

## 14 The Inclusivity of Crowdsourcing and Implications for Development

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### Introduction

“When one starts to look at the power of crowdsourcing in developing regions, there is optimism in a nascent paradigm shift of the realities of a poverty-stricken community” (Fisher 2012). As this quote suggests, there is hope that crowdsourcing can be an effective approach to tackling some development problems in an inclusive manner. In this chapter, we take crowdsourcing to be “the act of taking the job traditionally performed by [a] designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call” (Howe 2006, 99). Reflecting its origins as an innovation strategy in the private sector, crowdsourcing is seen as a means to improve efficiency, reduce costs, and enhance creativity. While these potential benefits are relevant to international development, there is an added normative rationale—that gathering information (which may lead toward making a decision), should be as inclusive as possible. As Fisher (2012) states, this may even include “poverty-stricken communit[ies]” and helping their voices be heard.

It is unclear, however, what inclusivity looks like in crowdsourcing for development. A number of questions remain: How is it defined? How, to what extent, and in what contexts can it occur? Who is included? This chapter seeks to improve our understanding of inclusivity in crowdsourcing activities for international development. This includes deepening our knowledge of the enabling conditions that make a certain activity more inclusive than another, as well as the challenges faced.

To explore these questions, this chapter examines the premise of inclusivity of crowdsourcing initiatives through an analysis of seven projects that either researched or operationalized crowdsourcing (HarassMap;<sup>1</sup> Peaceful Truth and Una Hakika, both run by the Sentinel Project;<sup>2</sup> Cuidando do Meu Bairro (CMB), two microwork projects with DIRSI<sup>3</sup> and LIRNEAsia, and one with iHub on the analysis of Twitter in Kenya). Three highlights emerge in this chapter regarding inclusivity in crowdsourcing in the Global South:

- Inclusivity in crowdsourcing is relative—it is defined in different ways by different project owners and as a result, operationalized in different ways at different stages.
- Inclusivity in crowdsourcing is influenced by a number of factors, the key being the vision and strategy around the initiative.
- Inclusivity can happen indirectly and tangentially—for example, through intermediaries.

The chapter begins with an overview of the key terms used throughout: namely, *crowdsourcing* and *inclusivity*. Next, it introduces Sharma's (2010) framework for crowdsourcing success, which we then apply to analyze the seven initiatives. Finally, we conclude with the problematization of inclusivity that we encountered in the crowdsourcing projects.

### Crowdsourcing and Inclusivity

As discussed in other chapters in this volume, a core promise of openness is inclusivity. In open data, *inclusivity* is meant to democratize access to informational resources (see chapter 10). In open education, Trotter and Hodgkinson-Williams (see chapter 12) cite Smith and Casserly: “at the heart of the movement towards OER [open educational resources] is the simple and powerful idea that the world’s knowledge is a public good and that technology in general and the World Wide Web in particular provide an opportunity for everyone to share, use and reuse it” (Smith and Casserly 2006, 2). In chapter 13, Hillyer et al. state that open science is the “opening of the entire research cycle” ... [to] “allow increased transparency of scientific processes, as well as the expansion of participation in and opportunities for diverse forms of knowledge production.” Likewise, crowdsourcing has the potential to be inclusive, as the process itself is designed to not discriminate and therefore to theoretically facilitate participation (see chapter 2).

Before we examine the concept of inclusion within crowdsourcing, we first define crowdsourcing itself. Estellés-Arolas and González-Ladrón-de-Guevara (2012) undertook a comprehensive review of six academic databases between January and August 2011 to source forty varied definitions of crowdsourcing. They found eight characteristics that defined crowdsourcing:

1. There is a clearly defined crowd.
2. There is a task with a clear goal.
3. The recompense received by the crowd (not always financial) is clear.
4. The crowdsourcer is clearly identified.
5. The compensation to be received by the crowdsourcer is clearly defined.

6. It has an online assigned participative process.
7. It uses an open call of variable extent.
8. It uses the Internet.

We should also recognize here the different types of crowdsourcing (expanding on point 7). Crowdsourcing usually refers to an *open and ongoing/active call*—anyone with the skills and interest can participate. However, other initiatives (such as Una Hakika and Peaceful Truth) employ *crowdseeding*—selecting members of the crowd to give them a more focused role. *Microwork*, on the other hand, is work comprising small tasks (such as photo tagging), which is crowdsourced. What Sambuli et al. (2013, 8) call *passive crowdsourcing* is more of a research method in terms of analyzing types of tweets on Twitter.

From its commercial origins, cost reduction, more real-time data, and diversity of inputs are often cited as the key outcomes of crowdsourcing (Kleemann, Voß, and Rieder 2008; Parameswaran and Whinston 2007; Surowiecki, 2004). Howe's (2006) perspective of "taking a function once performed by employees and outsourcing it to an undefined, generally large group of people in the form of an open call," emerged from within a business context.

While these benefits also apply in international development, especially gathering data from remote areas and in the crisis and emergency response fields, and reducing costs for already cash-strapped nongovernmental organizations (NGOs), more as well as diverse voices in the production of data are not just valued as innovative or cost-effective but, in addition, it is normatively valued as the right thing to do. In development, crowdsourcing has evolved to apply to activities aligned with more normative values, such as participatory theory (Chambers 2006, 2014; Cooke and Kothari 2001), or the open-source software principles of information systems (Mansell 2013), with the idea that inclusion provides voice and ownership. For example, Mansell (2013, 267) argues that Ushahidi "provided a way of breaking [the] monopoly on crisis data previously held by organizations such as the Red Cross and the United Nations, yielding data which enhanced situation awareness for small NGOs without the resources to collect or manage data independently."

