

Crowdsourcing global governance: sustainable development goals, civil society, and the pursuit of democratic legitimacy

Joshua C. Gellers¹

Accepted: 15 December 2015 / Published online: 21 April 2016
© Springer Science+Business Media Dordrecht 2016

Abstract To what extent can crowdsourcing help members of civil society overcome the democratic deficit in global environmental governance? In this paper, I evaluate the utility of crowdsourcing as a tool for participatory agenda-setting in the realm of post-2015 sustainable development policy. In particular, I analyze the descriptive representativeness (e.g., the degree to which participation mirrors the demographic attributes of non-state actors comprising global civil society) of participants in two United Nations orchestrated crowdsourcing processes—the MY World survey and e-discussions regarding environmental sustainability. I find that there exists a perceptible demographic imbalance among contributors to the MY World survey and considerable dissonance between the characteristics of participants in the e-discussions and those whose voices were included in the resulting summary report. The results suggest that although crowdsourcing may present an attractive technological approach to expand participation in global governance, ultimately the representativeness of that participation and the legitimacy of policy outputs depend on the manner in which contributions are solicited and filtered by international institutions.

Keywords Sustainable development · Crowdsourcing · Democracy · Civil society · Environmental governance

Abbreviations

HDI	Human Development Index
MDGs	Millennium Development Goals
NGOs	Non-governmental organizations
SDGs	Sustainable Development Goals
UN	United Nations
UNDG	United Nations Development Group

✉ Joshua C. Gellers
josh.gellers@unf.edu

¹ Department of Political Science and Public Administration, University of North Florida, 1 UNF Drive, Jacksonville, FL 32224, USA

UNDP United Nations Development Programme

UNEP United Nations Environment Programme

1 Introduction

Over the past several decades, the international system has been increasingly transformed by the presence of environmental problems that traverse national boundaries and demand comprehensive solutions, and the emergence of new non-state actors who have sought to influence decision-making processes (Haas 2004, 2). Global governance—formal or informal processes employed by governments and communities to identify and pursue common objectives at the global level (Speth and Haas 2006)—has been perceived as a means of addressing these problems while incorporating the voices of actors beyond the nation-state (Ford 2003, 120). Yet, while institutions of global environmental governance have enhanced the ability of non-state actors to “steer the political system” (Biermann and Pattberg 2008, 280), shortcomings inherent to this complex project continue to inspire debate, especially about the extent to which it approximates the conditions requisite for global democracy.

In particular, scholars have observed three kinds of “deficits” endemic to global environmental governance—the democratic deficit, the governance deficit, and the implementation deficit (Bäckstrand 2006, 468). The present study is primarily concerned with the notion of a democratic deficit (e.g., the lack of legitimacy in the form of adequate and representative participation and accountability) in global environmental governance. I define legitimacy as the extent to which political power is based on valid rules, grounded in shared beliefs regarding the source of authority and structure of the governing system, and borne of consent by the people being governed (Saward 2000, 68). Global environmental governance animates legitimacy concerns because environmental policymaking affects a range of non-state actors who have not consented to be governed by rules established in international fora (Bernstein 2004, 144).

Thus, an important question motivating this study is: how do the means by which non-state actors participate in global environmental governance affect the pursuit of democracy at the global level? Indeed, “participation *and* influence are necessary for meaningful engagement in the global arena” (Fisher and Green 2004, 69; emphasis in original). Furthermore, the quality and extent of participation have a direct bearing on the perceived legitimacy of global governance institutions. In this article, I argue that in order for participation to effectively promote democracy in global environmental governance, it needs to help non-state actors overcome disenfranchisement, or “the condition of being marginalized” (Fisher and Green 2004, 68). Disenfranchisement can be reduced by successfully expanding opportunities for participation and obtaining diverse and representative perspectives from marginalized groups.

In particular, I focus on the collection of non-state actors comprising what is commonly known as “global civil society.” While most scholars conceive of global civil society as a set of organizations that act outside the state to address global problems (Castells 2008, 84), the term has also referred to “a sphere of voluntary societal associations located above the individual and below the state as well as across state boundaries” (Lemos and Agrawal 2006, 312) and “a discursive space” (Ford 2003, 129). Crucially, then, global civil society is both an accumulation of individuals and a site of discursive contestation. In the spirit of

capturing the dynamic nature of the term, this essay defines global civil society as “a socially constructed and transnationally defined network of relationships that provides ideologically variable channels of opportunity for political involvement” (Warkentin 2001, 19).

Analysts have suggested that increasing opportunities for members of global civil society, such as non-governmental organizations (NGOs), to play an active role in international decision-making processes on environmental issues may prove instrumental in overcoming the democratic deficit (Bernauer and Betzold 2012; Scholte 2002). To be sure, increasing the involvement of civil society in global environmental governance requires that such widespread participation be constructive in order for global governance to be effective (Gemmill et al. 2002). While opportunities for members of civil society to play an active role in governance at the local and national levels abound, comparable channels for direct involvement at the international level remain scarce (Bexell et al. 2010, 86). The inability of individuals to identify with and declare ownership over decisions made in international institutions casts a shadow of doubt (or even suspicion) in the minds of those likely to be impacted by such decisions. The resulting sense of alienation felt by civil society actors does little to instill popular faith and promise in these instruments of global governance. Yet, members of civil society may enhance their capacity to influence global governance by drawing upon “*symbolic* (legitimacy/ability to invoke moral claims), *cognitive* (knowledge, expertise), *social* (access to networks), *leverage* (access to key agents and decision-making processes), and *material* (access to resources and position in the global economy)” forms of power commonly wielded by non-state actors (Nasiritousi et al. 2014, 5; emphasis in original).

However, permitting members of global civil society to participate in global environmental governance may not be sufficient to correct for democratic shortfalls in the governance process. Non-state actors may lack legitimacy given that, just like many of the international environmental institutions they seek to influence, their members are not held accountable to an electorate that voluntarily selects them to represent their interests (Bernauer and Betzold 2012). In addition, global civil society actors may simply replicate the kinds of socioeconomic imbalances found in other international institutions, such as global trade and finance organizations. Developing countries, for instance, have argued that the increasing presence of NGOs in global governance tends to serve the interests of the industrialized world (Biermann and Pattberg 2008, 282). In order to address these weaknesses and devise a system of participation that is as inclusive as possible, the methods and mechanisms designed to facilitate inclusion in environmental governance need to be viewed as fair by all (Biermann 2007, 331; see also Gupta and Vegelin, this issue). Perceived fairness will lend participatory processes an air of legitimacy.

