



“Human Rights and Technology”: Mapping the Landscape to Support Grantmaking

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1 Executive Summary and Recommendations

1.1 Understanding the Landscape: A Systems-Level Map of “Human Rights and Technology”

New technology opportunities available to the diverse spectrum of actors in the human rights ecosystem have engendered much deserved enthusiasm. Technology is foundational, permeates all areas, and is interwoven throughout the modern-day human rights movement. There exist tremendous opportunities to advance human rights efforts with the aid of a myriad of technology tools, but there is also a growing need to ensure the safety and security of activists, human rights defenders, and everyday citizens in a world of globalized surveillance.

Understanding the technical, legal and political infrastructure affecting rights in the digital sphere is pivotal to ensure all human rights are upheld in a world where boundaries between the digital and physical space are increasingly blurred. There is a sense of urgency to enhance the capacity of the human rights movement to monitor and hold to account abusers who violate rights in the physical world and online. This entails use of technology to monitor and build evidence of abuses, as well as promoting policies for technical infrastructure that protects basic rights.

This report presents an examination of the landscape of work being done under the “human rights and technology” (HR-Tech) banner. We chose interview subjects based on suggestions from the five foundations who commissioned this study, aiming for a broad range of perspectives on the human rights and technology space.¹ Because technology organizations in the Global South are under-represented in the funding portfolios of many key donors, the sample of organizations in this study did not include broad regional representation. The authors acknowledge that the report thus does not represent the full breadth of organizations conducting critical work in this diverse and rapidly evolving field. Increased attention should be given to contributions from outside of North America and Western Europe on these issues.

Donors in the field are at a point of reflection, where there is an opportunity to learn lessons, create alliances across program areas, and find bridge figures and advisors to support their grantmaking in the space where human rights and technology intersect. Future successes stand to benefit from the donor processes currently underway that involve the evaluation and adjustment of strategies to better shape the digital age and to use available tools in the service of human rights. By identifying connections and synergies across the diverse methods and approaches donors are using to harness technology to support human rights, this study is intended to lay a foundation for improved investment and collaboration in the field.

Practitioners in diverse fields tend to organize work in this space into one of two types. The first we refer to as the “infrastructure” category, which includes legal, technical, political, and economic efforts around the world to develop an underlying information and communications infrastructure that upholds human rights and freedoms as they are increasingly mediated via digital space. The second is the “instruments” category, which considers the technology tools developed and used to make human rights activists and organizations more effective. Whereas the “instruments” category is more commonly thought of when considering human rights and technology together, recent revelations of

¹This study was commissioned by the Ford Foundation, the John D. and Catherine T. MacArthur Foundation, the Open Society Foundations, the Oak Foundation, and Humanity United.

mass surveillance have thrust digital security and infrastructure issues to the forefront, raising concerns that resonate with an increasingly broad public. Freedoms of expression, information, and association, as well as rights to privacy, depend more and more both on the value that infrastructure adds to protecting human rights and on a myriad of security tools to help individuals control access to their information. Advancement in these areas requires a mutually understood framework, and closer collaboration among a variety of actors.

1.2 The Goal is Human Rights, Not Technology

The research approach presented in this study emphasizes a human rights lens, which includes promoting and defending universal rights and freedoms in both the physical and the digital space. From this perspective, technology is not situated at the center. While technology is increasingly a key component both to understanding the problems facing society in a digital world and to enhancing instruments to serve human rights, technology *per se* is not the most effective entry point when exploring means to facilitate more effective cross-sector engagement. Discussions that begin with technology tend to focus on the potential or the threats that technology tools pose to human rights defenders and their work. This framework – of enthusiasm and fear of technology – hampers clear identification of how individuals, organizations, and social context interact with technology. It also creates unrealistic expectations and conflates the influence of technology with other factors when evaluating impact and overall change.

This study finds that, while program support for human rights efforts most certainly requires investments in technology, including infrastructure and tools, technology itself is rarely the proper subject from which to begin to identify and understand human rights problems and challenges. As discussed throughout this report, the most essential components of effective programming in this field are to identify human rights goals through effective engagement with grantees and advisors, and to invest in the defense of rights, advocacy movements, standards, evidence production, and organizational capacities, and in the technology solutions that are best suited to achieving these primary goals.

1.3 Defend Rights in Digital and Physical Spaces

A decades-long and hard-fought struggle has built a movement to construct international laws, norms, principles, and standards to protect fundamental human rights. This movement faces new challenges in the digital age as physical and digital rights are increasingly interconnected. Human rights programming has tended to approach these categories as two separate struggles: one focuses on protecting freedoms in the digital world, and one focuses on abuses that take place in physical space. These struggles, however, are inextricably intertwined and stand to benefit from merging efforts into a cohesive movement that aligns goals and applies lessons learned from shared experiences. While there is a general call for a tighter connection between these parallel areas of work, there is not yet consensus on how best to facilitate collaboration.

This study notes important dynamics, compatible goals, and potential synergies shared among those working to defend human rights in both the physical and digital space. Just as activists around the world developed a global movement and standards to champion human rights, the digital world is currently undergoing movement-building and policy development. Much of the business of both offline and online human rights defense consists of monitoring and producing defensible evidence of abuses, a cornerstone of credible advocacy, effective accountability, and com-

prehensive historical clarification. Traditional human rights actors must also begin to recognize the underlying digital security issues of privacy and freedom of expression. Technology tools in the field are not sufficient to ensure core rights, and must account for an environment in which data is constantly in motion. While this will benefit from new privacy protections around the tools used daily to communicate and manage information, defending these rights will ultimately depend on strengthening the governance, regulation, and technical infrastructure of the networked digital sphere. These demands transcend structured programmatic frameworks in many foundations, and underpin the opportunities for collaboration at the intersection of human rights and technology work.

Abuses in the digital realm consist of violations of privacy and freedoms of expression. More cases are constantly emerging, in which violations of digital rights lead to abuses in the physical world, such as arbitrary detention and forced disappearances. Further, while there is disagreement on how much the traditional human rights community needs to engage in the movement to ensure rights are respected in digital space, there is a general call for a deeper appreciation of the vulnerability of all human rights if the movement, standards, policies, and technical infrastructure are not strengthened. A continued division between efforts to defend rights in the physical and the digital spheres could be counter-productive.

1.4 Technology is Forcing New Multi-Sectoral Realities on Human Rights: Opportunities and Challenges

The pervasive nature of technology creates new multidisciplinary realities for human rights work. It opens up new avenues to share experiences, diversify methodologies, and collaborate across disciplines and sectors, providing new opportunities to broaden the field. However, it also means that the existing “silos” that separate culturally different policy actors, technology developers, and “traditional” human rights actors must be identified and broken down. This is true not only out in the field, but within foundations, where divides are sometimes due to discord in framing, or where short-term work is isolated within separate programmatic areas.

Enhanced collaboration around surveillance, privacy and censorship issues is crucial. Building a rights infrastructure that applies to the information and communication sphere necessitates coordination that takes into account widely varying levels of technical know-how. Effective partnerships in user-centered tool-building and adoption can help bring together actors working to innovate new tools for human rights defenders, build on open source platforms, and ensure security and usability.

Cross-sector work entails translating technical, legal, and popular languages and cultures. Moreover, as technology devices become more widely available and allow for any citizen to document abuses, massive streams of data from diverse sources will require careful interpretation, and establishment of mechanisms to ensure the validity and reliability of newly acquired information. Effective integration of the technology that is needed to organize, preserve, protect, analyze, and interpret data must involve experts who bring together technological, social scientific, archival and subject-matter knowledge.

Assessment of past collaborative efforts and associated challenges can yield important lessons for future initiatives. Past problems include variances in actors’ technology comfort zones. Technologists who present tools that

could entail risks for those in the field have been perceived at times as somewhat paternalistic to human rights defenders with decades of experience. Traditional human rights advocates who are accustomed to long and hard struggles and sustained campaigns view the digital frontier with caution. Past efforts to bridge these divides, such as large-scale trainings, have at times been considered ineffective. Efforts that have had more success often involve partnering with embedded individuals who have both field experience and technical know-how, and NGOs that specialize in bridging these divides.

The challenge for grantmaking will be to improve collaboration across sectors, geographic boundaries (such as north-south divides), and levels of expertise. There is an expectation that donors will contribute to improved collaboration in a field that has been structurally siloed and constrained as a result of miscommunications and missed connections between different professional cultures. Investing in improved and long-term capacity building and incorporating effective bridge figures are essential measures for this process. These efforts can benefit from enhanced sharing of lessons learned across the community at large, and between donors in particular.