Table 14.1 contains some examples of well-known crowdsourcing platforms in development. These platforms were intended to "democratize" data, as crowdsourcing "data now stands to be the great leveler and democratizer" (Fisher 2012). According to Fisher (2012), the process of crowdsourcing itself is inclusive for development because "by supplying someone in a developing region with the physical means to access data, one not only automatically brings them into the loop of communication, but also introduces them into a whole new business infrastructure powered by crowdsourcing methodologies."

**Table 14.1**

Examples of crowdsourcing platforms in development.

Name	Summary
Ushahidi <a href="https://www.ushahidi.com/">https://www.ushahidi.com/</a>	Perhaps the best-known of the crowdsourcing platforms borne out of the postelection riots in Kenya. Aims to gather and verify local informal reports crowdsourced through email, SMS, or social platforms to ensure that people have access to the information they need. This can range from the location of the nearest medical supplies to which areas of town to avoid due to severe outbreaks of violence.
Medic Mobile <a href="https://medicmobile.org/">https://medicmobile.org/</a>	A mobile app that allows community health workers in twenty-three countries to register pregnancies, track disease outbreaks, communicate about emergencies, and keep inventory of critical medicines.
Plantwise initiative <a href="https://www.plantwise.org/">https://www.plantwise.org/</a>	Launched by the Center for Agricultural Bio-Science International (CABI), Plantwise collects information on soil health and other risk factors from thousands of farmers in twenty-four countries. In exchange for providing data, farmers receive technical assistance via SMS and/or voice messages on how to remove or avoid pests and, as a result, reduce crop loss.
iCow <a href="http://www.icow.co.ke">http://www.icow.co.ke</a>	Dairy farmers in Kenya, Tanzania, and Ethiopia can track livestock through aggregating and mapping their crowdsourced data, but they also use this app to increase their bargaining power by facilitating collective buying of input and enabling larger sales volumes.
Ipaidabrike <a href="http://www.ipaidabrike.com/">http://www.ipaidabrike.com/</a>	An anticorruption platform that emerged in India to report corrupt and praise honest public-sector officials. Now also used in Kenya, Ghana, and Sri Lanka, among other countries.

Yet Fisher's perspective makes many assumptions—crowdsourcing does not necessarily guarantee access to the crowdsourced data—and, even if access is granted, not everyone will have the infrastructure, skills, or motivation to use them. In both Mansell and Fisher's points, it is unclear exactly how inclusion occurs and at what stage; is it in producing the data, distributing them, or consuming them? And how does this “[automatic bringing] into the loop of communication” occur? Furthermore, inclusion is separate from participation—inclusion is likely to be the effort of the provider/platform owner, while participation is largely on the part of the platform user—and people may opt out for many reasons. Even if the skills, infrastructure, and other tangible aspects exist, participation will not be possible if there is no alignment with the aims of the platform provider.

Finally, Silversmith and Tulchin (2013) add that in a development context, both the users' access devices and motivations are important to consider when it comes to

inclusion. In the Global South, the main device for access is a mobile phone rather than a desktop, laptop, or tablet. In addition, as they argue, participation in agriculture-related crowdsourcing activities has generally been motivated by cash, or cash-alike payments such as airtime or important information that can be linked to ways to improve or secure income. Understanding the tools that people use and what incentivizes them to participate in crowdsourcing activities in development is critical in successfully designing and implementing an inclusive crowdsourcing initiative in a development context.

So, what do we understand *inclusivity* in crowdsourcing to mean? Fisher's (2012) definition of inclusivity is an "intention or policy of including people who might otherwise be excluded or marginalized," and therefore the leveling of access to data. However, first, there are different understandings of types of inclusion, as discussed by other authors in this volume. There is a difference between inclusion in terms of quantity or numbers of people, and inclusivity in terms of *representativity*—types of people, specifically those who might normally be marginalized. For example, van Schalkwyk and Cañares (see chapter 10) discuss the difference between numbers (more people are included) and representativity (minorities are included). They also provide an additional definition of *inclusion* in terms of whether "more people participated in governance after an open data initiative" (i.e., contributing to the outcome of inclusivity).

Similarly, Trotter and Hodgkinson-Williams (see chapter 12) use the World Bank's definition of social inclusion: "the process of improving the terms for individuals and groups to take part in society. ... It ensures that people have a voice in decisions which affect their lives and that they enjoy equal access to markets, services and political, social and physical spaces" (see World Bank 2013 and Bonami and Tubio 2015, cited in chapter 12), which correlates to inclusion as an outcome or a consequence rather than a process.