Power differentials inherent to participation activities can be successfully managed using creative techniques, which help to enhance the likelihood “that the participatory process is perceived to be both fair and valid by those inside and outside the decision-making process” (Reed 2008, 2422). One innovative approach to expanding the participation of members of global civil society can be found in “crowdsourcing” (Howe 2006). Crowdsourcing is a process through which the completion of a task normally delegated to employees is outsourced to a larger network of people (e.g., “the crowd”) (Geiger et al. 2011, 1). While according to one account there are at least 40 different definitions of crowdsourcing (Estelles-Arolas and González-Ladrón-de-Guevara 2012), the essential elements of this process include: “...an organization that has a task it needs performed...a community (crowd) that is willing to perform the task voluntarily...an online environment that allows the work to take place and the community to interact with the organization,

and...mutual benefit for the organization and the community” (Brabham 2013, 3). By leveraging the power of information technology and broadening the pool of potential participants to anyone with Internet access, crowdsourcing brings together “the efficiency and control of traditional, top-down managed processes, with the benefits of bottom-up open innovation and creativity” (Prpic et al. 2014, 2).

But to what extent can crowdsourcing help members of global civil society overcome the democratic deficit in global environmental governance? This paper evaluates the potential efficacy of crowdsourcing as a tool for augmenting inclusiveness in participatory agenda-setting in the realm of post-2015 sustainable development policy. Agenda-setting is an important step along the policy process in which issues are taken up for formal consideration by governing entities (Peters 1994, 9). In particular, I analyze the descriptive representativeness (e.g., the degree to which participation mirrors the demographic attributes of global civil society actors) of participants in two United Nations (UN) crowdsourcing processes used to collect input regarding the content of the Sustainable Development Goals (SDGs)—the MY World survey and e-discussions regarding environmental sustainability. In the following section, I briefly recount the evolution of the post-2015 development agenda and how crowdsourcing came to be included in the agenda-setting process. I then provide an overview of crowdsourcing in the context of policy-making. In the subsequent section I discuss the data used in the study and present the results of the analyses. I conclude by evaluating the extent to which the efforts to crowdsource the SDGs helped to overcome the democratic deficit and recommending strategies to improve global civil society participation in the future.

2 Rio+20, SDGs, and the post-2015 development agenda

The Rio+20 outcome was designed to be qualitatively different from the Millennium Development Goals (MDGs) in a number of ways (see Chasek and Wagner, this issue). In addition to broadening the development agenda to include sustainability, incorporating both micro- and macro-indicators, integrating in long-term analysis, and widening responsibility to all countries, the SDGs also aimed to be more participatory and to include numerous stakeholders at multiple levels of governance. Critics blamed the shortcomings of the MDGs on the absence of an inclusive consultation process during their formation (Sachs 2012; UN System Task Team on the Post-2015 UN Development Agenda 2012, 7; Chasek and Wagner, this issue). Acknowledging past failures to adequately incorporate the perspectives of the myriad actors who have a stake in the outcome of international negotiations, a call to “crowdsource sustainability” emerged (Scherr 2012).

Acknowledging the need to improve upon the manner in which the MDGs were conceived, UN Secretary General Ban Ki-moon recommended that the post-2015 development agenda be crafted by employing “an inclusive, open and transparent process with multi-stakeholder participation” (UNGA 2011). Seizing upon this recommendation, in August 2012 the United Nations Development Group (UNDG) launched an ambitious, multi-pronged outreach program involving over 80 national consultations, 11 global thematic consultations,¹ and six dialogs on implementation of the post-2015 agenda. The perspectives and priorities of global civil society actors were obtained through several Internet-

¹ The 11 thematic consultations covered the following development issues: Conflict and Fragility, Education, Energy, Environmental Sustainability, Food Security and Nutrition, Governance, Growth and Employment, Health, Inequality, Population Dynamics, and Water.

based platforms, including two key websites. The UN's MY World survey² website collected data on the six development issues respondents care about most. Another website, the World We Want 2015,³ served as a repository for thousands of comments made through e-discussions regarding the 11 development themes. Other electronic modes of engagement included Facebook, Twitter, and mobile phone text messaging. Over 7 million people responded to the MY World survey, and thousands more contributed to the e-discussions.

3 Connecting crowdsourcing, policy, and governance

Although crowdsourcing has been a subject of inquiry in the field of information systems for nearly a decade, research on its implications for policy has only begun to emerge (Charalabidis et al. 2012; Gray 2014; Prpic et al. 2014). A comprehensive review of relevant literature reveals that while crowdsourcing has been implemented at every phase of the policy cycle (e.g., agenda-setting, problem definition, policy design, policy implementation, policy enforcement, and policy evaluation), an overwhelming majority of the studies have focused on its use in agenda-setting (Prpic et al. 2015b). Work on crowdsourcing's applications in specific policy domains has centered mainly on disaster response (e.g., Bonanni 2015; Gao et al. 2011; Goodchild and Glennon 2010; Zook et al. 2010) and urban planning (e.g., Brabham 2009; Seltzer and Mahmoudi 2013). Perhaps the most celebrated example of crowdsourcing policy to date is the collaborative drafting of the Icelandic constitution in 2011, in which citizens provided direct input regarding the content of the charter through an array of outlets, including social media (Landemore 2015).

The notion that government might turn to citizens for assistance with the delivery of services is "not new" (Dutil 2015, 364). However, advances in information technology have dramatically increased the capacity of government to engage the public in exchanges of ideas, knowledge, and opinions in ways that may improve governance (Spiliotopoulou et al. 2014, 547). Most of the literature on crowdsourcing and governance flies under the banner of "e-democracy" (e.g., Aitamurto 2012; Freeman and Quirke 2013; Haythornthwaite 2012), a "concept...associated with efforts to broaden political participation by enabling citizens to connect with one another and with their representatives using [information and communication technologies]" (Coleman 2001, 4).

Research on crowdsourcing and governance has elucidated how the use of information technology might impact participation and the quality of governance more generally. On the one hand, crowdsourcing can promote the legitimacy of a political process by offering individuals new channels for participation, enhancing the inclusiveness of decision-making efforts, and increasing transparency (Aitamurto 2012, 30; Lehdonvirta and Bright 2015, 264). As a channel for participation, crowdsourcing provides opportunities to engage in argumentation, idea generation, and microtasking (e.g., outsourcing small tasks to large groups of people) (Aitamurto and Landemore 2015, 2). Inclusiveness relates to the size and diversity of contributors and is considered a best practice in policy crowdsourcing (Aitamurto and Landemore 2015). Greater inclusiveness may yield more input, better ideas, and a greater sense of ownership over the outcomes resulting from participation. Transparency, or "governance by disclosure," is of particular import within the highly complex world of global environmental governance, as it is often evoked as a means of informing people,

² Available online at <http://vote.myworld2015.org/>.

