones known to work with the application, it was noted that some phones can successfully receive texts but not send them, or vice versa. I needed both to work for my project. The cost of pay-as-you go smartphones from reputable vendors in the DRC ranges from around $75 to $750. The budget for my project allocated a maximum of $100 and I spent all of it on a Samsung Galaxy S4 – a phone that did not feature on SMS's database.[23] Luckily it accepted the app and was able to both send and receive texts through it.

The next problem was setting up the Freetext facility. The most straightforward way to achieve this, at least in theory, was to buy a bundle of texts from the service provider, which would debit the cost of a text each time a text was either sent or received by the phone. To manage costs, the phone can neither receive nor send texts unless a new bundle is purchased. Hoping for a good response to my project, I sought to purchase 100,000 texts ($1000). If uptake was high, this would allow me to have reasonably in-depth text conversations with several thousand respondents, communicate regularly with my research associate, and make it possible to receive more detailed reports of more than 160 characters. However, a Freetext service of this kind required a contract, and such a contract required a series of authorisations, and authorisations required contact with Congolese bureaucracy.

If you speak to international visitors about Congolese bureaucracy, especially western visitors, you are likely to hear a number of stories about corrupt and unhelpful officials. Even the Congolese will joke about the ways in which you have to offer officals 'encouragement' to get anything done. Certainly there is some truth to this, and I am not suggesting that there is no corruption in the DRC (or that I never encountered it myself during my fieldwork). However, I dealt with various bureaucrats while trying to set up my crowdsourcing project and found the officials I encountered were very keen to help – but in many cases they were powerless to do so. It was the 'faceless' Tigo legal team from the Kinshasa head office who refused to enter into a contract with me until I had proven that I was indeed who I said I was and could prove that I worked for the University. This was a relatively easy problem to solve – I immediately sent them a copy of my passport and an offical letter from the University confirming my status. Next they wanted proof that I had authorisation to research in the DRC. Again, I had the relevant authorisations from the respective Heads of the Secret Services in both North and South Kivu and the elusive *Engagement de Prise en Charge* mentioned earlier in this paper. None of these authorisations had come free of charge, although I had not immediately perceived the fees demanded as corruption. Finally, however, it seemed that everything was in order. A contract, I was promised, would be prepared within two weeks. Once the contract was signed, I could pay and the Freetexts could be received.

However, a week later the Tigo representative in Goma called to say there was a new legal problem. I needed proof that I had an office in the DRC because my employer was not a Congolese company. I had no office in Goma nor a fixed address. But Tigo needed someone to take legal responsibility for my project if I were to, for example, use the text service to promote a rebellion or engage in other illegal activities. The straightforward solution, to make my Congolese research associate the 'legally responsible' person, was not part of the original ethical proposal for the project (or the funding application to the British Academy). The University could neither confirm my research associate as an employee of the University (for the purposes of my research project, he was an independent contractor) nor insure him against any liability if the project went wrong in some way. I had finally hit a wall at the point where the bureaucracy of Congolese legal liability intersected with the bureaucracy of University ethics and insurance rules.

During my fieldwork I discovered that the Congolese have an incredible sense of enterprise and spirit and often use jokes and aphorisms to make light of the difficulties they encounter. One of my favourite aphorisms came from one of my research associates: 'In Goma, the impossible is possible, but the possible can [also] be impossible!' In Kigali, just three days before I left the African Great Lakes, Tigo called again. There was a way around my bureaucratic block, but I would have to re-present my original authorisations and get further authorisations from the Mayor of Goma. I already had a general authorisation to research from the Mayor, but now I needed a letter explicitly authorising the Freetext service. So I travelled to Goma to produce my original authorisations yet again. Unfortunately the Mayor was on an official visit to Burundi and could not give me my new authorisation before I left for London – but I was told I could 'outsource' the seeking of the Mayor's authorisation to my research associate. The contracts could be emailed to me in the UK where I could print them out, sign them, scan them and then send them back. Using the wonders of modern technology to remotely sign the contracts was certainly appropriate for the nature of the project.

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23   None of the phones listed on the Frontline SMS database were available within the DRC.

I would like to write that the next stage of the process involved signing the contracts and receiving the Freetexts. Unfortunately, at the time of writing, this has not yet happened.

In November 2014, two weeks after I returned from my fieldwork, I was so optimistic that the project would begin soon that I and my research associate began to plan the production of flyers containing the freetext number to give to moto-taxi drivers, and draw up short adverts explaining the project and publicising the number to play over the radio.

But the problem with Congolese bureaucracy is that, in addition to not knowing when something will get done, you also do not know *how* it will get done. The rules of the game can change with every step.

We were next told we needed authorisations from the Provincial Minister of Communication. My research associate, enterprising and accommodating to a fault, managed to get these authorisations just before Christmas, and we were promised a contract before the end of January.

Given the number of setbacks, I was not optimistic and braced myself for the next Herculean task that would be demanded of us. Even this pessimism could not prepare me for what happened next.