Thus, there are different categories or types of inclusion that different people and institutions adopt. Many microwork platforms,<sup>4</sup> for example, are considered inclusive (in terms of numbers and improving citizens' access to work), even though they have severe imbalances in gender, age, and other characteristics among participants. Civic reporting sites also show similar imbalances. For example, Swan (2016) found that in the mobile-based civic reporting tool U-Report, two-thirds of U-Reporters are male, 90 percent are under thirty-five years of age, and urban residents are likely to be overrepresented. Similarly, in analyzing eleven citizen-reporting platforms across the world, Rumbul (2015) found a tendency for the participants to be male, older (although the opposite was found in Kenya and South Africa), part of a majority ethnic group, and educated and employed.<sup>5</sup> Therefore, such platforms may be inclusive in terms of

including more people, but not necessarily in terms of including minorities (not as a concerted effort anyway).

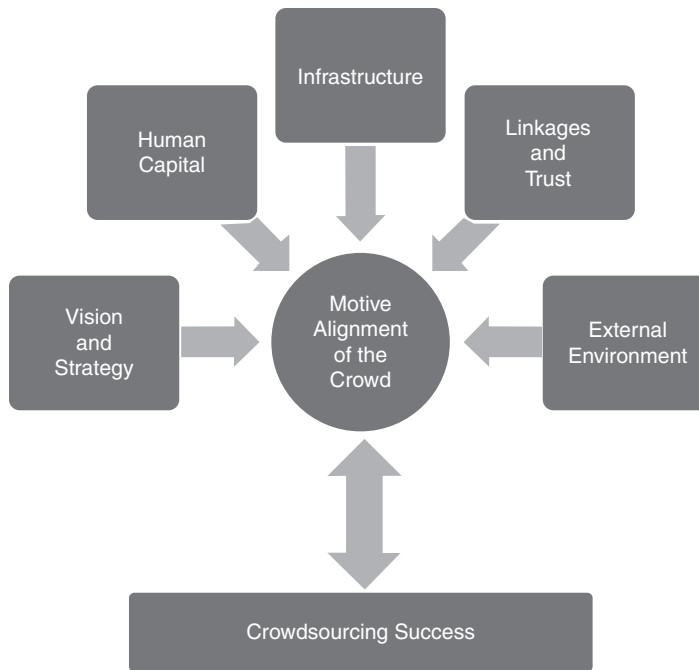
As Trotter and Hodgkinson-Williams (see chapter 12) state, the hierarchy of access, participation, and empowerment often reveals that the first (access) and the second (participation) occur in the case of open educational resources (OER), but the third is hard to achieve. This could be a fundamental weakness of the theory of change of inclusion, as illustrated in Fisher (2012) and Mansell (2013); both see inclusion mainly in terms of access to data, which then can be consumed freely. However, Smith and Seward (see chapter 2) make the distinction between production, distribution (sharing), and consumption (use) of data in open processes, including crowdsourcing, with the idea that inclusion (as in Gidley et al.'s 2010 nested stages of access, participation, and empowerment) can occur at any of these points (Smith and Seward 2017; Gidley et al. 2010). Yet, as Graham and De Sabbata (see chapter 5) and Zaveri (see chapter 4) note, geography and gender are just two of the factors that make inclusion at any of these stages problematic. We discuss further factors for inclusion in crowdsourcing next.

### A Framework for Inclusion in Crowdsourcing

Sharma (2010) suggests that there are six factors that contribute to successful crowdsourcing. *Successful* here refers to a quantitative rather than a representative notion of inclusion, where inclusion is concerned with whether “there are sufficient members of the crowd participating in it” (Sharma 2010, 8), rather than deliberately including the otherwise excluded or marginalized. We return to this distinction in our analysis.

Sharma (2010) lays out the key factors for including as many members of the crowd as possible: human capital, infrastructure, linkages and trust, external environment, vision and strategy, and motive alignment of the crowd (see figure 14.1 for an illustration). We use this framework for the analysis of our International Development Research Centre (IDRC) case studies, while also problematizing it.

As a prerequisite, *human capital* involves ensuring that individuals have the literacy, digital literacy, language skills, and other necessary characteristics to participate online. A critical mass of skills is needed to ensure inclusive and usable platforms (Alonso et al. 2008). A second important prerequisite is that of a dependable, affordable *infrastructure*, particularly of mobile and mobile Internet, as that is increasingly the mode of access (Silversmith and Tulchin 2013). A more complex factor is that of *linkages and trust*, where those who are using the crowdsourcing platform trust that their input is being taken into consideration, with appropriate checks and balances, especially in relation to privacy and security. De Beer et al. (2017) also point out that there may be a concern

**Figure 14.1**

Crowdsourcing success factors.

Source: Sharma (2010).

about intellectual capital on the part of users—what will happen to the data they input, and who owns them? The *external environment*, another critical success factor, affects this, in terms of the amount of support and freedom given to the platform (a problematic issue arising for a number of platforms that we discuss in the following sections). Finally, the two critical factors that we will examine in terms of inclusion are the *vision and strategy* of the platform and the *motive alignment* of the crowd (i.e., the extent to which the crowd aligns with the platform intentions). We use this framework for the analysis of our IDRC case studies in this chapter, while also problematizing it.

## Methodology

The research was designed as a multicase, comparative case study. We conducted in-depth, semistructured interviews with seven project managers who have either used or researched crowdsourcing in their projects. Table 14.2 contains more details on the

projects, summarizing the objectives and background of the projects. The appendix at the end of this chapter presents the interview guide. We conducted interviews between December 2017 and February 2018 via Skype. Interviews were each about one hour long and recorded with the participants' permission. We also reviewed project documents such as published reports, media coverage, and other publicly available materials. Data were then analyzed following the qualitative data analysis tradition: making sense of the data, finding patterns and themes, and drawing conclusions.