1.5 Pursue Intermediaries and Bridge Figures to Traverse the Landscape

Across the HR-Tech landscape, there is a strong call for intermediaries and “bridge figures” to facilitate work in both the “infrastructure” and “instruments” categories of work. These are people and organizations who, based on expertise or experience, are well-equipped to communicate effectively across the different silos that exist and to help create linkages across structural or operational divides.

Although individuals interviewed offered differing visions of who best qualifies as a strong bridge figure, the role they play, and how they are best situated across the space, there is general consensus that these figures should be multi-lingual (in technology language), credible, and well-versed both in human rights and technology efforts. Examples include experts in technology or methods from within organizations, those who serve as external advisors, or as-yet-unidentified actors with transferable skill sets and experience. One model that has worked involves offering local NGOs direct assistance by groups that have the capacity to bridge technology, data, methodology, and substantive human rights issues. Another model has been for large NGOs or foundations to hire technical experts to serve the role. There is not a single formula for success, however, as each initiative has been unique to the needs and capacities of the specific actors involved in the human rights effort.

Actors involved in digital security are potentially strong intermediaries for bridging the spectrum of human rights and technology work, as all efforts in the field confront challenging issues associated with digital security. Foundations could benefit from drawing on those who can straddle both worlds, connect communities, and serve as qualified educators, not just as technical builders or trainers.

1.6 Invest in Research and Production of Evidence

Practitioners in the field have expressed the importance of creating stronger monitoring mechanisms, investing in analysis, and developing methodologies to produce evidence of abuses within the digital realm of freedoms of expression, information, and rights to privacy. Once these abuses are detected and documented, the next step is to identify the links between violations of digital rights and violations of rights in the physical space. These connections are exposed,

for example, as human rights monitors document connections between government surveillance structures and the targeting of human rights defenders and social dissidents.

There are notable challenges to fully understanding the nature and extent of threats to human rights in the shifting landscape of the digital sphere. The entrenched secrecy behind recent surveillance scandals in the U.S. and UK, for example, demonstrates how difficult it is to document where and how digital abuse is being carried out; this impedes the ability of civil society to know the modes and actors responsible for such abuses. Thus, the challenge for donors is to invest in more empirical research to understand these threats, and to develop methods to identify abuses in the digital sphere. Watchdogs and advocates around the world are essential to mapping and understanding this area of monitoring, documentation and analysis. Research and methodological development must be increasingly multidisciplinary and, because frontline actors in local contexts are better placed to lead local research, monitoring, and advocacy, they must be integrated with more actors outside the Global North.

1.7 Situate Core Objectives and Data Before Technology

Technology does not operate in isolation; rather it serves as an integral part of information strategy, knowledge management, communications goals, and institution-strengthening initiatives. The diverse set of challenges facing human rights activists and organizations include data collection, management, preservation, analysis, effective communication and strategic use of evidence, and data security. It is essential, therefore, to address the information needs and objectives associated with data use before considering the technology required to serve these goals.

While there are observable correlations between advances in technology and their positive impacts on human rights work, a number of conflating variables must be factored into account when evaluating the cause of these advances. It is, perhaps, most important to acknowledge that technology does not replace the need for the science to translate empirical data into defensible claims. Across the landscape we observe a critical need to invest in teaching and learning about responsible use of data by all stakeholders, and to integrate a much deeper recognition of technology as an amplifier of individuals, organizations, and work processes, rather than as a “solution” to problems that actually stem from underlying information needs. Donor funding should avoid prescribing formulaic technology solutions without first considering the strategic goals of an organization, the nature of their information requirements, and a broader vision of how technology will interact with these goals and needs to make the organization’s work more effective.

1.8 Funding Tools Goes Beyond the Technology Itself

Funding tools for human rights defenders involves more than just investing in technology. It often requires integration or customization to specific institutional or contextual challenges. User-centered design must connect to the needs and realities of users, infrastructure must support field learning about what does and does not work, and lessons must be learned from both productive and unproductive experiments, pilots, and implementations.

It is important to focus on goals, not tools, because innovations should aim to solve problems and consider all the social and organizational processes for success. Funding technology development has the potential to amplify the work of individuals and institutions using technology, but if not carefully used could create distractions or diversions. Incorporating users early, and integrating close collaborative feedback through the design, prototype, and development

process, can create an end-product with higher probability for success. There is a need for developers embedded in human rights realities; this calls for partnerships between experts in design and engineering and experts ranging from social, political, economic contexts, and in communications, product, project, and process management. These aspects might be found in a single individual, but more often will require assembly of collaborative team of experts.

The most successful cases of technology funding entail parallel investments in deployment, adoption, and capacity of users, and a long-term vision in supporting the use and maintenance of technology tools. Tool-centric training and outreach is not the best model, as there is a central need for capacity building and ongoing support suited to the needs of users in the field. Over-emphasis on user education narrowly focused on the tools themselves risks missing opportunities to provide broader education about data and analysis, and about the relationships with companies and governments that supply or regulate the technology.

1.9 Donors as Exemplary Actors Advancing the Space

Donors have the capacity to provide not only support for cutting-edge work, but also to engage in the field as active agents of change. This requires leading by example to bridge between the silos and divides that exist within and between foundations. Structural boundaries, which are often the result of short-term programming separated by differing framing and approaches, hinder opportunities for effective collaboration, learning and greater impact. Silos can generate conflicting expectations. Funders, as agents of change, can bridge these gaps by shaping programs that support groups and individuals from different spheres who are working towards the same goals.

By incorporating the lessons outlined above and developing a vision of change at the systems level, philanthropic support for HR-Tech work can improve strategies and fuel much needed cross-sector collaboration. Practitioners interviewed pointed out that, while there has been much learning in human rights and technology programming, these lessons have not yet been considered sufficiently. A systems-level analysis of the HR-Tech landscape requires incorporating lessons learned from past successes and failures, and sharing these lessons with peer donors and the community at large. Knowledge sharing about past experiences relating to funding for innovative ideas is crucial. While support for innovation is certainly needed, it should be conducted carefully and iteratively to ensure that rights defenders in the field are protected from new risks potentially inherent in new technology instruments. Donors can spearhead efforts towards building a movement that aligns goals and actors defending rights and freedoms online with those supporting the effective and secure development of technology in the human rights community.

Specific recommendations to donors, detailed in Section 7.5 of the report, are summarized here:

- Engage in a systems-level approach to programming;
- Expand previous human rights priorities to include the digital world;
- Reframe approaches to HR-Tech to emphasize commonalities across spheres of work;
- Conduct reflective studies based on past experience and improve donor and grantee learning processes;
- Draw lessons from multi-sector and interdisciplinary collaborations and partnerships;
- Support iterative innovation;

- Integrate bridges, translators, and intermediaries more centrally into philanthropy;
- Evaluate and improve capacity-building activities;
- Share knowledge, experience and visions.

2 Introduction

In recent years, donors and activists have shown a keen interest in issues at the intersection of human rights and technology. Ongoing work in the area of “HR-Tech” is characterized by optimism and excitement over the potential to harness technological advances to improve the human rights movement’s ability to conduct more comprehensive fact-finding and to enhance the reach of human rights advocacy (Heinzelman and Meier, 2012). At the same time, there is great concern over the ways technology enables governments and companies to more easily surveil and censor, thereby threatening fundamental rights and freedoms in the digital realm (Deibert, 2013). These issues involve a broad context of diverse actors, agendas, framings and expectations. Furthermore, technology’s “magic bullet” tint can obscure just what to expect, what to question, and what to fear (Morozov, 2011).

Just as the expansion of technology and of access to the internet is transforming many sectors, it is also changing the landscape of the international human rights movement. Donors seeking to make strategic investments that harness technology in the service of human rights are faced with pressing questions. For example: What are the priorities in this expanding field? Where are the blind spots or gaps? Where are the opportunities for strategic collaborations and innovation, and what are the tensions and risks that must be considered? What sort of underlying infrastructure does the field need to address future challenges? This study is a first attempt to address these questions in order to inform thinking and funding in the human rights and technology space.²

Our research lens is focused on the advancement of human rights. This includes promoting and defending universal rights and liberties in physical and digital space.³ From this perspective, technology is not the entry point. Rather, technology affects multiple social, political, and organizational contexts both as information and communications infrastructure and as instruments that serve human rights organizations and work practices. In human rights work, we observe that framings that lead with technology tend to start with the potential or threats that technology poses; this tends to produce technocratic solutions. Instead, as one interviewee put it: “Technology is not the subject. Technology can be instrumental and transformative, but ‘what we do with technology’ to advance our social and human rights goals is the key framing.”⁴ Innovating and improving technology itself is important, but in this report technology is discussed in the much broader context of human rights work in which it operates.