³ Available online at <http://www.worldwewant2015.org/>.

empowering actors, and improving environmental conditions (Gupta 2010, 4). Increased transparency can improve trust in political institutions (Aitamurto 2012, 31), which facilitates deference to authority (Tyler 1998, 270). Crowdsourcing may thus offer new ways to “address governance issues, strengthen communities, empower marginalized groups, and foster civic participation” (Bott et al. 2011, 1).

On the other hand, while crowdsourcing may enhance participation, it might not necessarily lead to greater deliberation (Aitamurto 2012, 31). Deliberation entails “debate and discussion aimed at producing reasonable, well-informed opinions in which participants are willing to revise preferences in light of discussion, new information, and claims made by fellow participants” (Chambers 2003, 309). With greater inclusiveness comes the potential for more noise in the system without the guarantee that marginalized voices will emerge from the shadows to contribute their thoughts or that contributions will be reasonable and well-informed. To be sure, civil society is neither a society of equals nor wholly independent of official authority (Somerville 2011, 425). In addition, serious questions remain about the quality of decisions reached using crowdsourcing as a platform for participation. Issues regarding self-selected contributors may frustrate efforts to obtain diverse perspectives unless administrators actively seek to include a broad array of participants (Radu et al. 2015, 364). Finally, decisions regarding the design and management of the crowdsourcing activity can influence the quality of deliberation achieved. Specifically, the type of input solicited (objective/subjective) and the extent to which contributions are moderated (aggregated/filtered) could seriously limit the ability of participants to engage in meaningful dialog (Prpic et al. 2015a, 78–79).

Aside from some preliminary research which scopes the function of crowdsourcing in the context of international development (Bott and Young 2012), scholars have yet to sufficiently probe either the role that crowdsourcing plays in global environmental governance or how global civil society actors utilize opportunities to influence international policymaking through crowdsourcing. The present paper seeks to contribute to the burgeoning work on both of these issues by offering an empirical examination of crowd-sourced participation in the design of the SDGs.

4 Description of data

4.1 Overview of scope and methods

The present study does not attempt to analyze the totality of this extensive exercise in development agenda-setting through global participation. The aim here is more modest—to partially assess the inclusiveness of the effort to crowdsource SDGs by examining the descriptive representativeness (on the global scale) of actors who contributed to the process during two simultaneously occurring phases of the effort. Descriptive representativeness (in the form of statistical representation along demographic lines) is a reasonable means of determining the extent to which a participatory process features enough cognitive diversity to optimize problem-solving capacity (Landemore 2015, 176–177).

This analysis describes the demographic characteristics of participants in the MY World survey and all 11 e-discussions on environmental sustainability, and compares those of the latter to attributes of participants mentioned in the thematic consultation’s final report. This more limited empirical inquiry offers an initial look at who responds when global civil society is called upon to help shape the post-2015 development agenda, and how the

representation of participation changes throughout the process of formulating international development policy. Generating answers to these questions will provide important insights about the degree of inclusiveness present in these processes and how such innovations in participation may affect the legitimacy of global environmental governance in the technological age. However, given the limitations inherent to the data (e.g., geographically unbalanced outreach efforts conducted by UN staff and unequal access to technology across the developing world), any conclusions reached about the current performance and future promise of crowdsourcing must necessarily be circumspect (for a discussion of the methodological procedure, see “[Appendix](#)”).

4.2 MY World survey data

The MY World survey was a multi-year (2012–2015) global poll designed to identify post-2015 development priorities. Participants were presented with a list of 16 preselected development priorities and asked to rank their top 6 in preferential order (they were also given the opportunity to submit a priority of their own if it did not appear in the initial list). Participants also reported demographic information in the form of gender, age, education, and country (which was used to identify the Human Development Index (HDI) level of a participant’s home state). Responses from people all over the world were crowdsourced with the help of civil society organizations, corporations, and state governments using a variety of online and offline platforms. Respondents were solicited through Facebook and Twitter to contribute their views via the MY World website, and many others were approached through more conventional in-person outreach efforts facilitated by UN staff and partner organizations. The results of the survey were incorporated into the work of the High Level Panel of Eminent Persons on the Post-2015 Development Agenda. With over 7 million contributions, it has been called “one of the largest global surveys ever carried out” (Rudge 2014, 156).

4.3 e-Discussions data

Organized by the UNDG and hosted by the UN Development Programme (UNDP), UN Environment Programme (UNEP), and the governments of France and Costa Rica, the thematic consultation on environmental sustainability ran from November 2012 through July 2013. From February to May 2013, 11 e-discussions on the subject were conducted online through the World We Want 2015 website. This discursive platform garnered insights from “leading thinkers, members of academia and representatives from civil society and the private sector around the world” (UNDP 2013, 2). The moderated, web-based dialogs were organized into two phases. In the first phase, stakeholders discussed which issues related to environmental sustainability should be prioritized. In the second phase, civil society members engaged in dialogs on the intersection of environmental sustainability and topics such as education, equality, human rights, local action, poverty, and the private sector. The Outreach Support Team for this thematic consultation reached out to stakeholders all over the world to solicit their participation using email and an extensive array of social media platforms including Facebook, Flickr, Twitter, and YouTube. The team’s multifaceted civic engagement strategy included utilizing blogs, cross-promotion, email marketing, a photo campaign, video interviews, webcasts, and website banners (Hildebrandt et al. n.d.). The effort brought in over 1100 comments and submissions from 173 countries. The results of this and all other thematic consultations were

fed into a UNDG summary report (e.g., UNDG 2013) and the UN Secretary General's post-2015 report (e.g., UNGA 2014).

Evaluating the extent to which the attributes of participants in one phase of policy formation are adequately reflected in a subsequent phase is central to analyzing the fairness and legitimacy of the policy process. The wider the gap between the overall characteristics of contributors at the earlier and later stages of policy development, the less likely it is that the process will be seen as fair and legitimate by members of global civil society. The narrower the gap, the more likely it is that the process will be viewed as fair and legitimate by those who participated. At issue is the *quality* of civil society representation in the process (e.g., inclusiveness), understood in terms of how well the UN system translates the multitude of perspectives into concrete policies while respecting the economic and geographic diversity of opinions expressed.