**Table 14.2**  
Objectives and background of the projects.

Project name	Type of crowdsourcing	Problem	Geographic location
HarassMap <a href="http://harassmap.org/en/">http://harassmap.org/en/</a>	Active and open (all can participate)	Addressing sexual harassment, particularly in public spaces	Egypt
Una Hakika <a href="https://www.unahakika.org/">https://www.unahakika.org/</a>	Targeted crowdseeding	Addressing and countering misinformation and interethnic violence	Tana Delta, Kenya
Peaceful Truth <a href="https://www.peacefultruth.org/">https://www.peacefultruth.org/</a>	Targeted crowdseeding	Addressing and countering misinformation	Myanmar
Nubelo (now Freelancer.com) <sup>a</sup> <a href="https://www.freelancer.es/nubelo">https://www.freelancer.es/nubelo</a>	Microwork	Addressing unemployment by matching employers who post contracts for short-term jobs with workers who bid for these jobs	Based in Spain, with suppliers largely in Spanish-speaking countries
Online freelancing and microwork in Sri Lanka <sup>b</sup>	Microwork	Like Nubelo, connecting employers with contract workers for specific tasks	Sri Lanka
Cuidando do Meu Bairro <sup>c</sup>	Open and active	An open data civic platform mapping public spending in São Paulo	Brazil
Kenyan elections monitoring <sup>d</sup>	Passive crowdsourcing	An analysis of participation on Twitter after the 2007 Kenyan elections	Kenya

<sup>a</sup>Galperin and Greppi's (2017) paper is found here: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2922874](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2922874).

<sup>b</sup>See <http://limeasia.net/projects/inclusion-in-business-process-outsourcing/>.

<sup>c</sup>See <https://colab.each.usp.br/blog/tag/cuidando-do-meu-bairro/>.

<sup>d</sup>See [https://ihub.co.ke/ihubresearch/jb\\_VsReportpdf2013-8-29-07-38-56.pdf](https://ihub.co.ke/ihubresearch/jb_VsReportpdf2013-8-29-07-38-56.pdf).



## Understanding Inclusivity through Sharma's Framework

### Infrastructure

Drawing lessons from inclusive crowdsourcing activities in development, Silversmith and Tulchin (2013, 3) argue that “tools should be structured based on the needs and behaviors of the users, not on the technology or developmental goals.” Another important factor is that the user interface should be simple to ensure easy and quick signup and usability. All the project managers recognized that appropriate infrastructure is critical for inclusion. Una Hakika and Peaceful Truth both conducted baseline surveys to understand what technologies would be most used by targeted populations. In the Tana Delta in Kenya, where Una Hakika started, a baseline survey found that WhatsApp and Viber were more widely used than short message services (SMS); in Myanmar, where Peaceful Truth is based, 92.1 percent of respondents said that they use the Internet, while 97.3 percent of respondents owned a mobile phone (Boyd 2016). Una Hakika also uses radio extensively to raise awareness (Tuckwood 2017). In the case of HarassMap, Rebecca Chiao stated that being SMS and online based improved the system's ability to reach women and empower them to report sexual harassment incidents more frequently and on time. Yet, she was aware that it was harder to reach women who did not have access to technical infrastructure. While HarassMap ran committed awareness campaigns, it also relied on some intermediaries who did have access to infrastructure and could report harassment.

The mode of access also affects inclusion. In *After Access: Inclusion, Development, and a More Mobile Internet* (2015), Jonathan Donner makes the point that while most Internet access, particularly in developing countries, is achieved through mobile phones, this presents a restricted production scenario, with a limit to mobile capacity in terms of interface, methods of input, and screen size. So while this may work for HarassMap or Una Hakika, access via mobile phone limits the types of microwork activities that users can engage in. LIRNEAsia, for its part, found a significant discrepancy in terms of inclusion. While buying and selling between supplier and vendor happened through mobile phones, the “heavy parts of the work, design or translation comes from desktops” (Sriganesh Lokanathan, LIRNEAsia, interview, January 27, 2017). They conclude that “inclusion is not binary—it also means what kind of devices people have” (Lokanathan, interview, January 27, 2017). Other aspects of infrastructure in microwork related to what affordances vendors have for payment (as PayPal does not currently operate in Sri Lanka), or the 15 percent to 20 percent fees that platforms ask for as a membership fee. This returns to the implications of inclusion for development—those who can afford desktop computers will theoretically have greater access opportunities to be included as distributors and producers of data rather than consumers.

The challenge is that if you do not have access to infrastructure, you cannot participate online, and thus you cannot be represented. Lokanathan gives an example of an app that tracks bumps (e.g., Street Bump, for the city of Boston) and uses this crowdsourced data to keep the city council informed of where road repairs are needed. In Sri Lanka, Lokanathan points out, this would reflect only the richer areas—where users with smartphones would crowdsource the data while poorer areas would simply be “blackspots” (as it happens, this also tends to be the case with Street Bump). As he says, the question of infrastructure means that “you need to think about that lack of representation in terms of inclusion” (Lokanathan, interview, January 27, 2017). Similar sentiments were raised for CMB (Craveiro and Martano 2015), Kenyan election monitoring (only those who are on Twitter can be captured for that analysis of representation), and for Nubelo, in terms of what kind of jobs that suppliers can access, and on what devices.