The results of this study are based on over fifty interviews with a wide variety of actors working on aspects of by “HR-Tech,” together with a broad review of literature, strategy and grantmaking documents shared by donors, and by the authors’ own experiences with human rights data and technology projects around the world.⁵ In Section 3, we present the main challenges identified in the course of our research when considering “human rights” and “technology” together. For many traditional human rights actors, the concept of “human rights and technology” refers to tools,

²Specifically, this study was commissioned by five foundations: the Ford Foundation, MacArthur Foundation, Open Society Foundations, Oak Foundation, and Humanity United.

³In this study, we discuss mostly organizations and individuals working on certain subsets of issues, such as civil and political rights of life, liberty and physical integrity and freedoms such as expression, opinion, information, etc. That is not to say some of the lessons drawn cannot be applied to the broader human rights space.

⁴Interview with Ivan Sigal, November 15, 2013.

⁵While the interviewees and literature were chosen to gain a broad range of perspectives, time and resources did not permit a comprehensive or representative study of activities and perspectives in the human rights and technology space. In particular, most interviewees were based in the United States and Western Europe and this report refers to a small number of these organizations by name. The authors acknowledge that the report thus presents only a partial view, and does not represent the full breadth of organizations around the world conducting critical work in this diverse and rapidly evolving field. For more on the study’s methodology, see Appendix I.

and in particular “new technologies” to be harnessed in service of human rights work. However, this focus on instrumentality misses some important aspects; as one interviewee put it, “we need policy to preserve instrumentality.”⁶ Indeed, policy is a component of the first of the two areas of work that largely define the landscape. What we call the “infrastructure” category (presented in Section 4) encompasses legal, technical, political, and economic efforts around the world to ensure human rights and freedoms as they are increasingly mediated via digital space. Section 5 discusses the “instruments,” that is, technology tools to improve the effectiveness of human rights activists, organizations and groups. In both categories, we highlight observations about actors, framings, tensions, and work practices that can guide donors in their strategic investments. In the “instruments” category, we offer a framework to understand the typical lifecycle of human rights information and communication and then examine the roles of technology throughout. We also draw lessons in supporting tool-building and tool-adoption hand-in-hand with the intended users.

In Section 6 we address the burgeoning sector of digital security, which affects both instruments and infrastructure. Issues include overarching concerns of developing, monitoring, and advocating for rights and freedoms in the digital networked sphere, as well as privacy-enhancing tools that add layers of security around the technologies that activists and citizens use in their daily work online and via mobile telecommunication networks. Section 7 gives an overview of how some donors are adapting to the human rights and technology landscape, and closes with a set of recommendations on how donors can address some key needs at the intersection of human rights and technology. By bringing synergies and tensions of “human rights” and “technology” into one space of consideration, we hope to make a useful contribution to the philanthropic efforts that are advancing these important issues.

3 Challenges at the Intersection of Human Rights and Technology

3.1 Challenges to Rights in Digital and Physical Space

The international human rights movement has evolved over many decades, operating at a global, regional and local level. Human rights have primarily been framed around an international system of nation-states (e.g. UN member states), and therefore bounded within *physical space*. Core official institutions for protection of human rights are also geographically defined around systems in physical space.⁷ An interconnected network of actors are now better placed than ever to promote and defend rights and liberties, shape political debates, and influence policy implementation around the world.

However, the networked digital sphere introduces a whole new dimension of space within which individuals meet, interact, exchange ideas, engage speech and expression by others, and organize content and people, and within which rights need to be defended. Ensuring human rights and freedoms in the networked digital space is one important category of work taking place under the “human rights and technology” banner. In this space, there are two inter-related aspects of infrastructure development: 1) the technical foundations of network infrastructure, and 2) the laws, policies, and mechanisms of accountability that regulate the networked sphere around the world. Just as the human rights

⁶Interview with Gene Kimmelman, August 1, 2013.

⁷These institutions include national courts and ombudsmen, regional courts and commissions, the United Nations Human Rights Council and its treaty-based bodies, ad-hoc international criminal tribunals and the permanent International Criminal Court.

movement set up mechanisms to defend and promote human rights in the physical world,⁸ so too the actors engaged in advancing human rights concerns in the digital space are developing the system to extend protections to a world where the physical and digital are increasingly blended. There is a general sense that this movement is still very much in its early stages and powerful agents are scrambling for control (Deibert, 2013).

The digital world also introduces a more complex set of potential adversaries and interlocutors with impact on human rights. There are many more actors who have power and control, and therefore the potential to abuse rights. Governments can increasingly use technology to surveil and censor their citizens, both legally and illegally. Private actors such as transnational and national companies that own and provide parts of the underlying infrastructure have much control over private information. There are many examples of their cooperation with governments, creating a chain of online rights violations. Abuses of rights online can enable abuses offline.

In many of our interviews, people active in defending human rights expressed the need for answers to such basic questions. What threats to rights and freedoms are found in digital space? What are some empirical examples of abuse? How can we build a strong and effective movement to monitor and defend rights in cyberspace? Which framings work best, and where? What are the necessary mechanisms of defense and accountability? What efforts are best made at local, at regional, or at international levels? The Citizen Lab at the Munk School of Global Affairs at the University of Toronto is doing important work to begin to answer some of these questions. Groups such as the Electronic Frontier Foundation, the Global Network Initiative, and increasingly Human Rights Watch are important actors in the global movement; development is needed in the Global South. The movement will also develop somewhat organically through interaction and coordination of different communities of practice among themes that bring them together. Supporting these interactions and figuring out useful conversations is a priority.

3.2 Multidisciplinary and Multi-Sectoral Reality

“There is a real need to move past atomized thinking, and engage in a survey/systems thinking in this space.”⁹

– Sam Gregory, Program Director at Witness

Technology is forcing an ever more multidisciplinary reality onto human rights, yet bringing such diversity to work in concert is challenging. Some sectors do not yet overlap in their efforts much at all. Interviewees expressed frustration with the prevailing “silos,” within which culturally different policy actors, technology developers, and “traditional” human rights activists are separated from one another. Silos within philanthropic foundations – often due to contained and short-term work divided by programmatic areas – create misunderstandings and missed opportunities for collaboration, learning and impact, and often generate unrealistic expectations about other actors. For example, some would like to see more engagement from traditional human rights actors in monitoring and accountability efforts for digital rights violations. Others want to see funders support digital rights as a human rights issue. Rebecca MacKinnon explains, “if you only focus on category 2 (tools as instruments) and think category 1 (infrastructure for rights online) is too long-term and abstract, then I think we are going to lose because nation states have Google-sized,

⁸In addition to the previously mentioned institutions, these include, for example, international peacekeeping operations, thematic and country-based rapporteur systems, and regional inter-governmental mechanisms such as the European Court on Human Rights and the Inter-American Commission on Human Rights.

⁹Interview with Sam Gregory, July 24, 2013.

military grade budgets. So there is a need for some balance in donor portfolios across the categories.”¹⁰

Frequently mentioned was the difficulty for “traditional” human rights actors to actively take part in the movement to defend human rights in virtual space (despite notable exceptions). “The major challenge for the human rights movement is drawing connections to the structural and institutional developments with new technologies and how they shape new norms, laws, and practices that may facilitate future human rights abuses,” said MacKinnon. However, most mainstream human rights practitioners come from backgrounds in the law, politics, or journalism, and have only limited technical skills in technology-related fields. This is the case especially at the grassroots. This hinders traditional human rights defenders from influencing perceptions of rights in the networked digital sphere. Work to defend rights in this sphere comes from people with a broader range of skills, including engineers, computer scientists, media experts, and information scientists, as well as experts in technical subfields of law, policy, and governance. The human rights and technology field is ripe for improved multidisciplinary and strategic collaborations across sectors and expertise. Just as international human rights work has historically required translation across languages (French, English, Arabic, etc.), building the rights infrastructure of the information and communication sphere requires translation and collaboration among people with widely varying levels of technical know-how. Human Rights Watch (HRW) has been one of the few established human rights organizations that has engaged in advocacy in this space. However Cynthia Wong emphasized that, “no one should underestimate how much effort is needed to explain the technology behind the issues.”¹¹

Indeed, the need for “intermediaries” and “bridge figures” is high. Most agree that effective gateway figures “embed themselves in human rights dialogue,” as Enrique Piracés put it.¹² Such individuals serve the political and advocacy work of the “infrastructure” level, as well accompany NGOs to integrate technology tools in their work. The hiring of Senior Researcher Cynthia Wong at Human Rights Watch is cited often as having far-reaching impact due to her combination of technology expertise and integration with the human rights framework. There are organizations and individuals that build tools and extensively assist their users (such as Benetech).¹³ Some organizations are “agnostic” about any given tool and seek to help NGOs customize tools across the stages of human rights processes (such as HURIDOCs, Aspiration, and Tactical Tech).¹⁴ Several interviewees spoke favorably of having an advisory panel of human rights and technology experts (essentially a panel of bridge figures) to support grantmaking decisions.¹⁵ It would include some people with breadth and depth in their technical vision and others who have the profile of product managers (people who oversee the step-by-step development of technology and can evaluate short and long-term implications of development). Further, the actors operating in the middle space of digital security may serve as bridge figures within each category of work as well as across the two. Interviewees expressed the need to ensure that both developers and trainers have deep knowledge of the technology. To help bridge divides, intermediaries must be qualified educators and strategists, not just technical builders or trainers. Finally, there is a sense that academia could do

¹⁰Interview with Rebecca MacKinnon, August 1, 2013.