On January 16 2015, it was announced that 'Presidential elections scheduled for next year [2016] in Democratic Republic of Congo could be delayed until 2017' (Ross, 2015). This was significant – and alarming – news. During my fieldwork, a number of my Congolese respondents who were not members of armed groups had said they were disaffected with the government of the current President, Joseph Kabila. They told me that if Kabila stayed on past his 2016 mandate, they would definitely consider joining an armed group. There had already been widespread speculation that Kabila would try to extend the Congolese constitution's two-term limit on presidential candidates so that he could stand for a third term.

On January 17, the Lower House of the Congolese Parliament agreed that a census should be held before the next presidential election. Official reports suggested this could delay the election until 2017. Given the slow pace at which the DRC government works, those suspicious of Kabila's intentions were convinced that insisting on a census would delay the next presidential election until at least 2020. This seemed to suggest that Kabila not only intended to stay beyond 2016, but that he was probably trying to do away with the election process altogether. A protest was organised through mobile phones and social media using the hashtag #Telema (meaning 'arise').

On 19 January in Kinshasa, these protests soon turned violent. The Congolese authorities cracked down heavily on demonstrators and violence spread to other parts of the DRC. Pictures sent to me from research associates showed streets on fire and a violent backlash from the police and army.

By 20 January, mobile phone and internet networks in the DRC had been switched off. Protestors were convinced that this was to stop them from organising, and to prevent victims of human rights abuses from broadcasting the carnage to the world.

While mobile phone and internet networks are now working again, activists using these technologies face danger and suspicion. So, for now at least, technological difficulties make my crowdsourcing project inoperable.

All of this shines a light on a very real and under-reported problem with the hype that casts crowdsourcing as a tool of empowerment. Ultimately, social media and communications channels are controlled entirely by elite actors. Whether those actors are sovereign governments or Twitter's proprietors, they can prevent the flow of information from reaching its intended audience without breaking any international law or pointing a single weapon at a civilian.

There are also ethical questions beyond the issue of who controls the technology. While I wrote this paper, I was confronted by a whole new set of ethical dilemmas about when I can reasonably think about trying to get my project up and running again.

Foremost among these concerns is the safety of my research associate. Elsewhere I have written about the disquieting truth manifested in 'risk-averse security measures' that, in the context of the international aid system, a Congolese life is worth less than a western life (Perera, 2014). No potential data could justify the sacrifice of my research associate's safety. The immediate threat to his life in a town in crisis has now died down, but he is now operating in a new environment with a new security risk – the risk associated with the phone.

My crowdsourcing project only intended to ask questions, but it needs to be authorised by bureaucrats who will not know whether it might also be used to spread propaganda or orchestrate protest. If my research associate goes to seek authorisation, they will not see a neutral academic; they will see a potential conspirator who may need to be detained without charge or, worse, harmed.

This experience, therefore, has not shown crowdsourcing to be a methodology of empowerment. Rather, it has become a methodology of risk, and one which at almost every stage has had to acquiesce to the whims of a political and bureaucratic elite. I would argue that, contrary to the views of Castells (2010) and others who hail the growth of mobile phone ownership, the Fourth World is not shrinking. We are just looking at it from further away.

Carnival or catalyst? The use of crowdsourced data

Despite claiming the lives of more than 100 people – not to mention the hundreds more badly injured, beaten or imprisoned – the #Telema protests have been hailed by the international media as a success story.[24] Anger over the government's blocking of communications (especially the blocking of opposition leaders' phones) is still present. But the demonstrations have also been given credit for scaring the Senate into rejecting the proposed constitutional reforms.[25] The Senate's proposed bill rejects the need for a census and calls for the elections to be held in 2016 as previously agreed.

In the western media, #Telema is being used once again as evidence that 'The Revolution will be Twittered' (Sullivan, 2009). However, no revolution has taken place in the DRC. At best, we can say that the government tried to do something constitutionally outrageous; the people protested; the government responded with brutal repression; and it has backed off a little for fear of massive uprisings. As Christoph Vogel notes, 'while this decision comes with good chances for social unrest to be tamed, the medium-term outcome remains subject to a whole set of further political developments' (Vogel, 2015). The embittered Congolese population has only been able to show that there is a limit to how much exploitation it is willing to take, and the government has realised where the line lies and stepped back slightly. To hail #Telema as a triumph of democracy would ascribe some quality of democracy to what is a deeply undemocratic and highly repressive system. The Twitter Revolution fallacy allows us to close our eyes to the truth that governance in the DRC is fundamentally unconcerned with the well-being of its citizens.