### Human Capital

Who is included and how are partly dependent on infrastructure, but also on skills. It seems obvious to state it, but only those who have access to infrastructure and are skilled enough—in terms of digital literacy, social media use, and other technological abilities—can actually use Twitter (Kenyan election monitoring), Nubelo, or the micro-work platforms analyzed by LIRNEAsia in Sri Lanka.

In the context of microwork where participation is competitive, winning a bid may include not just the requisite skills, but also effective strategies. For example, on the Nubelo platform, women consistently bid lower than men for the same jobs. This is potentially a strategy for getting one’s foot in the door (it is important to have done work on the platform in order to get new work) but also as a way to counter potential bias against female workers and high competition against men. As a result, while there appears to be comparatively low participation of women in crowdsourcing platforms compared to men (Raja et al. 2013; Rossotto, Kuek, and Paradi-Guilford 2012), on the Nubelo platform, women are more likely to win bids than men (Galperin et al. 2017).

Finally, human capital is not just in terms of users, but also staff, volunteers, and intermediaries to run platforms. As part of a community engagement effort, establishing a local presence and training local volunteers (or partners) to provide technical assistance are critical to encouraging adoption and long-term participation in the crowdsourcing activity. In the HarassMap case, the organization relies on volunteers, especially in university settings, and the idea of *safe areas*, with local store owners or neighbors acting as volunteers; inclusion here is also of the HarassMap staff, to

inculcate the idea of public spaces as inclusive to all (Fahmy et al., 2014; Farid 2015). In São Paulo, CMB relied on staff and students for mapping public expenditure data. The Sentinel Project partners with a local organization and trains the local staff to be the project representatives on the ground. For example, the team hired local staff in Kenya and positioned them in the local community. In Myanmar, the team partnered with the Smile for Education and Development Foundation. They wanted to partner with this organization because simply, in the Myanmar context, they were trusted—leading us to the theme of linkages and trust, discussed next.

### Linkages and Trust

The two factors of linkages (i.e., what the platform is being associated with) and trust are critical to shaping the contours of inclusion in crowdsourcing processes. In Nubelo, Galperin and Greppi (2017) find that foreign job-seekers (i.e., not Spanish) are 42 percent less likely than job-seekers from Spain to win contracts from Spanish employers, who represent two-thirds of all employers on the platform. Because the client-supplier relationship appears stronger if both are Spanish, Spanish suppliers are able to charge 16 percent more than similarly qualified foreign suppliers. This emerges partly because of an implicit trust by employers that there will be lower communication costs and higher worker quality if the vendor is local. Galperin states that employers “resort to stereotypes about what is a good or a bad worker, what is the quality of the work and inevitably they have a bias towards their own country of origin because they understand better about the quality of distribution in their own countries. So they’re always a bit more reluctant to hire somebody from a different country, just because of a lack of information or information surety about whether that worker is of good quality” (Galperin, interview, January 30, 2017). Therefore, in some cases, even where the infrastructure and skills might be equal or close to equal (Spanish and non-Spanish), employers still place more trust in Spanish workers, thereby excluding non-Spanish workers. Of course, microwork platforms may have no social imperative to actively include marginalized members of the community. As Galperin states: “they’re interested in more matches, ... they make revenues and they grow as more matches are made” (interview, January 27, 2017).

For crowdsourcing for international development initiatives, building trust is essential for success. As Drew Boyd says of Peaceful Truth, the greatest lesson was the importance of constantly reassuring users, particularly in Myanmar, who had privacy concerns and suspicions of what would happen with the data collected. In Una Hakika too, Boyd et al. (2015) spoke of deliberately conducting *barazas* (village meetings),

especially with village heads, to raise awareness of Una Hakika, and that it was aiming to alleviate misinformation, not increase it by setting up yet another media platform.

### External Environment

As Graham and De Sabbata (see chapter 5) state, geographies of participation matter to the production of open content. That is, one's geographic location, and all that it entails, has a high level of influence on participation patterns. Besides infrastructure and skills, one's geography includes factors such as the current political climate, culture, and economic context.

For example, in the case of the microwork platforms in Sri Lanka, LIRNEAsia found that many of those applying for jobs online are from smaller cities in Sri Lanka, rather than Colombo—perhaps because residents of smaller cities find it hard to find physical job positions and easier to find opportunities online, whereas in Colombo, it might be easier for applicants to find opportunities in person.

Crowdsourcing initiatives that seek to be disruptive of the current status quo can bring challenges. While authors like Swan (2016) call for more crowdsourcing platforms to challenge public institutions (e.g., reporting corruption), such a system is never deployed in a vacuum. For HarassMap, Chiao raised the delicate balance in working with government: “there were times when the issue of harassment became very politicized, the government accused the Muslim Brotherhood of being responsible for harassment, and the Brotherhood said that it was the government and security forces who were responsible. HarassMap does not engage in politics and is politically neutral, but there are broader political issues around the issue of harassment” (Chiao, interview, January 30, 2017).