¹¹Interview with Cynthia Wong, August 6, 2013.

¹²Interview with Enrique Piracés, July 25, 2013.

¹³Benetech is a nonprofit that develops and uses technology to create positive social change. www.benetech.org.

¹⁴HURIDOCs is an international NGO helping human rights organizations use information technologies and documentation methods to maximize the impact of their advocacy work. See: <https://www.huridocs.org/>. Aspiration builds technology capacity in nonprofits and social change efforts. See: <https://aspirationtech.org/>. Tactical Technology Collective is an organization dedicated to the use of information in activism. See: <https://www.tacticaltech.org/>.

¹⁵The Open Society Justice Initiative has been working to establish such a model with respect to documentation and legal processes. The Office of the Prosecutor at the International Criminal Court has recently established a Scientific Advisory Board and is working on building a similar advisory board for digital evidence.

more to develop interdisciplinary leaders in this overlap between technology and society. Overall, there are differing visions of how to best situate bridge figures across the space, but agreement on their importance.

Advances in technology have lowered the barriers to entry of new actors participating in the core functions of the human rights movement, such as in work to document evidence of abuse. There have always been witnesses to human rights abuse, some of whom provide testimony, or leave a record of complaints. Now in an age of widely available cell phones, digital cameras, internet connections and distribution platforms, such as Facebook, YouTube, and Flickr, it is possible for more individual citizens to play a significant role in human rights documentation and advocacy. As a result, new types of actors, such as bloggers, citizen journalists, and online social movements, are becoming increasingly integrated into the international human rights system. Technology itself is being used to synthesize, curate and amplify diverse data and diverse voices.

3.3 Different Framings

The diversity of actors and skills creates challenges for cross-sector collaboration, and there is no consensus as to whether an explicit human rights framing is useful to work the defense and promotion of rights and freedoms in digital space. Although different framings are likely to be important for different audiences and varying cultural, political and social contexts, they do not need to be a barrier for civil society collaboration across different thematic lines. Some organizations, such as Human Rights Watch, have integrated the human rights framing. As Cynthia Wong put it, “We live in dangerous times, where governments are pushing for [human rights] treaties to be interpreted in a more conservative way in an area where standards aren’t fully developed. A human rights framing is critical for the HR-Tech space as it brings an essential focus on state (and corporate) responsibility, but more needs to be done to ensure strong standards.”¹⁶ The work of a number of donors (such as the Open Technology Fund and of the United Nations Special Rapporteur on Freedom of Expression) is framed around international human rights norms (United Nations, 2013). However, other groups use very different framings: the Pakistani NGO Bholo Bhi situates its work around “government transparency, internet access, digital security and privacy rights”; mediapolicy.org frames its work around media freedom; the American Civil Liberties Union (ACLU) feels it most effective to frame its work around a national security and civil liberties perspective; and Open Rights Group uses a “digital rights” framing that is defined by the defense of freedom of expression, privacy, innovation, creativity and consumer rights on the internet. Hence, there is a need for more work to unpack the human rights protection and accountability issues in the digital sphere so as to facilitate collaboration between different civil society sectors.

When exploring how to facilitate more effective cross-sector engagement, we found resounding agreement that technology *per se* is not an effective entry point. Discussions that begin with technology focus on the potential, or on the threats that technology tools pose to human rights defenders and their work. This framework of enthusiasm and fear of technology hampers clear identification of how technology interacts with the individuals, organizations, and social context in which it is operating. As Allen Gunn highlighted: “the problem with this dichotomy [between “tech in the service of human rights” and “technology threats to human rights”] is that it marginalizes two critical lenses: (1) data – as starting point; and (2) the intangible organizational side / business process side of technology.”¹⁷ As

¹⁶Interview with Cynthia Wong, August 6, 2013.

¹⁷Interview with Allen Gunn, December 4, 2013.

we discuss below, such an emphasis on potential and threat of technology tends to sideline serious consideration of emerging challenges and stifles a wide-ranging understanding of data limitations. For example, massive amounts of technology-produced data makes representativeness, cross-validation and interpretation of human rights information more rather than less difficult. The quantity of data available requires careful organization and preservation to enable its use in long-term struggles for truth and justice. A primary focus on technology has also complicated metrics of impact, identifying the technology as the strategic agent of change rather than as an amplifier of human and institutional forces.

The fact that technological expertise is relatively limited also affects other areas of the human rights and technology field. In reality, across the human rights ecosystem, there is much variation in the level of institutional strength and technical capacity. Big international NGOs have the budgets and economies of scale to bring technical people on and to think about technology strategy. While this study did not have the opportunity to speak with many regional groups, most interviewees expressed the view that technical sophistication amongst mainstream human rights groups is much more limited at a more local level. Also, our interviewees noted that the age of the leadership of human rights groups may tend to shape their comfort level with technology: younger leaders tend to be more tech-savvy and willing to experiment.

Manovich (2011) writes of three classes of actors in the realm of ‘big data’: “those who create data (both consciously and by leaving digital footprints), those who have the means to collect it, and those who have the expertise to analyze it.” Boyd and Crawford (2011) note this as a digital divide, and this framing helps to understand the divisions between human rights organizations. The relatively few institutionally strong and elite groups are in the class of those who can analyze big data. When making investments in technology tools, it is worth asking who can absorb and use them in service of more effective, innovative analysis. How can groups at many levels of the ecosystem be empowered? In the past, grants have been for specific projects with occasional technology line-items. Overall, there has been a culture of time-sensitive priorities and implementation of political or legal strategies or support for victims, with less focus on the development of long-term technology skills that are embedded in institutional work flows. Yet as Gene Kimmelman emphasized, it is worth “start[ing] more bottom-up at the community levels. Funders need to build grassroots. A great thing about technology is the networking possibilities and scalability. That is an enormous change in the opportunities for advocacy and organizing.”¹⁸ There is a need for strategic investment in building the capacity of local NGOs in the global web of defenders of online rights, as well as to support them to use technology to enhance their important work.

3.4 Lure of “New” Technology

Contemporary debates are often punctuated by much enthusiasm for “new technologies,” web 2.0, social networking, or “big data” analytics (Land et al., 2012). Some analysts have suggested that new technologies have played profound and critical roles in contemporary political struggles (Shirky, 2008), whereas others such as Evgeny Morozov have noted cases in which such new technologies and media platforms have played peripheral roles at best (Morozov, 2013). Less attention has been given to how new *and old* technologies impact the human rights data lifecycle and advance core human rights objectives. As Enrique Piracés put it, in the hype around new technology, “research methodologies

¹⁸Interview with Gene Kimmelman, August 1, 2013.

get lost.”¹⁹ Technologies to help collect evidence and verify certain specific cases often leave the provenance of data opaque and obscure exactly what researchers and advocacy targets need in order to interpret them. They also have the potential to obscure what we mean by impact. Is this a technology problem or a human rights problem that we need to solve?

The introduction of technology has rearranged the discussion and transformed questions about what is being solved or improved, or what defines impact. If the entry point is the technology itself and technology solutions, this is potentially counter-productive, because it confuses the means with the ends. Enthusiasm about the potential of technology to capture and communicate must be tempered by the need for rigorous use of information for high-stakes strategic uses and communications. Core human rights work still depends on robust data and defensible fact-finding and analytical methodologies.

With respect to building and using new tools, innovation and experimental ventures merit safe spaces to flourish. However, Jim Fruchterman points out that there is “a fantasy of ‘build it and they will come’.”²⁰ Developing tools has sometimes disproportionately focused on the technology, without much engagement from real users in the field or realistic plans for proper tool adoption. Effective tools require long-term and iterative investments that are responsive to the intended users.