5 Analysis of crowdsourcing efforts

5.1 MY World survey analysis

The demographics of MY World survey participants, while diverse, describe a global civil society that is predominantly young, educated, and from critically underdeveloped areas of the world (see Fig. 1).

A strong majority of respondents (58 %) were young (aged 16–30), and a plurality (43 %) received an education beyond secondary school. More men (51 %) than women (48 %) responded to the survey. A plurality (40 %) of participants hailed from countries with low HDI levels, whereas relatively few (4 %) from very high-HDI countries completed the survey. To place this in perspective, only 16 % of the world's population lives in low-HDI countries, while nearly 17 % reside in very high-HDI states (UNDG 2014, 219). Therefore, the image of global civil society portrayed in the survey results is one that overrepresents (by 24 %) the least developed corners of the world and underrepresents (by 13 %) the most developed areas. However, this result is likely due to the disproportionate presence of three countries—Nigeria, Mexico, and India—which together comprised over 55 % of the total responses. The top three development priorities chosen by respondents were, in descending order of importance, “a good education,” “better healthcare,” and “better job opportunities.”

5.1.1 Paper ballot responses

Interestingly, participant characteristics vary dramatically depending upon the method (e.g., paper ballot, SMS text message, or website) by which members of global civil society contributed to the survey (see Table 1).

Over 5.8 million people responded by paper ballot, constituting 81 % of the total survey population.⁴ While genders were equally represented, most (58 %) of those surveyed were young (16–30), and a plurality (40 %) had obtained education beyond secondary school. The largest proportion of respondents (43 %) was comprised of individuals from low-HDI countries (an overrepresentation of 27 % compared to global population statistics). It

⁴ The total number of respondents acquired through paper ballot, SMS text message, and website adds up to only 95 % of the overall survey population. The means by which the other 5 % of respondents contributed to the survey remains unclear.

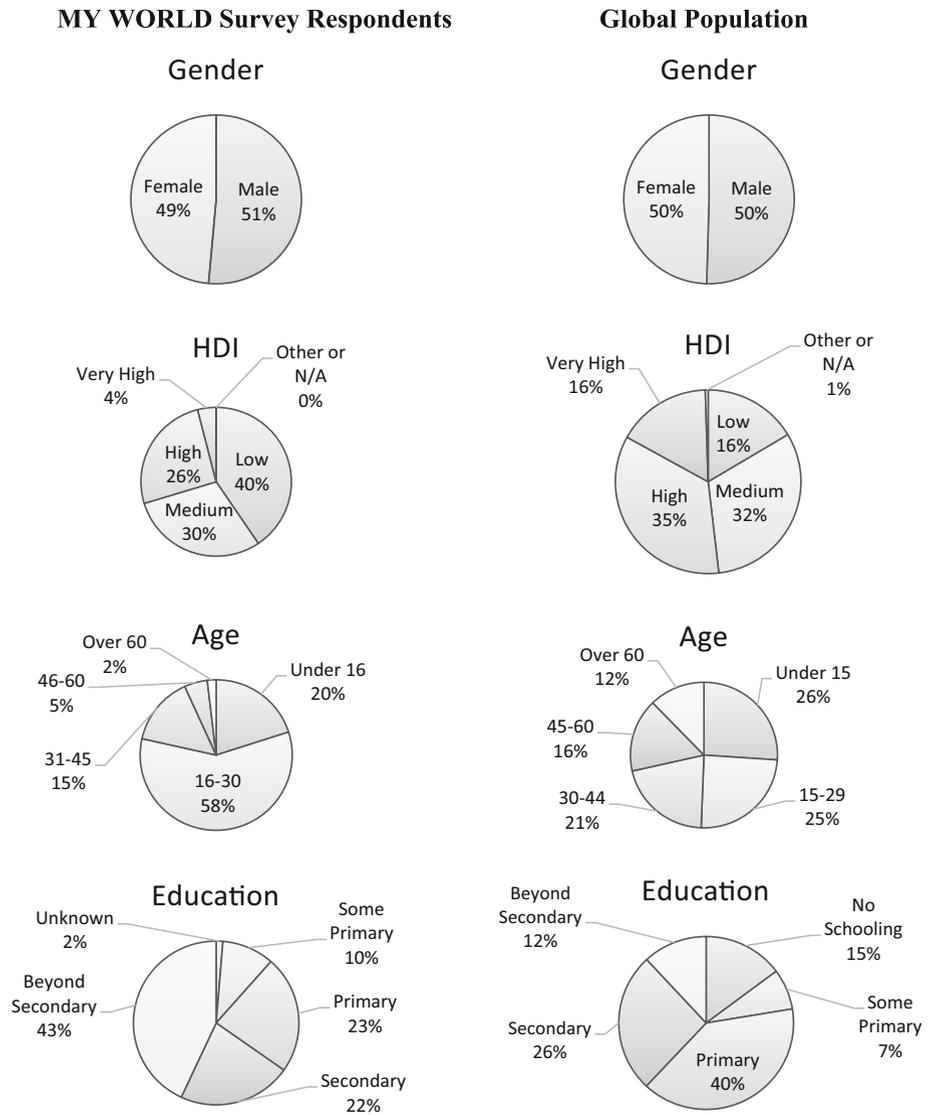


Fig. 1 Demographics of MY World survey participants and global population. Sources: MYWorld2015 Analytics (2013), UN Department of Economic and Social Affairs (2015), Barro and Lee (2013) and UNDP (2015)

should be noted that just over half of the ballots submitted came from only two countries—Mexico and Nigeria. A likely explanation for the impressive participation rate observed in these countries resides in the fact that the two largest shares of the overall vote obtained by UN partner organizations operating on the ground were earned by MDGs Nigeria and Instituto de la Juventud del DF, civil society organizations in Nigeria and Mexico, respectively. In total, those responding by paper ballot selected, in descending order of

Table 1 Largest demographic proportions of MY World respondents by survey type

	Paper ballot	SMS text message	Website
Gender	50 % Female	71 % Male	51 % Female
Age	58 % 16–30	58 % 16–30	56 % 16–30
Education	40 % Beyond sec.	38 % Beyond sec.	68 % Beyond sec.
HDI	43 % Low HDI	71 % Low HDI	33 % High HDI
Responses (million)	5.80	0.47	0.51

importance, “a good education,” “better healthcare,” and “better job opportunities” as their top three development priorities.