The emphasis on the democratising power of the internet also obscures the fact that if ordinary people are somehow given power by its ubiquity, so too are the elites who oppress them. In *The Net Delusion* (2012), Evgeny Morozov shows how the international hype around Twitter during the Iranian protests of 2009 led to the securitisation of the Internet by Iranian authorities:

> 'All that mattered at the time was that the Web presented an unambiguous threat that many of Iran's enemies would be sure to exploit. Not surprisingly, once the protests quieted down, the Iranian authorities embarked on a digital purge of their opponents. In just a few months, the Iranian government formed a high-level twelve-member cybercrime team and tasked it with finding any false information – or, as they put it, 'insults and lies' – on Iranian websites. Those spreading false information were to be identified and arrested.' (Morozov, 2012, p. 10)

The threat that internet mobilisation can pose to government is clear, but so is the solution for threatened governments; shut off the communication channels and, if so inclined, punish those involved – their internet footprint makes them easy to identify.[26] As the Iranian example shows, the DRC was not the first country to use a communication shut-down to contain dissent, and reports of Russian, Chinese and American control of internet channels are widespread.

But events in the DRC showed that even so-called 'fragile states' have an authoritarian power that is underestimated. The case of the Guinée Vote 2010 Temoin (GV10) campaign to report human rights abuses and the Bloody Monday Massacre during the 2010 elections illustrates this. During this time, the Guinean government on several occasions blocked mobile communication services and confiscated phones and cameras that were being used to record repression: 'It is clear that the Guinean government, whether military in character or not, has perceived mobile communications and crowdsourcing as a threat to general stability as well as to the domestic and international legitimacy of the government' (Bott, Gigler & Young, 2014, p. 27).

The GV10 campaign was ineffective for a number of reasons: 'It did not have sufficient moderators or the capability to verify the majority of reports; it did not have the means or the authority to respond to reports; its access to mobile communications was at the mercy of the government; and it was exposed to potential measurement error and 'poison data', for example, people committing false reports in order to discredit a competing group or politician' (Vasdev, 2010 cited in Bott, Gigler & Young, 2014, p. 26). This last issue of poison data reflects another danger of using crowdsourced data: analysts without any ground truth cannot determine whether their information comes from those with the loudest voices who have the means to control the media and can manipulate the message for their own ends.

Not all mobile phones give the 'Shrinking Fourth World' access to the international arena. Only *smartphones* give them access, and even when those phones are not being blocked by government elites, access to smartphones and therefore to Twitter and Facebook are still only open to elites of some kind. The truly disempowered and marginalised remain voiceless, and a focus on the social media revolution is allowing us to forget that.

24　An interesting discussion on whether Telema was really a victory or not can be found in Dominic Johnson's interview with anthropologist Theodore Trefon: http://blogs.taz.de/kongo-echo/2015/02/03/theodore-trefon-on-the-telema-protests/ (Date Accessed, 15 February 2015).

25　Stephanie Perazzone, who kindly reviewed an early draft of this paper, and who has been conducting research with politicians in Kinshasa, noted that the story could be read another way: that the Senate were not scared by #Telema, but rather the Senate saw an opportunity to further weaken Kabila, who already had a divided majority.

26　It is true that groups of experienced hackers such as Anonymous are not so easy to identify, but the point of the Twitter Revolution is that the untrained 'everyman' can use it, and this 'everyman' does not know how to protect his or her anonymity.

In the title of this section, I allude to a distinction between understanding the function of social media as a 'carnival' or as a 'catalyst'. As a catalyst, technological empowerment would give previously excluded groups genuine civic participation and facilitate new forms of governance that allow for real-world positive change beyond the technology. As carnival, it is little more than a convenient distraction that may in fact help maintain the status quo and prevent genuine revolution. I am referring here to the 'safety valve' theory about carnivals put forward by some social anthropologists as allowing 'controlled, safe release of the tensions of hierarchical society, set apart from the normal and everyday world…one metaphor they used was the need to allow gas to escape from wine barrels periodically to prevent them exploding' (Howard, 2004).

My own experience of using crowdsourcing as a method of data collection has failed to live up to my initial hopes or its own hype, and I have yet to find convincing evidence that it has brought about far-reaching change. Duffield has observed that 'The abiding paradox of the corporate Information Age is that it is more readily defined in relation to delusion, rumour and xenophobia than enlightenment' (Duffield, 2015, p. S90). In agreeing with this observation, I would add a warning: reliance on remote crowdsourcing may lead western researchers to lose solidarity with their subjects and return to a view of those in conflict-affected states as exotic 'others' to be viewed with caution from a distance.

While there are success stories of crowdsourcing adding to ground truth (with examples ranging from Haiti to Kenya), they have been modest and their success has not been universally accepted. As a research method, I believe crowdsourcing needs to be approached with considerable caution and should be considered a *supplement* to fieldwork, extensive analysis and face-to-face interactions. It should not be seen as a *substitute*. As Duffield concludes: 'It is only through ground truth that we can recognise that which unites rather than separates and that in facing collective problems, we are better together than apart. A reliance on compensating remote methodologies and simulations, however, seems designed to make matters worse, rather than better' (Duffield, 2015, p. S90).

Modern technology might help conflict analysts to become aware of the needs of marginalised and isolated populations, but we should be clear about whether they really are 'shrinking', or whether we are simply looking at them from far away. Instead of uncritically hailing technology for allowing us to see this isolation, we also need to consider why, in the 21st century, such isolation still exists.

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