4 Human Rights in a Digital World: Technology as *Infrastructure*

The internet and mobile communications networks are increasing the conduits along which information and communication flow. Basic rights to freedom of expression and information, to privacy and to freedom of association depend on technology, and upon the governance and regulation of the technology that upholds them. The underlying infrastructure has become central to upholding the human rights we value as organizing principles of society.

Deibert et al. (2011) outline the political evolution of internet governance since its initial launch in the 1960s in four distinct phases. 1. the Open Commons (1960-2000); 2. Access Denied (2000-2005); 3. Access Controlled (2005-2010); and 4. Access Contested (2010-present). The first phase of internet development, the “Open Commons” period of 1960 to 2000 was characterized by very little state regulation. Some analysts and scholars have argued that the open, decentralized and user-controlled nature the internet was a key factor in innovation and public participation (Van Schewick, 2010). During the second phase, dubbed “Access Denied” (2000-2005), several states moved towards regulation of information flow on the internet using an array of technologies to try to block or filter access to political, religious, social, and legal content from within their borders. In the third “Access Controlled” phase (2005-2010), state-sponsored access controls evolved beyond filtering to include computer network attacks, espionage, and controls on registration, licensing and identity to regulate online activities. This third phase also saw the employment of other means of filtering and blocking such as the co-opting of private technology service providers, distributed denial of service (DDOS) attacks and crude just-in-time blocking methods. The present phase of cyberspace governance since 2010, which Deibert and colleagues call “Access Contested,” has seen a continuation in access controls and is charac-

¹⁹Interview with Enrique Piracés, July 25, 2013.

²⁰Interview with Jim Fruchterman, August 21, 2013.

terized by contestation between open internet advocates, on one side, and governments and corporations, on the other. Each side is pressing for different forms of regulation, with contending ideas on how the monitoring regime should be structured.

Benkler (2006) describes the technical aspects of the infrastructure as comprising three primary layers: the physical layer, the logical layer, and the content layer. The composition of each of these layers is often opaque. The physical layer consists of cables, satellites, wires, etc. as well as connection devices such as computers, cellphones, and tablets. The logical layer encompasses the protocols, software, and applications that enable users to transmit information online. The content layer comprises the information that is produced and exchanged across the system. Each of these layers has associated design, policy and practice considerations with direct impact on human rights, ranging from access, control, transmission, interception, surveillance, and censorship of information and communication. As the digital and the physical world become increasingly intertwined, human rights of all kinds may depend increasingly upon free, secure, and open information and communication infrastructures.

4.1 How Technology Infrastructure May Threaten Human Rights

Governments, at times with direct assistance from the corporate sector, have used the digital infrastructure underpinning the network in ways that directly violate individuals' rights to privacy, free expression, and freedom of association. Frank La Rue, the United Nations Special Rapporteur on the Right to Freedom of Expression, has extensively documented how technology has been used for surveillance and censorship by states around the world, and points to weaknesses in existing national legal standards (United Nations, 2011, 2012, 2013). Recent cases have shown how illegal surveillance undermines not only privacy rights, but has also been used to carry out further violations of human rights in the physical world. A case in China illuminates this point: Shi Tao was a mainland Chinese journalist who, in 2005, was sentenced to 10 years in prison by Chinese authorities for releasing a Communist Party document to an overseas Chinese pro-democracy site. It was subsequently shown that Yahoo! China had facilitated the arrest by providing Shi's personal user details to the Chinese government. According to one interviewee, information on Yahoo! China's secret practices of cooperation with the Chinese government was discovered through unofficial channels, not as a result of direct monitoring of violations of consumer rights. Discovery of similar types of violations may require new types of documentation efforts.

The fast-pace of technology development presents challenges to the creation of standards, practices, and monitoring systems to keep up with the technologies and threats posed by governments, private companies and individual attackers. The dangers are multi-faceted: threats may include mass surveillance and censorship across large populations or entire networks, targeted surveillance focused on individuals, various forms of content filtering, and "leaks" of user information (a threat to which mobile devices are particularly vulnerable).²¹ Interviewees working on these issues stressed the need for citizens to better understand exactly how governments use technology as a means of repression, and all the ways in which companies, whether deliberately or inadvertently, enable and participate in abuse.

There are notable challenges to fully comprehending the complexities and extent of threats to human rights in

²¹See Eckersley (2009) on electronic surveillance. For detailed descriptions of different types of content filtering, see Zittrain and Edelman (2003) and Faris and Villeneuve (2008).

the digital sphere. These challenges include the sheer volume of both content data and transactional traffic data, the fact that data is perpetually in motion and the specificity of the data. For example, the location of a customer's cell phone is business intelligence available for any mobile telecommunications company with an accuracy of 3-50 meters. Commercial service providers routinely collect and store such data to advance their business analytics for advertising and other purposes. Recent surveillance scandals in the United States and the United Kingdom, exposed through leaked documents, investigative journalists, and limited reporting by companies via their own self-motivated transparency reports, have shown how government security agencies operate with far-ranging extrajudicial powers that are not publicly disclosed (Salgado, 2013). This difficulty in identifying where and how abuse is being carried out impedes civil society's ability to know the true nature, modes, and extent of the such abuses.

As the networked digital sphere evolves, the public and human rights defense community learn more about threats to and violations of human rights that exploit its infrastructure. The skills required to identify these threats and to document these harms often span multiple domains, such as computer science, systems architecture, law, human rights law, and corporate governance. For example, in recently documented cyber attacks against Syrian opposition activists, pro-Assad hackers disguised malware to be used for targeted surveillance within a software download of legitimate circumvention software (Scott-Railton and Marquis-Boire, 2013).²² Such cases point to the increasing sophistication of threats to human rights activists and vulnerable populations in repressive contexts, and the challenges to monitor and document abuses in the networked digital sphere. A number of our interviewees highlighted the need for more empirical research to understand these threats and to develop methods to identify, characterize, and report on such abuses.

4.2 A Nascent Movement

The infrastructure of the internet and telecommunications networks involves design choices and implementation decisions by engineers, policy and regulation formulation by governments, and economic and marketing decisions by the business sector. However, for the vast majority of end-users of technology, including public citizens and those in the human rights community, details of this infrastructure are generally hidden. They have only become more visible as particularly insidious practices and abuses of power have been uncovered (as with the revelations of the far-reaching surveillance programs implemented by the U.S. and UK governments). Such cases have resulted in growing tensions between the interests of network service providers, technology companies, governments, and the public. For some observers well-versed in technology, policy and security, the revelations were not surprising, but public exposure of the vulnerability of the networked public sphere led to outrage. The response has been largely reactive, mobilizing civil society to understand and shape the technical and normative aspects of the digital networked space.

This nascent movement involves a diversity of actors, including NGOs advocating for free expression and privacy rights, academic groups and technical institutes studying the evolution of infrastructure and tools in the digital networked sphere, and civil society groups. Such actors seek to identify and document the nature of abuse by governments and the practices of technology corporations. Multi-stakeholder initiatives bring together NGOs, technology groups and investors, as well as traditional human rights groups to coordinate efforts. Outside of focused work by Human

²²Scott-Railton and Marquis-Boire (2013) provide detailed information on the attack, describing techniques such as key-logging, file extraction from the host computer, and remote activation of the webcam to file exfiltration.

Rights Watch, Human Rights First, and a collection of groups seeking to defend rights to free expression, work to identify the nature of abuse, develop monitoring systems, and advocate for enhanced protections has largely been led by academic researchers, digital rights groups, policy think tanks, and internet activists.

Goals and objectives are not yet aligned, and the lack of coordination among the actors hinders advancement. There are also different visions of the types of strategies and tactics the movement should employ. Some actors are committed to multi-stakeholder forums such as the Global Network Initiative (GNI),²³ to encourage information and communications technology companies to learn and align their interests and practices to respect rights and freedoms. Some believe that a more adversarial approach of high-profile naming and shaming companies is more effective. Others invest in bilateral work with the more sympathetic companies, hoping to encourage them to set precedents and examples for the industry.

4.3 Developing Standards

The United Nations Special Rapporteur on the Right to Freedom of Expression has emphasized the overarching principle that all people should enjoy the same human rights online as they do offline, including the freedoms of expression, assembly and association, the freedom of religion or belief, and the right to the protection of the law against arbitrary interference with privacy (United Nations, 2011). But networked technologies present challenges to the interpretations of basic rights and how we apply them, and pose questions about responsibilities to promote and protect those rights.