5.1.2 SMS text message responses

Votes acquired through SMS text messaging proved to be the most unbalanced and least popular (<1/2 million votes; 6.6 % of the total voting population) form of participation. Most of those voting by text message were male (71 %) and aged 16–30 (58 %). A plurality (38 %) reported receiving education beyond secondary school, and a large majority (71 %) live in low-HDI countries (substantially overrepresenting this demographic by 55 %). This exaggerated result may be explained by the fact that respondents from Yemen constituted over 41 % of all text voters, 30 % more than the next highest country, Ghana (10.4 %). Those contributing to the survey by text message chose, in descending order of importance, “a good education,” “better job opportunities,” and “an honest and responsive government” as their top three priorities for the post-2015 development agenda.

5.1.3 Website responses

Just over half a million votes (7 % of all respondents) were collected through the MY World website. Of those votes tallied, male/female participation was nearly even, and a majority (56 %) came from individuals aged 16–30, over 2/3 of which had received education past secondary school. A plurality of respondents (33 %) came from very high-HDI countries (an overrepresentation of 16 %). Overall, nearly 2/3 of those participating directly through the website represented countries classified as scoring either high or very high in terms of HDI. India provided the largest share of respondents on a per country basis, with nearly 10 % of the survey population. Survey participants voicing their opinions through the website placed their development priorities, in descending order of importance, on “a good education,” “an honest and responsive government,” and “better healthcare.”

5.1.4 Comparison across response platforms

The above discussion suggests that the characteristics of global civil society vary according to the means through which responses were obtained. While age remained fairly constant across survey types, other attributes fluctuated considerably. Two results in particular are worthy of mention. Those contributing to the survey via SMS text message were overwhelmingly male and from the least developed countries. Those who responded through

the website were among the most educated and from the most developed countries in the world. Yet, as described earlier, these differences observed across platforms are mainly the result of the vastly disproportionate participation of civil society members from a handful of developing countries.

But did these demographic differences and overweighted influences affect the kinds of priorities expressed by respondents? The answer is largely “no.” Instead, the top priorities selected by survey participants remained remarkably static across platforms. This is surprising given that the countries that skewed the demographics—India, Mexico, Nigeria, and Yemen—vary in terms of both geographic region and HDI level.⁵ “A good education” was cited across the board as the most important priority of the post-2015 development agenda. “Better healthcare” received elevated importance among paper ballot and website respondents alike. “Better job opportunities” were strongly desired by those texting and responding via paper ballots. “An honest and responsive government” was sought by those participating through technological means. Therefore, despite demographic disparities identified among the different methods of response and the disproportionate pull of a few developing countries, on the topic of development priorities members of civil society spoke with a fairly unified voice.

5.2 Environmental sustainability e-discussion analysis

The analysis presented here suggests that the Outreach Support Team’s conclusion that “the consultation successfully engaged people from all regions” (Hildebrandt et al. n.d.), while technically accurate, offers an oversimplified view of the outcome observed. Given that the consultation was one element within the larger scheme of establishing priorities for the post-2015 development agenda, it stands to reason that the opinions and perspectives of people living in developing areas would be centrally important to this agenda-setting process. However, the report summarizing outreach efforts on this thematic consultation lumps respondents together according to continent (e.g., Africa, Americas, Asia, Europe, Oceania, or Not Set), obscuring information regarding relative rates of participation among the developing and developed worlds. For instance, while the largest portion of respondents came from the Americas (39 %), the top three contributing countries were the USA (1), France (2), and UK (3).

To better understand the extent to which the thematic consultation on environmental sustainability achieved diverse global civic engagement, I reviewed 960 comments (all comments posted at the time of writing) posted in all 11 e-discussions and recorded data on respondent country, HDI level, language, and region. Of the 175 participants for whom full data were obtained, 19 % were from the USA, more than double the proportion reached by the second largest contributor, India (8 %). In terms of human development scores, nearly half of global participants represented countries with a very high HDI. Those from countries with a low HDI constituted the second-highest share of respondents (22 %). In total, 61 % of contributors from civil society were identified as living in areas with high or very high HDI levels. Linguistically, a vast majority (88 %) of participants wrote in English, as opposed to the small minority that published comments in French (6 %), Portuguese (1 %), or Spanish (5 %). Finally, almost 1/4 of commenters were located in

⁵ Among the four largest contributing states (India, Mexico, Nigeria, and Yemen), only minor differences in the ranking of the top three development priorities was observed, with the lone exception being India, whose participants rated “access to clean water and sanitation” as the third most important policy goal. No other state ranked that priority any higher than seventh (Yemen).

Table 2 Difference between largest response categories in e-discussions and global data

Largest response category	e-Discussion outcome (%)	Value from global data (%)	Difference (%)
Country—USA	19	4	+15
HDI—very high	48	17	+31
Language—English	88	19	+69
Region—N. America	23	5	+18

Internet World Users by Language (2014) and UNDG (2014)

North America, while 40 % of the posts originated in equal numbers from both Sub-Saharan Africa and Western Europe. These figures paint the picture of an outreach effort that, while diverse, is highly skewed in favor of developed countries (see Table 2).

Next, in order to assess the extent to which the final summary report on the thematic consultation on environmental sustainability accurately reflected the demographic diversity of participation in the e-discussions, I compared results from the previous analysis against a subsequent evaluation of comments by e-discussion contributors ($N = 21$) featured in the report itself. Far from being a random sample of posts, the selection of comments contained within the final report represents the conscious choices of UN staff tasked with “provid[ing] a summary of the key messages that emerged from the Global Thematic Consultation on Environmental Sustainability” (UNDP 2013, 2). These excerpts from the e-discussions appeared in the final summary report as (1) full-page photographic spreads; (2) enlarged comments placed prominently on the margins of the main text; and (3) direct quotes placed within the main text and cited as footnotes at the bottom of the requisite page. I have included an example of the second type of e-discussion excerpt usage in Fig. 2 below.

As Table 3 illustrates, the final report further augmented the voice of those in the industrialized world.

Although the number of participants whose comments from the e-discussions were highlighted in the report is admittedly small, a pattern of increasing emphasis on the views from developed areas can be observed. US-based participants appeared three times as often

“Quite how environmental sustainability and equality will be embodied in the post-2015 development goal framework remains to be seen. That both are fundamental principles and essential for sustainable development seems unquestionable.”