Another concern was that the Egyptian government did not want any organization or activity to “paint Egypt in a negative light” (Chiao, interview, January 30, 2017). This may have led to concerns around using the platform, or that no change was happening as a result of the initiative because the government was not taking it seriously (Abdelmonem and Galán 2017). Similarly, Una Hakika and Peaceful Truth are affected by the broader political situations in Kenya and Myanmar, as well as by whether citizens feel they can participate safely.

### Vision and Strategy: What Types of Inclusion, and at What Stage

Vision and strategy emerged from the interviews as the most critical factor shaping inclusion. What are the vision and strategy behind the crowdsourcing initiative?

Sharma states as an essential prerequisite of success that all crowdsourcing initiatives have a set of ideals, goals, and objectives that are well defined and clear to the participating crowd (Brabham 2009). While incentivization of the crowd is important (Kittur, Chi, and Soh 2008; Sharma 2010), this does not necessarily need to be financial. Incentives could be social or political as well.

In the IDRC studies on microwork (Nubelo and LIRNEAsia's research), the platform owners and employers understandably make no attempt at *representative* inclusion, as that is not the focus of the platforms. Lokanathan and Perampalam find that in Sri Lankan microwork platforms, "the majority of people are engaged in some kind of employment, but they want to increase their income by earning a little extra" (Lokanathan and Perampalam, interview, January 27, 2017). It is, therefore, not the unemployed who find their way to the microwork platforms, but already-employed individuals who want to enhance their income. Galperin and Greppi (2017, 27) unequivocally state that "there is no such thing as a flat world in digital labor," and echoing Pallais's (2014) findings, that stereotypes are strengthened online, where there is little opportunity for redress (e.g., in the offline world, by meeting in person). As Galperin states in an interview (January 30, 2017), in the online world, "there is no job interview and there are no recommendations. It is just four or five pieces of information that you have against 30–50 other people who have similar information."

Both the LIRNEAsia and Nubelo microwork-related projects conclude that there are negative implications for representative inclusion on these platforms. If these platforms continue the way they are now, only a small elite will commandeer the online labor market—or, as Galperin finds, build their own pyramids, such as the "superstars" (Galperin, interview, January 30, 2017), who win contracts but then outsource the work to others and take a commission. However, Lokanathan (interview, January 27, 2017) argues that this is not the aim of the platforms, so the issues are larger and implicate broader stakeholders: "[Y]our answers lie elsewhere in terms of education [e.g., have the skills to be on an online job platform], which will be what will facilitate greater inclusivity."

Galperin and Greppi (2017) provide a number of policy suggestions to make microwork platforms more inclusive. They suggest first, that operators could "discourage the display of information unrelated to productivity on workers' profiles" (e.g., nationality, location, gender, and other characteristics); second, implement mechanisms to validate skills and previous work experience (e.g., use algorithms that locate job-seekers without previous contracts higher in the results and provide online third-party certification); and third, provide more networking opportunities for women, because, as the LIRNEAsia research finds, men network more than women do on online labor platforms.

In contrast, the other IDRC projects had a deliberate aim of inclusion, although it is accomplished through different means. For instance, HarassMap is open to all—anyone with access can report her own or other individuals' experience of sexual harassment, while for CMB, though the vision was inclusion of all in terms of who can use the data, the production of the data was limited to staff, students, and volunteers. Craveiro (interview, January 31 2017) also speaks of a different civic action crowdsourcing tool, Promise Tracker,<sup>6</sup> a mobile phone-based tracker of public-sector promises and performance that identified senior citizens as those who would be more engaged; senior citizens were then targeted to receive training on smartphone usage.

Similarly, Una Hakika, instead of crowdsourcing with an open call, where anyone can participate, employed targeted crowdsourcing or crowdseeding that gathered data from trained, trusted informants. This approach results in smaller amounts of data being gathered, but that data, theoretically, would be of better/more trustworthy quality (see also a similar initiative in South Kivu, referenced by Tuckwood 2014). Therefore, while representativity is important, for Una Hakika, it is purposefully selected: “[I]nclusivity is a really high priority for us because we are dealing with information and misinformation and rumors of the type we are normally seeing circulate from person to person and word of mouth, so the more people from different demographics and diversity from the community, the more effective we will be in achieving our goals. Inclusivity is really important... in terms of reaching different demographics, be they ethnic, gender-based, age-based or religious or anything else” (Tuckwood, interview, February 2, 2017).

The Una Hakika team emphasizes the importance of having committed subscribers, or as it calls them, a “captive subscriber base,” as the focus of their crowdsourcing activities. Tuckwood explains that “though it is possible for people to make one-time submission of information, what we really prefer is having people really engage, subscribers who sign up to the service” (interview, February 2, 2017). Thus, at this level, the aim is not to be as inclusive of the entire population as possible, but already restrict inclusion to a more strategic selection (Tuckwood, interview, February 2, 2017):

Crowdsourcing, at least in our interpretation, is about putting this information out there and asking anybody and everybody to submit this information. Useful in some applications, but what we found more interesting is to strategically place people within the community, that is civil society, average residents, members of religious communities, even members of security and government apparatus who can act as a collection point as well as a loudspeaker, a much more targeted approach, rather than saying anybody and everybody inputs information and then you might have to sift through a lot more information which might not have any inherent value. So with crowdseeding, the public is always welcome to submit and we always broadcast that, but we strategically place people, only make connections with that community, so it's a much more targeted approach.