There are many efforts to develop new principles within the existing human rights framework, to refine existing ones to apply to the digital context, and to extend regulation to new actors, such as those in the private sector. These include developing principles and multi-stakeholder forums to ensure that government and corporate practices align more closely to established human rights norms. In 2011, eighteen governments joined the Freedom Online Coalition (FOC), and in doing so they acknowledged the principles that rights guaranteed offline also must be respected online, and that states have a responsibility to protect fundamental human rights online. They also affirmed a shared commitment to preserve and nurture a free and open, globally interconnected internet (Freedom Online Coalition, 2011).²⁴ The United Nations Guiding Principles on Business and Human Rights and GNI's Guiding Principles also lay out frameworks for corporate responsibility and accountability, targeted at non-state actors. However, recent revelations of widespread surveillance even by founding FOC members, such as the United States and United Kingdom, and corporate complicity have shown that practice still falls short of these declared principles (Wong, 2013).

More recently, a diverse coalition of civil society actors articulated the International Principles on the Application of Human Rights to Communications Surveillance, a framework for understanding the impact of surveillance on human rights, and outlined steps to guarantee transparency and accountability from both states and industry alike (Privacy International et al., 2013). These principles, popularly referred to as the 'necessary and proportionate' prin-

²³The Global Network Initiative (GNI) brings information and communications technology (ICT) companies together with civil society organizations, investors and academics to help the companies navigate the complexities of protecting and advancing rights to privacy and freedom of expression. See: <https://www.globalnetworkinitiative.org/>.

²⁴Since establishment, the FOC has grown to comprise twenty-one governments: Austria, Canada, Costa Rica, Czech Republic, Finland, France, Estonia, Georgia, Germany, Ghana, Ireland, Kenya, Latvia, the Republic of Maldives, Mexico, Mongolia, the Netherlands, Sweden, Tunisia, the United Kingdom, and the United States.

ciples, go beyond the FOC Declaration and the GNI Principles. They lay out an explicit framework for limits and conditions on state surveillance by articulating what constitutes legality (legal limits on free expression and privacy rights must be prescribed by law), legitimate aim (state surveillance must be justified by reference to specific laws and must not discriminate on the basis on race, sex, language, ethnicity, etc.), necessity (a state must prove surveillance is necessary), adequacy, and proportionality. The principles also recognize the need for due process, user notification, transparency, public oversight, and the integrity of communications and systems (for example, compulsory embedding of surveillance or monitoring capabilities into software or hardware is prohibited).

There is widespread civil society support for the “necessary and proportionate” principles. However, notable challenges remain for efforts to ensure governments and corporate actors align their laws, policies, and practices with this detailed framework and with international human rights norms. For example, the government of India’s telecommunications monitoring system (launched in April 2013) appears to be designed and guided by U.S. and UK government practices more than by relevant international human rights norms (Prakash, 2013). A number of our interviewees from the donor community, civil society, and technology sectors suggested that the development of a broader international movement can help to address these challenges. They noted, in particular, the need for more strategic collaborations between civil society actors drawn from the digital rights, mainstream human rights, free media, and good governance sectors. Additionally, they emphasized the need to broaden the base of current FOC members beyond the founding countries, and to diversify corporate actors that are GNI members.

Basic questions about how best to organize this dialogue and associated collaboration efforts remain unanswered. Rebecca MacKinnon’s book describes the contention over appropriate forums for developing and discussing governance and human rights issues in a networked digital world (MacKinnon, 2012).²⁵ There is still much to be worked out to develop standards of practice that are consistent with international human rights norms. It is important to note that much of the current discussion is not framed in human rights terms nor developed by traditional human rights actors. The interpretation and application of fundamental human rights standards to the evolving digital sphere are being negotiated between governments, civil society groups and corporate actors. Hence, there is a strong interest across sectors to collaborate and negotiate. For the human rights movement, advancements require better understanding of potential threats, engagement in multi-sectoral alliances and advocacy, and documentation of human rights violations that are manifest in the networked digital sphere. Much remains to be done to ensure that the standards built to protect human rights offline translate and are relevant in digital space.

²⁵For example, China and many developing countries have pushed for the UN International Telecommunications Union (ITU) to play this important role, given their interest in replicating UN General Assembly voting patterns on these issues and their opposition to the close connection between the Internet Corporation for Assigned Names and Numbers (ICANN) and the U.S. Department of Commerce. Delegates to the UN’s World Summit for the Information Society (WSIS) agreed in 2005 to set up a new consultative forum, the Internet Governance Forum (IGF), as a multi-stakeholder consultative policy process for governments, companies, and NGOs from around the world. Although many civil society actors have noted the usefulness of IGF discussions, this forum does not have the authority to set policy or enact binding decisions. At the most recent IGF conference held in Bali in October, 2013, in light of the the recent Snowden revelations on NSA spying, the government of Brazil took the lead in pushing for a new multilateral framework for developing standards for human rights protections in cyberspace. The Brazilian government plans to host IGF-2014, and Brazilian officials and members of the technical community have made verbal commitments to multi-stakeholder planning, agenda-setting, and implementation of the event, after significant push-back from civil society over the potential for this summit to turn into yet another government-dominated meeting.

4.4 Production of Evidence

As Rebecca MacKinnon put it, “we still need research demonstrating how all these over-arching issues of global internet rights connect with a person tortured in Syria.”²⁶ Across the field, there is a resounding call to develop more robust evidence of abuses taking place in the digital networked sphere as well as how they enable abuses in the physical world. This involves identifying when digital abuse is occurring or has occurred, holding abusers to account, and decreasing the likelihood of future abuse. MacKinnon continued, “the challenge for the human rights movement is to uncover the chain of access and abuse. So we need to map exactly where the mismatches and gaps are in information sources, mismatches in constraining the abuse and visiting consequences on the abusers as a means to prevent further abuse.” Each of these steps requires considerable technical expertise and involves methodological challenges. For example, to identify whether digital abuse is occurring, one needs to look in the right places. However, traditional human rights monitors and investigative journalists remain predominantly structured around the pre-digital world.

A few organizations that combine technical expertise and social interest are emerging as pioneers in this area of work in North America and globally. A number of monitoring and reporting initiatives have emerged, ranging from ad-hoc independent investigations of network traffic and systems, third-party monitoring of corporate practices, and corporate self-reporting about the sharing of user data with government agencies. These initiatives span a range of actors, employ varying methodological approaches, and focus on different aspects of the digital sphere. A number of groups carry out investigative-style reporting of internet filtering and surveillance practices.²⁷ Several projects focus primarily on monitoring information and communication technology companies themselves.²⁸ The GNI has begun to conduct third-party assessments of its corporate members to determine whether the companies have “the systems, policies and procedures in place to support the implementation of the Principles within their organization” (Global Network Initiative, 2008). Companies have also been under recent civil society pressure to enhance transparency relating to information they share with U.S. government authorities. Microsoft, Google, LeaseWeb and Twitter voluntarily publish transparency reports that show the number of worldwide government requests they receive for user information and content takedown, and whether and how they comply.²⁹ The U.S.-based Electronic Frontier Foundation (EFF) has developed a “Transparency Project” that uses the Freedom of Information Act (FOIA) to shine light on U.S. government activities that employ technology for surveillance. The EFF Transparency Project also documents technologies that advance government transparency and monitoring, such as whistle-blowing websites and open government initiatives.

Monitoring and reporting on the compatibility of corporate practices with human rights standards is largely being done by NGOs and academics outside the mainstream international human rights movement. The system of monitor-

²⁶Interview with Rebecca MacKinnon, August 1, 2013.

²⁷These include the Citizen Lab, the Berkman Center, Electronic Frontier Foundation, SocDev Group, and OpenNet Initiative. Their methods include technical reconnaissance, field investigations, data mining, and systems analysis. Academics at Harvard’s Berkman Center have developed systematic studies that evaluate, describe, and summarize the means, mechanisms, and extent of the internet content controls (Faris and Heacock, 2013).

²⁸For example, the Ranking Digital Rights Project (<http://rankingdigitalrights.org>) and the Digital Dangers Project of the Institute for Human Rights and Business (<http://www.ihrb.org/about/programmes/digital-dangers.html>) both evaluate policies and practices of companies with respect to free expression and privacy in the context of international human rights law.

²⁹However, these companies have admitted that those reports do not include FISA requests. FISA refers to the Foreign Intelligence Surveillance Act, a U.S. law that prescribes procedures for the physical and electronic surveillance and collection of “foreign intelligence information” between “foreign powers” and “agents of foreign powers.” This leaves users of these companies’ transparency reports with only partial information about what is happening to their online presence, due to the fact that the companies are only reporting data concerning requests they are allowed to make public, omitting U.S. government requests under FISA and secret National Security Letters.

ing and conducting investigations of rights abuses that transcend the digital and physical world is in its nascency and there has been as yet little development of official institutional structures, particularly at the regional and the international level, to advance independent accountability mechanisms.