Contribution to e-discussion on equality by Andrew Scott,
Research Fellow, Overseas Development Institute, UK

The urgency of transformational change was a message that came out strongly from the Consultation. This should translate into action at the country and local levels, action that over time will require a flexible and adaptive global and universal agenda.

Therefore, rather than defining specific goals, participants directed the dialogue towards the conceptual issues and core principles that need to be embedded in the post-2015 agenda’s set of goals, targets and indicators. The dialogue broke environment out of its silo focusing on the ideal of integrated devel-

opment solutions. This is embodied in the following **four core principles** needed to underpin the post-2015 agenda—**integrated development, equality, human rights, and resilience**.

Fig. 2 Example of e-discussion comment in final summary report. Source: UNDP (2013, 6)

Table 3 Difference between largest response categories in final report and e-discussions

Largest response category	Final report analysis (%)	e-Discussion outcome (%)	Difference (%)
Country—USA	29	19	+10
HDI—very high	62	48	+14
Language—English	100	88	+12
Region—N. America	38	23	+15

as the second and third most listed countries (Canada and Uganda, respectively). The 14 % increase in the presence of very high-HDI states came largely at the expense of low-HDI states (−12 %). Interestingly, despite the integration of Google Translate, which enables instant translation of comments made in dozens of foreign languages, into the e-discussions, not a single post written in a language other than English was included in the report. Finally, the boost given to perspectives emanating from North America was felt most acutely in Sub-Saharan Africa, where the share of comments fell by 10 %.

6 Conclusion

Can crowdsourcing help overcome the democratic deficit in global environmental governance? A major obstacle standing in the way of reducing the democratic deficit lies in establishing opportunities for a diverse array of global civil society actors to participate in environmental governance processes. In theory, crowdsourcing the SDGs afforded marginalized groups the opportunity to amplify their voice on a global stage, perhaps reducing the likelihood that they would feel disenfranchised from the process of setting the next phase of the sustainable development agenda. In practice, crowdsourcing's capacity to facilitate greater participation from a broad cross section of global civil society proved inconsistent. On the one hand, although the MY World survey obtained disproportionate contributions from a handful of countries, the policy preferences expressed remained remarkably similar even after delving into responses at the level of individual states. On the other hand, the analyses of the e-discussions and final report portray an image of global civil society that is almost exclusively English-speaking, and predominantly from developed states. The inadequate and unbalanced representation of voices from the developing world obtained in these crowdsourcing activities may ultimately detract from the legitimacy of the otherwise comprehensive effort and fall critically short of overcoming the democratic deficit.

To strengthen fairness and improve participation among those from the lower ranks of the HDI spectrum, two lessons from this study should inform future crowdsourcing efforts. First, participation initiatives should confront challenges associated with unequal access to technology, or the “digital divide” (Van Dijk and Hacker 2003). The digital divide, along with limited prior experience with information technologies and the absence of a culture of openness, remains a serious barrier to the broad embrace of electronic forms of participation (Netchaeva 2002, 475). The success of the MY World survey hinged mainly upon the proactive solicitation of perspectives through a non-electronic platform—the paper ballot. While the digital outreach strategy employed by UN staff for the thematic consultation was by all accounts multifaceted, it by no means replaced the need to conduct onsite surveying in developing countries. Offline outreach efforts yielded nearly six times

as many participants as those obtained through online methods. The fact of unequal access to technology must be addressed through infrastructural and financial assistance if future crowdsourcing efforts are designed to privilege web-based contributions. Until technological gaps are overcome, digital outreach must be complemented by extensive, on-the-ground outreach that specifically engages those living in extreme poverty, women, indigenous groups, people living in rural areas, and individuals suffering from mental and physical disabilities.

Second, greater attention should be paid to the relationship between the source of participation and the kind of crowd it attracts. The disproportionate outpouring of MY World survey submissions from Yemen that came by way of text messages, along with the overrepresentation of e-discussion comments from contributors in very high-HDI countries, highlights the need for allowing for multiple submission pathways in the same participatory platform. For instance, had stakeholders been able to participate in the e-discussions through text messaging, perhaps more comments from the Middle East and North Africa would have been obtained. Occasionally, e-discussion moderators voluntarily posted tweets intended as submissions to the dialogs, but this was done on an ad hoc basis and limited participants to composing their thoughts in only 140 characters. For future global crowdsourcing efforts, decision makers and outreach teams should permit civil society members to express themselves through their preferred means of electronic communication, and contributions should be consistently integrated into a single interface; so no one form of participation is obscured.

In the area of global environmental governance, crowdsourcing is a new and under-explored method of global civic engagement. Crowdsourcing provides a means of expanding participation in agenda-setting and policy development processes in a way that is potentially faster and more inclusive than has been possible at any other time in human history. Yet, substantial hurdles to achieving truly equitable, global, and representative participation remain. Future research should seek to better understand the causes of variation in participation, the effects of crowdsourcing at different stages of the policy process, the experiences of crowdsourcing participants, and the impact that crowdsourcing has on policy outcomes. Only through further study of this technological innovation can we assess whether crowdsourcing improves the democratic legitimacy of global governance or functions merely as another tool for perpetuating power imbalances in the international system.

Appendix

For the MY World survey, I report existing aggregated data pertaining to age, education, gender, and the HDI level of a respondent's country, all of which is readily available on the survey's website in rich, graphical detail. I then compare demographics of respondents across the three participatory platforms utilized in the process—paper ballot, SMS text messaging, and the MY World website. The purpose here is to explore the extent to which participation varies across participatory platforms in a global crowdsourcing effort.

For the e-discussions, I present original data on the distribution of global participants in terms of country, HDI level, language, and region (according to World Bank categories) derived from independent coding of every unique posted comment in which values for all demographic variables could be identified, not including repeated contributions from the same poster (175 of the 960 total comments for the entire thematic consultation). In coding

 NCD Alliance - a civil society alliance of over 2000 organisations united in the fight against noncommunicable diseases (NCDs).
Fri, April 26, 2013 at 09.16 am

Environmental sustainability is linked to inequalities at all levels. Addressing environmental sustainability in all workstreams to establish the future development: agenda should be driven by the ambition to reduce inequalities, as environmental degradation is having the greatest effect on the world's poorest one billion people, who account for just 3% of global greenhouse gas emissions.[1] Poor and marginalised populations, including women and indigenous groups, who rely on the environment for their livelihoods are acutely vulnerable to environmental degradation. Loss of healthy life years as a result of global environmental change is predicted to be 500 times greater in African populations than in European populations.[1]

Fig. 3 Comment from e-discussion on environmental sustainability and equality (April 15–May 26, 2013)

the e-discussions, I did not record the demographic attributes of networks, NGOs, or other collaborative organizations, as it was often neither possible nor appropriate to identify a single geographic location represented by such entities (see Fig. 3 for an example of a comment excluded from the database due to lack of demographic information).