If inclusion depends in part on the platform owner's motivation, this then emerges in design and deployment. As Nanjira Sambuli comments: "a lot of the challenges that we are discussing, even in terms of inclusion at the design level, we need to think about who is designing the platform—as well as the research and analysis of the data produced." HarassMap aims to be as inclusive as possible, running public awareness campaigns and partnering with local NGOs, community leaders, and even store owners. At the Sentinel Project, Tuckwood and Boyd also iterate the necessary pursuit of community engagement in Una Hakika. This is important, of course, but it also comes with a high cost, as they explain: "[it] has been very time-consuming. You might spend a few hours driving to a village and you might get around twenty people to sign up to the service" (Tuckwood, interview).

If we think about inclusion at the stages of production, distribution, or consumption in a crowdsourcing process, there are several strategies that depend upon the nature and purpose of the platform. Microwork platforms do not have an explicit inclusion strategy, although it is certainly possible that they could. All other projects discussed in this chapter invite inclusion at the stage of producing data. However, how they go about facilitating inclusion differs. For example, Una Hakika and Peaceful Truth employ crowdsourcing rather than the open-call crowdsourcing approach of HarassMap. Another interesting note regarding the Una Hakika and Peaceful Truth approach is that while the initial input is inclusive, the remaining stages are not broadly inclusive in order to contain the spread of misinformation—while rumors are input through voice, SMS, email, and the web (desktop or mobile) by the 200 or so community members, they are parsed by moderators, who also aggregate, analyze, and can provide counter-messaging (so as to ensure facts, not misinformation, are available).

Thus, in some crowdsourcing platforms, inclusion can be indirect, where a population is included via the activities of intermediaries. The role that these intermediaries play is key to the vision and strategy of the crowdsourcing initiative. In Una Hakika, Peaceful Truth, and HarassMap, we can see that these were critical.

### Motive Alignment of the Crowd

Linkages, trust, and the external environment all contribute to whether the motivations of the crowd align with the platform's vision and strategy. In Una Hakika, Tuckwood and Boyd (interview, February 2, 2017) from the Sentinel Project reflect on the challenge of "the famous quote [that]... 'we can't eat information.' People liked the idea, but didn't feel that it would really benefit them. So we tried to share this idea that they would go hand-in-hand, so you might build a school, but if it gets burned down,

then what was the point?" Equally, in HarassMap, Chiao speaks of the frustration (and therefore the disincentive) that many faced in reporting harassment—the feeling that the situation might not change. In addition, only major instances may be reported, rather than catcalls for example, which may skew reporting data. In CMB, Craveiro (interview, January 31 2017) spoke of the frustration that most government officials (some of the intended consumers, if not producers) “did not work with the mapped public budget data anyway.” The idea that the situation may not change reflects Sharma’s motive alignment, a major failure factor in other crowdsourcing initiatives such as Maji Matone (Raising the Water Pressure) in Tanzania, where citizens were meant to report malfunctioning water sources, but the initiative failed to gain critical mass (see Gigler and Bailur 2014).

Similarly, in their Twitter analysis, Sambuli et al. (2013) argue that we should analyze why some people are opting out too. In her interview, Sambuli points out the need to understand black holes: “we really need to understand not only who is included, but who is opting out. So what if someone decides they just don’t want to be connected—people switching off after the [2016] US election for example—how do we make sure their views are represented? Women particularly may decide to opt out because politics is designed to be harsh towards women. What do we do then?” (Sambuli, interview, February 3, 2017). This reflects Masika and Bailur’s (2015) argument on the adaptive preference of women, who may act sometimes to preserve the status quo simply because challenging it is too problematic. Similarly, Chiao acknowledges that people are opting out of HarassMap due to “participation fatigue”—wondering if it is worth contributing anything: “at the time you might be furious, and want to report something, but when it happens again and again, maybe you don’t want to. The fact that it’s happened so much—that’s what happened to me, that you’re fed up and you think, really, is this going to help?” (Chiao, interview). The incentives and patterns for participation, then, may differ between crowdsourcing information in slow-burn situations (e.g., a culture of harassment) and highly acute situations (election monitoring or disaster response), and each may need different strategies to encourage inclusion.

Table 14.3 summarizes our analysis of inclusion practiced by the IDRC projects we researched.

## Conclusion

“Inclusivity, that’s a tricky one. Even the way it is defined implicates the person who is defining it. Who decides what is inclusive or not?” (Sambuli, interview). Sambuli’s words get to the heart of this discussion about inclusion in crowdsourcing models. It



**Table 14.3**

Inclusion in practice.