Currently, a disproportionate amount of this work is based in North America and Europe; thus, there is scope for a broader geographical base to underpin monitoring and accountability efforts. Some actors have mentioned the potential for traditional human rights groups to think about abuses occurring in the digital world and actively contribute to advancing monitoring and investigations in the digital realm. However the skills required often span multiple domains, that include technology, law, human rights, and corporate governance. Evidence-building and accountability mechanisms have the potential to increase, expand and strengthen human rights in the digital sphere, but require a combination of greatly improved cross-sector collaboration and the integration of qualified bridge figures as well as enhancing the capacity of traditional human rights actors.

4.5 Reframing to Facilitate Collaboration

Although the technological component of the infrastructure is unique to the digital space, and largely excludes those who do not have technical expertise (including some in the traditional human rights community, as well as large parts of the donor community), defending human rights online and offline share some important dynamics. The more traditional human rights community has been working for decades to build an overarching framework of legal standards to promote rights and hold abusers to account in the physical world; similar efforts to build a framework of standards to regulate the digital sphere are growing. As activists around the world have developed a global movement to champion human rights, the digital world is currently undergoing sophisticated if nascent and challenging movement-building. This movement consists of cross-sector alliances that face not only governments as interlocutors, but also powerful companies that own and manage much of the information and communication infrastructure. Although much of the advocacy work in the digital realm is not framed around the language of classical human rights, the logic underpinning the work is tightly tied to the principles of universality and indivisibility of basic human rights norms.

Central to the business of both offline and online human rights defense are the tasks of monitoring and producing evidence of abuses. The production of defensible evidence is a cornerstone of credible advocacy, effective accountability, and comprehensive historical clarification. Monitoring and documentation work in the digital networked sphere is very much in its infancy. It involves both identifying the nature of human rights threats in the digital sphere as well as simultaneously trying to document abuse. On the investigative trail of who did what to whom, it will become increasingly important to integrate tracking, for example, to determine when violations of privacy online have led to abuses in the physical world. There is enormous potential to improve and to share methods and practices around the production of evidence of abuse in both physical and digital space.

Finally, the underlying issues of privacy and freedom of expression are fundamental to digital security. The protection of identities, privacy, and free expression in digital space requires a complex set of investments. Digital security must account for the “data in motion” environment, where data is continuously captured, processed and analyzed in real-time. It will gain strength through privacy-enhancing protections around the tools we use daily to communicate and manage information, but digital security will ultimately depend on strengthening the legal and technical infrastructure of the networked digital space. These opportunities transcend the focus on protections in the physical world

that the traditional human rights movement has championed and the abuses in the networked digital sphere that concern defenders of digital rights, privacy rights, and freedom of expression. Embracing these connections can open up avenues for collaboration and lead to greater advancements in HR-Tech work.

5 Making Human Rights Work More Effective and Secure: Technology as Instruments

Technology can be instrumental to enhance the work of human rights activists and organizations. New technologies such as mobile phones, social media and remote sensing are increasingly used to capture information about abuses. Software and hardware can help long-term data preservation and archiving. Applications for analyzing, visualizing and presenting information enable more compelling empirical evidence. Mass communications technologies are now central to advocacy, mobilization, and knowledge-sharing. Indeed, throughout all aspect of human rights work technologies amplify the efforts and capacities of practitioners.³⁰

Technology makes two particular contributions to human rights: more data and increased participation. While both information and participation are central to successfully advancing human rights objectives, they do not directly lead to success and change: technology does not solve basic information and communication challenges automatically. Technological interactions with social, political and organizational contexts actually require a deepening and broadening of skills in the analog world. Additionally, given that information volumes are much bigger – but not necessarily better or more representative – and that the barriers to enter the information space are becoming lower, technology presents new information and communications challenges, which are discussed below.

Many of our interviewees cautioned that technology is not the most effective entry point to address human rights problems and practices. Eva Galperin stressed, “technology overstates the problems it can solve.”³¹ From the viewpoint of helping human rights organizations with information, Daniel D’Esposito elaborated, “it’s not about the tool – but people love tools, this is the red herring – the fascination with tools is one of the key obstacles. The problem is that too often technology tools are the starting point, instead of a tactic within an integrated solution... [furthermore] we need better understanding of information flows within organizations.”³² Therefore, it is important that technology’s ability to enhance human capacities, rigorous research methodology, organizational practices and effective strategies is not mistaken for positive change with technocratic solutions.

For example, social media offer a powerful tool to help an organization gather information and communicate messages to broad-based audiences. However, to make their case, an organization still needs to ask hard questions about what kind of information is defensible, what are the strengths and biases in the data acquired via social media, and how the organization can triangulate this information with other sources ethically. To achieve their advocacy objectives, they will need to evaluate a tool like Twitter alongside other options that might better suit their goals. While a tool

³⁰In this section of our report, we draw heavily from the theory championed by Kentaro Toyama in the information and communication technologies for development (ICT4D) space, which argues that technology is an “amplifier” of human capacity and intent (Toyama, 2011).

³¹Interview with Eva Galperin, August 20, 2013.

³²Interview with Daniel D’Esposito, November 6, 2013.

like Twitter may enable reaching a broad, global, digitally-connected audience, an NGO may likely also need parallel strategies for mobilization, for handling diplomatic audiences, and for reaching less digitally-proficient actors. By situating technology within strategic human rights questions and within considerations about information and methods, technology takes an enabling and secondary role in supporting human rights actors to more effectively and securely achieve their ends.

This message was emphasized by several of our interviewees, based on lessons they have learned in practice. Janet Haven expressed “disillusionment with mass trainings” on suites of technological tools. These have often failed to result in more than minimal tool adoption and institutional integration. She added, “organizations have often deployed [tools] without a robust org-level theory of change in mind, which can waste both time and resources and lead to confused and disappointing results.”³³ This captures a broader feeling of frustration we often heard over efforts invested in using tools for the sake of the tools themselves.

Many agree that the overemphasis on technology has obscured views of the relationship between goals, data, and methods that are mediated by the technology. Human rights data is often a compilation of selective information made available to organizations, government agencies or, increasingly, via crowd-sourcing and social media tools. However, as one interviewee put it, “Projects like Ushahidi are confusing what tools can do with data with what claims can be made on the basis of the data. [This is a] marketing problem, but also a conceptual problem.”³⁴ Indeed, Ushahidi is one among many useful tools for gathering information and using it strategically. Yet, before choosing a tool, careful evaluation is needed to determine the strategic aim of organizations, the nature and provenance of the data, and the kinds of interpretations one enables when projecting selective and heterogeneous data on a map. The same interviewee added, “The success of Ushahidi was its list-serv, as it strengthened a network,” stressing that the value added is often due more to strong relationships of support, rather than the functionality of a tool.

In this section, our entry point revolves around the information and communications goals of many human rights organizations worldwide.³⁵ Rather than leading with the technology, we provide a framework for thinking through what we call the “human rights data lifecycle.” This approach allows us to unpack the inter-related stages of work many human rights activists are engaged in to produce evidence and effect change and how technology threads throughout. We also discuss actors with diverse fields of expertise and identify some ways to improve cross-sector collaboration to harness technology for human rights efforts. Finally, we discuss how technology functions as an amplifier in tool-building. We pay specific attention to considerations that arise when developing, deploying and adopting technology tools and attempting to integrate these technologies into human rights work practices.

³³Interview with Janet Haven, September 23, 2013.

³⁴Anonymous interview. Ushahidi is a tool used by many NGOs to capture, organize, visualize and share information. See: www.ushahidi.com.

³⁵This section focuses on the use of technology as it relates to information and communication. We do not address the use of technologies such as unmanned aerial vehicles (drones) or fully autonomous weapons (“killer robots”) that have been used in the commission of unlawful violence. The mainstream international human rights community has been active in documentation and advocacy work around the use of such technology in the physical sphere that is inconsistent with established human rights norms.

5.1 Think Objectives and Data Before Thinking Technology

Figure 1 provides an overview of the stages of human rights work (column 1).³⁶ These stages sometimes act as a pipeline, as data gets captured, stored, organized, and analyzed to create knowledge or evidence, which is then deployed for a strategic purpose. At other times, data may circulate across only a subset of the stages iteratively. For each stage, we list its intended objective (column 2), examples of data and methods (column 3), and examples of relevant technologies (column 4).³⁷ Horizontally, the table is meant to show the relationship between human rights work, objectives, information, and the technologies often associated with achieving the goal or handling the data. Vertically, the table is meant to show that raw data capture does not lead directly to analysis and interpretation. Rather, as data passes through each stage, it is mediated by people, methods and technology. Using this structure, we discuss some of the challenges that arise throughout this process.³⁸

³⁶This table draws elements from Ball (1996)'s model for human rights documentation systems and from the Center for Research Libraries (2012) consideration of stages of human rights work and electronic evidence.