In addition, I compare the demographics of participants in the e-discussions to those of the individuals whose perspectives were explicitly cited in the report summarizing the thematic consultation on environmental sustainability. The purpose of this second step is to assess the degree of consonance between the raw (albeit moderated) voices present in the e-discussion and the subsequent policy document alleging to synthesize the chorus of global contributions.

References

- Aitamurto, T. (2012). *Crowdsourcing for democracy: New era in policy-making*. Committee for the Future, Parliament of Finland. https://www.academia.edu/2399833/Crowdsourcing_for_Democracy_New_Era_In_Policy_Making. Accessed 18 January 2015.
- Aitamurto, T., & Landemore, H. (2015). Five design principles for crowdsourced policymaking: Assessing the case of crowdsourced off-road traffic law in Finland. *Journal of Social Media for Organizations*, 2(1), 1–19.
- Bäckstrand, K. (2006). Democratizing global environmental governance? Stakeholder democracy after the World Summit on Sustainable Development. *European Journal of International Relations*, 12(4), 467–498.
- Barro, R. J., & Lee, J. W. (2013). A new data set of educational attainment in the world, 1950–2010. *Journal of Development Economics*, 104, 184–198.
- Bernauer, T., & Betzold, C. (2012). Civil society in global environmental governance. *Journal of Environment and Development*, 21(1), 62–66.
- Bernstein, S. (2004). Legitimacy in global environmental governance. *Journal of International Law and International Relations*, 1(1–2), 139–166.
- Bexell, M., Tallberg, J., & Uhlin, A. (2010). Democracy in global governance: The promises and pitfalls of transnational actors. *Global Governance*, 16, 81–101.
- Biermann, F. (2007). 'Earth System Governance' as a crosscutting theme of global change research. *Global Environmental Change*, 17, 326–337.
- Biermann, F., & Pattberg, P. (2008). Global environmental governance: Taking stock, moving forward. *Annual Review of Environment and Resources*, 33, 277–294.
- Bonanni, L. (2015). Why information sharing is essential to climate resilience: Lessons from superstorm Sandy. *sustainablebrands.com*. http://www.sustainablebrands.com/news_and_views/marketing_comms/leonardo_bonanni/why_information_sharing_essential_climate_resilience. Accessed 29 January 2015.
- Bott, M., Gigler, B. S., & Young, G. (2011). *The role of crowdsourcing for better governance in fragile state contexts*. Washington, DC: World Bank Publications.

- Bott, M., & Young, G. (2012). The role of crowdsourcing for better governance in international development. *Fletcher Journal of Human Security*, 27, 47–70.
- Brabham, D. C. (2009). Crowdsourcing the public participation process for planning projects. *Planning Theory*, 8(3), 242–262.
- Brabham, D. C. (2013). *Crowdsourcing*. Cambridge: MIT Press.
- Castells, M. (2008). The new public sphere: Global civil society, communication networks, and global governance. *Annals of the American Academy of Political and Social Science*, 616, 78–93.
- Chambers, S. (2003). Deliberative democratic theory. *Annual Review of Political Science*, 6, 307–326.
- Charalabidis, Y., Triantafyllou, A., Karkaletsis, V., & Loukis, E. (2012). Public policy formulation through non moderated crowdsourcing in social media. In E. Tambouris, A. Macintosh, & Ø. Sæbø (Eds.), *Electronic participation*. New York: Springer.
- Coleman, S. (Ed.). (2001). *2001: Cyber space odyssey: The internet in the UK election*. London: Hansard Society.
- Dutil, P. (2015). Crowdsourcing as a new instrument in the government's arsenal: Explorations and considerations. *Canadian Public Administration*, 58(3), 363–383.
- Estelles-Arolas, E., & González-Ladrón-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2), 189–200.
- Fisher, D., & Green, J. F. (2004). Understanding disenfranchisement: Civil society and developing countries' influence and participation in global governance for sustainable development. *Global Environmental Politics*, 4(3), 65–84.
- Ford, L. H. (2003). Challenging global environmental governance: Social movement agency and global civil society. *Global Environmental Politics*, 3(2), 120–134.
- Freeman, J., & Quirke, S. (2013). Understanding e-democracy. *eJournal of e-Democracy and Open Government*, 5(2), 141–154.
- Gao, H., Barbier, G., & Goolsby, R. (2011). Harnessing the crowdsourcing power of social media for disaster relief. *IEEE Intelligent Systems*, 26(3), 10–14.
- Geiger, D., Seedorf, S., Schulze, T., Nickerson, R., & Schader, M. (2011). Managing the crowd: Towards a taxonomy of crowdsourcing processes. In *Proceedings of the Seventeenth Americas Conference on Information Systems*. Detroit, MI.
- Gemmill, B., Ivanova, M., & Chee, Y. L. (2002). Designing a new architecture for global environmental governance. In *World Summit for Sustainable Development briefing papers*. London: International Institute for Environment and Development. http://www.poptel.org.uk/ried/test/searching/ring_pdf/wssd_21_international_environmental_governance.pdf. Accessed 22 January 2015.
- Goodchild, M. F., & Glennon, J. A. (2010). Crowdsourcing geographic information for disaster response: A research frontier. *International Journal of Digital Earth*, 3(3), 231–241.
- Gray, R. (2014). Crowdsourcing for policy innovation. Johnson-Shoyama Graduate School of Public Policy.
- Gupta, A. (2010). Transparency in global environmental governance: A coming of age? *Global Environmental Politics*, 10(3), 1–9.
- Haas, P. M. (2004). Addressing the global governance deficit. *Global Environmental Politics*, 4(4), 1–15.
- Haythornthwaite, C. (2012). Democratic process in online crowds and communities. *eJournal of e-Democracy and Open Government*, 4(2), 160–170.
- Hildebrandt, L., Gallegos, M. C., Chan, L., Makam, P., & Nsabimana, J. (n.d.). Outreach report: Consultation on environmental sustainability in the post-2015 development agenda. Outreach Support Team for the Thematic Consultation on Environmental Sustainability in the Post-2015 Development Agenda. <http://www.worldwewant2015.org/file/357718/download/389222>. Accessed 5 February 2015.
- Howe, J. (2006). The rise of crowdsourcing. *Wired Magazine*. <http://www.wired.com/wired/archive/14.06/crowds.html>. Accessed 22 January 2015.
- Internet world users by language. (2014). *Internet World Stats*. <http://www.internetworldstats.com/stats7.html>. Accessed 7 February 2015.
- Landmore, H. (2015). Inclusive constitution-making: The Icelandic experiment. *Journal of Political Philosophy*, 23(2), 166–191.
- Lehdonvirta, V., & Bright, J. (2015). Crowdsourcing for public policy and government. *Policy and Internet*, 7(3), 263–267.
- Lemos, M. C., & Agrawal, A. (2006). Environmental governance. *Annual Review of Environment and Resources*, 31, 297–325.
- MYWorld2015 analytics. (2013). *MY World: The United Nations global survey for a better world*. <http://data.myworld2015.org/>. Accessed 5 February 2015.
- Nasiritousi, N., Hjerpe, M., & Linner, B. -O. (2014). The roles of non-state actors in climate change governance: Understanding agency through governance profiles. *International Environmental Agreements*, 1–14.