Project name	Type of crowdsourcing	Inclusion in practice
HarassMap	Active and open	Inclusion happens at the initial (production) stage, but not so much at the consumption and distribution stages by users (distribution and analysis occur by HarassMap). Access and participation are actively encouraged.
Cuidando do Meu Bairro (CMB)	Active and open	Production is not inclusive, but distribution and consumption are, and it is unclear whether there is a concerted strategy in terms of access, participation, and empowerment. The premise is that open data will be a gateway to further participation (which is contested by the open data critics). See chapter 10.
Una Hakika and Peaceful Truth	Crowdseeding	Selective inclusion occurs at the initial (production) stage, but not so much at the consumption and distribution stages by users (distribution and analysis occur by Una Hakika). Access and moderated participation is encouraged.
Nubelo (now Freelancer.com) and online freelancing and microwork in Sri Lanka <sup>7</sup>	Microwork	No deliberate strategy for inclusion by platform implementers, whether production, distribution, or consumption. Those who access and participate are more likely to be empowered financially.
Kenyan election monitoring	Passive crowdsourcing	No deliberate strategy for inclusion by Twitter, whether production, distribution, or consumption. Questionable whether those who access and participate are more likely to be <i>empowered</i> .

appears that unless an active inclusion process is pursued by a crowdsourcing initiative, it is likely that crowdsourcing platforms will be characterized by elite capture (Rumbul 2015 and Swan 2016) (i.e., addressing only concerns by those populations who participate because they have the technical skills and access to do so). Even when it takes place in an open information environment, some suggest that crowdsourcing is fostering a new elite, which may reproduce power dynamics simply because they have the resources to participate (Wexler 2011). In sum, we found the following:

- Inclusivity in these crowdsourcing initiatives is relative—it is defined in different ways by different project owners, and as a result, is operationalized in different ways at different stages (production, distribution, and consumption).
- Inclusivity in crowdsourcing is influenced by a number of factors, the key one being the vision and strategy around the initiative that influences the operationalization of inclusivity. This makes sense given the centralized nature of a crowdsourcing process.
- Inclusivity can happen indirectly and tangentially, such as through intermediaries, but this may introduce other power dynamics (e.g., superstar online workers who outsource to lower tiers).
- There is a difference between microwork and passive crowdsourcing and other types of crowdsourcing in terms of inclusion—microwork in general does not have inclusion as an explicit goal in a normative sense.

Perhaps the most important takeaway from this chapter is that crowdsourcing, of all types, *can* be representatively inclusive—but the inclusion needs to be clearly defined and designed from the start of a project. Inclusion needs to permeate through the vision and strategy of the implementers. Depending on the strategy, this inclusion within crowdsourcing can occur at various stages of production, distribution, and consumption of data in crowdsourcing (where distribution and consumption are not always a given).

There are a few recommendations emerging from the case studies for those who are seeking to expand representative inclusion of their crowdsourcing activities. Implementers need to think about target populations—what it might take to engage them and how to build trust. Active and open crowdsourcing needs to deal with the problem of trust and user fatigue. Crowdseeding needs to strike a careful balance between relying on a few trustworthy seeders and ensuring that they do not dominate, therefore remaining inclusive in a broader sense. Microwork platforms can intentionally try to be more inclusive, particularly in terms of algorithms and rules for employers.

Crowdsourcing in development typically includes a normative value to expand representative inclusion. This type of inclusion in crowdsourcing initiatives requires concerted efforts, particularly by the crowdsourcing implementer, to reach out and

engage target populations. Without this engagement, representative inclusion most likely will not occur. Of course, despite the best intentions to expand representative inclusion, success is not assured. Users may choose not to participate for a variety of reasons, such as being suspicious of the initiative or because they do not see the value of participating. This chapter offers some early insights into how crowdsourcing implementers hopefully can increase their chances of success by expanding the diversity of their platforms' participants.

## Appendix

### Semistructured Question Guide

Have you used crowdsourcing/researched crowdsourcing (tied to what is your definition of crowdsourcing?) in your project?

Why did you use/focus on crowdsourcing? What was the aim of the project?

Who were the intended users and beneficiaries?

What is your overall sense of satisfaction (positive impacts?)

How inclusive do you think the process of crowdsourcing has been? How do you assess the level of inclusivity?

How do you assess this impact?

What are the gender implications of crowdsourcing in your project?

How do you address any questions of ethics in your project?

Using a specific example, what do you think were the challenges of crowdsourcing in your project?

Using a specific example, what were the dangers or unintended consequences of crowdsourcing in your project?

If you had one comment/piece of feedback for IDRC with regard to your example of crowdsourcing, what might that be?

Is there anything else you would like to add/ask?

### Notes

1. Project objective: To test strategies and tools for scaling HarassMap to other geographical locations and for other social issues, with the ultimate goal of reduced harassment and corruption.
2. Project objective: To enable a greater understanding of how and whether networked technologies can both influence the process and be deployed to counter misinformation in Kenya and Burma (Myanmar) with the broader aim of reducing conflicts in these regions.

3. Project objective: To improve our understanding of the dynamics and distributional effects of digital labor by exploring potential discrimination against women and workers from less developed countries in an online labor platform serving Latin America.
4. Microwork (such as on platforms like Amazon Turk, Premise, or Upwork), could be a type of crowdsourcing in which a number of prospective employees bid on a task, but there may also be contracts that do not include crowdsourcing (i.e., with already established suppliers).
5. The platforms include FixMyStreet (UK); TheyWorkForYou (UK); GovTrack (US); SeeClickFix (US); AskTheEU (EU-wide); Atlatzo (Hungary); OpenPolis (Italy); Aduanku (Malaysia); Mzalendo (Kenya); People's Assembly (South Africa); OpenAustralia (Australia).
6. See <http://promisetracker.org/>.
7. See <http://lirneasia.net/projects/inclusion-in-business-process-outsourcing/>.

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# Making Open Development Inclusive

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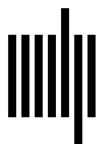
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