- Netchaeva, I. (2002). E-government and e-democracy. *Gazette: The International Journal for Communication Studies*, 64(5), 467–477.
- Peters, B. G. (1994). Agenda-setting in the European Community. *Journal of European Public Policy*, 1(1), 9–26.
- Prpić, J., Shukla, P. P., Kietzmann, J. H., & McCarthy, I. P. (2015a). How to work a crowd: Developing crowd capital through crowdsourcing. *Business Horizons*, 58(1), 77–85.
- Prpić, J., Taihagh, A., & Melton, J. (2014). *A framework for policy crowdsourcing*. Presented at the Oxford Internet Policy and Politics Conference, University of Oxford.
- Prpić, J., Taihagh, A., & Melton, J. (2015b). The fundamentals of policy crowdsourcing. *Policy and Internet*, 7(3), 340–361.
- Radu, R., Zingales, N., & Calandro, E. (2015). Crowdsourcing ideas as an emerging form of multistakeholder participation in internet governance. *Policy and Internet*, 7(3), 362–382.
- Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. *Biological Conservation*, 141, 2417–2431.
- Rudge, M. (2014). Can ordinary people shape development outcomes? In *Global development goals: Partnerships for progress*. UNA-UK.
- Sachs, J. D. (2012). From millennium development goals to sustainable development goals. *Lancet*, 379, 2206–2211.
- Saward, M. (2000). Less than meets the eye: Democratic legitimacy and deliberative theory. In M. Saward (Ed.), *Democratic innovation: Deliberation, representation and association* (pp. 66–77). London: Routledge.
- Scherr, J. (2012). Reflections on the race to Rio: Crowdsourcing sustainability at earth summit 2012. *Switchboard*, from NRDC. http://switchboard.nrdc.org/blogs/jscherr/reflections_on_the_race_to_rio.html. Accessed 22 January 2015.
- Scholte, J. A. (2002). Civil society and democracy in global governance. *Global Governance*, 8(3), 281–304.
- Seltzer, E., & Mahmoudi, D. (2013). Citizen participation, open innovation, and crowdsourcing: Challenges and opportunities for planning. *Journal of Planning Literature*, 28(1), 3–18.
- Somerville, P. (2011). Democracy and participation. *Policy and Politics*, 39(3), 417–437.
- Speth, J. G., & Haas, P. M. (2006). *Global environmental governance*. Washington, DC: Island Press.
- Spiliotopoulou, L., Charalabidis, Y., Loukis, E., & Diamantopoulou, V. (2014). A framework for advanced social media exploitation in government for crowdsourcing. *Transforming Government: People, Process and Policy*, 8(4), 545–568.
- Tyler, T. R. (1998). Trust and democratic governance. In V. Braithwaite & M. Levi (Eds.), *Trust and governance* (pp. 269–294). New York: Russell Sage Foundation.
- UN Department of Economic and Social Affairs. (2015). *World Population Prospects, the 2015 Revision*. <http://esa.un.org/unpd/wpp/Download/Standard/Population/>. Accessed 9 February 2016.
- UN System Task Team on the Post-2015 UN Development Agenda. (2012). *Realizing the future we want for all: Report to the secretary-general*. New York. http://www.un.org/millenniumgoals/pdf/Post_2015_UNTReport.pdf. Accessed 22 January 2015.
- UNDG. (2013). *A million voices: The world we want | A sustainable future with dignity for all*. http://www.undg.org/docs/13183/f_UNDG_MillionVoices_Web_full.pdf. Accessed 24 January 2015.
- UNDG. (2014). *Human development report 2014: Sustaining human progress: Reducing vulnerabilities and building resilience*. New York: <http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>. Accessed 29 January 2015.
- UNDP. (2013). *Breaking down the silos: Integrating environmental sustainability in the post-2015 agenda*. <http://www.undp.org/content/undp/en/home/librarypage/environment-energy/integrating-environmental-sustainability-post-2015.html>. Accessed 5 February 2015.
- UNDP. (2015). *Human development report 2015: Work for Human Development*. New York: http://hdr.undp.org/sites/default/files/2015_human_development_report_1.pdf. Accessed 9 February 2016.
- UNGA. (2011). Accelerating progress towards the Millennium Development Goals: Options for sustained and inclusive growth and issues for advancing the United Nations development agenda beyond 2015 (A/66/126). http://mdgs.un.org/unsd/mdg/Resources/Attach/Capacity/manila/Presentations/A_66_126.pdf. Accessed 29 January 2015.
- UNGA. (2014). The road to dignity by 2030: Ending poverty, transforming all lives and protecting the planet (A/69/700). http://www.un.org/ga/search/view_doc.asp?symbol=A/69/700&Lang=E. Accessed 14 October 2015.
- Van Dijk, J., & Hacker, K. (2003). The digital divide as a complex and dynamic phenomenon. *The Information Society*, 19, 315–326.

- Warkentin, C. (2001). *Reshaping world politics: NGOs, the internet, and global civil society*. Lanham: Rowman & Littlefield.
- Zook, M., Graham, M., Shelton, T., & Gorman, S. (2010). Volunteered geographic information and crowdsourcing disaster relief: A case study of the Haitian earthquake. *World Medical and Health Policy*, 2(2), 7–33.