³⁷The content of the table should be considered a set of illustrative examples rather than an exhaustive description.

³⁸These stages pertain to human rights practitioners collecting, managing, and analyzing information for strategic communicating about events in the physical world. It is yet to be seen if this data cycle applies in the same manner to the production of evidence about abuses of rights in the digital networked sphere. As we note above, and throughout this study, more research is required on how to monitor abuse in that realm.

Figure 1: Situating Technologies within Human Rights Work Processes, Objectives, Information and Methods

Stages in Human Rights Work	Objective	Examples of Data and Methods	Examples of Useful Technologies
<i>Data collection and monitoring</i>	Observe and capture direct and indirect evidence of human rights events	State documents, victims and witness testimonies and interviews, third-party accounts, survey data, photos and video, press info, forensic data, satellite data, exhumation reports, mined data, found data, social media data	Data capture applications on mobile phones and computers, video, crowdsourcing applications, social media, remote sensing, forensic technologies
<i>Organizing and managing data</i>	Create repositories of information and archives, manage cases, structure data	Principles of data curation, archiving, meta-data, coding and tagging, information retrieval	Local or web-based data repositories, relational databases for highly-structured information, search engines, tagging, scanning
<i>Analysis and interpretation</i>	Draw meanings and conclusions based on available information: <ul style="list-style-type: none"> • qualitative and quantitative analysis • individual stories and sets of data • retrospective and predictive • descriptive and inferential 	Social-scientific empirical methods, verification, aggregation, data visualization, statistical modeling, triangulation, contrasting sources, situating within historical, political and social contexts	Analysis software and programming languages, applications for data transformations and visualizations
<i>Communications and strategic use of evidence</i>	May include: <ul style="list-style-type: none"> • informing mass or specific audiences • advocacy • diplomacy • use of evidence in courts or commissions • calls for mobilization and action 	Journalism, media communications, alerts, reports, presentations.	Reporting via traditional media: websites, blogs, social media sites and other online forums. Email, text messages, video, audio, television
<i>Data security: across all stages of the data lifecycle</i>	Freedom of expression, information, right to privacy, and security of people and information	Legal and normative protections, secure technological infrastructure, privacy enhancing tools, such as encryption	Encryption (SSL, end-to-end on data transmission, local privacy-enhancing technologies) circumvention tools, back-ups, servers, mirroring

This table simplifies the real complexities. For example, a small application may facilitate one task, while other technologies such as the internet and mobile phones can be involved in capturing, preserving, and communicating information. A tool like the ObscuraCam offers security to video data, while a tool like Ushahidi and Martus can help capture, organize, visualize and share information.³⁹ The table is simply meant to show that technologies assist with people and organizations using data and research methods to be more effective and secure as they pursue goals of advocacy, justice, and historical clarification.

5.1.1 Data Collection

The importance of evidence is central to defending human rights. A vivid example is the 1981 El Mozote massacre carried out during the civil war in El Salvador, when the Salvadoran Army killed more than 800 civilians as part of its anti-guerrilla campaign (Danner, 1994). In the face of official denials by U.S. and Salvadoran authorities, it took more than a decade for the world to believe that such a massacre had occurred.⁴⁰ The case underlies the importance of documentation and evidence of human rights abuse by the local and international press, independent observers, NGOs, UN monitoring mechanisms, and civilians. Without such scrutiny, those responsible for human rights abuses can deny the truth and escape justice. Deniability allows for impunity, which undermines human rights norms, the rule of law, and the dignity of victims.

In the area of data collection, technology has been increasingly used to capture information about the nature of human rights issues more efficiently and expansively. Human rights documentation previously had to be compiled primarily via interviews with victims and witnesses, laboriously transcribed on paper forms or into an investigator's notebook. Now interviews may be recorded using digital voice recorders, note-taking software, or survey collection applications on handheld devices such as a smartphone. Technology has lowered other barriers to collecting information (Padania et al., 2011). For example, geospatial technology can capture images even from places where threats of violence or distance makes it hard for observers to operate on the ground (American Association for the Advancement of Science, 2013). Mobile technology and social media facilitate the capacity of citizens to disseminate texts, images, and videos of events. Advances in technology have thus resulted in a shift from an environment where analysts struggled to collect even small amounts of human rights information to an environment where large amounts of data can be quickly and efficiently collected. Thus, the critical challenge today is to manage data effectively so as to make sense of the vast amounts of information.

Data collected via digital means includes the footage or content of the event of interest, and also usually entails “digital footprints” that can make the data more usable. For example, Witness, a NGO that equips human rights workers to use video technology to defend human rights, has been supporting activists to capitalize on the metadata associated with recorded footage.⁴¹ This metadata can help authenticate the data collected by including precise information about the time and date of the recording.⁴² This type of metadata greatly increases the probative value of video footage, as established during the recent conference on the use of digital evidence at the International Criminal Court

³⁹For ObscuraCam, see: <https://guardianproject.info/apps/obscuracam/>. For Ushahidi see: www.ushahidi.com.

⁴⁰See Danner (1994) for more information about the reconstruction of events in El Mozote based on one survivor's account, press reports and forensic evidence. Activists have worked for decades to pursue truth and justice for massacres, torture, arbitrary detention, extralegal assassinations, and forced disappearances such as El Mozote, one of many examples of hidden atrocities carried out in Latin America during the 1960s-80s.

⁴¹For more information on Witness, see: <http://http://www.witness.org/about-us>.

⁴²See: <http://www.witness.org/how-to>.

(ICC).⁴³

Technology provides another layer of mediation that shapes what is observable and helps observers to bring dimensions of the world into better focus. A technology like satellite imagery can help us observe new dimensions of events, such as property destruction. It can facilitate the extraction of additional details about events and sometimes help collect information in more cost-effective ways. However, it cannot solve all challenges associated with monitoring and analysis. For example, mobile phone technology and video may greatly enhance the documentation of police brutality in a public square, but it is less likely to be of help in capturing evidence of violations that occur out of public view such as torture or sexual violence.

“Big data” is receiving an increasing amount of attention throughout the private, governmental and nongovernmental sectors (Manyika et al., 2011). There is an overwhelming feeling amongst technologists that big data can lead to deep insights into the nature and underlying dynamics of complex processes (Mayer-Schönberger and Cukier, 2013).⁴⁴ There has thus been considerable attention and excitement about tools that can acquire large amounts of data, process it and manage it. But as Boyd and Crawford (2011) and others point out, lots of big data does not necessarily lead to comprehensive, valid or reliable insights.

Information flows from citizen activists can create a sense of authenticity, but fortunately there has been growing awareness of the need for data verification. For example, an envisaged tool called People’s Intelligence will attempt to establish a one-on-one dialogue with the sender of data to acquire more information from the source.⁴⁵ Another method is to compare and contrast across multiple sources, a powerful method when multiple data sources are available. However, it is worth noting, as Patrick Ball points out, that “absence of evidence is not evidence of absence.”⁴⁶ An event captured by only one source – or not captured at all – says little about whether it did indeed occur. Yet, even when information is available in massive streams from diverse sources, assessment of their validity and reliability is challenging. It requires evaluation of underlying data (including metadata) across multiple data types as well as an explanation of what the data are (and are not), where they come from, and other information about their context.

Finally, any individual or organization capturing and using information about human rights abuses needs to think carefully about the ethical and security implications of doing so. All data represent people and details about their difficult lived experiences. Data security must therefore form part of any infrastructure or tool used to handle this type of information. This is becoming increasingly challenging, as data is constantly in motion across the data lifecycle, and across the globe. Overall, there is a great need for cross-sector partnerships between human rights organizations and institutions, experts in technology, research and investigative methods, to ensure enhanced and rigorous use of data gathered through digital means for greater human rights impact.

⁴³See Human Rights Center, University of California Berkeley (2014) at: https://www.law.berkeley.edu/files/HRC/Digital_fingerprints_interior_cover2.pdf.

⁴⁴As Boyd and Crawford (2011) have noted, the term big data is imprecise. They describe big data as a phenomenon characterized by three key attributes: technology, analytics and mythology. Technology attempts to maximize computational power and algorithmic accuracy; analytics employs tools to analyze and compare big datasets; and mythology refers to the growing belief that big data is essentially equivalent to accuracy and objective truth.

⁴⁵People’s Intelligence, an idea for a network for reporting human rights abuses, plans to automate the collection of information from hard-to-access areas and to verify it using crowd-sourcing and mobile phones. See: <http://peoples-intelligence.org/>.

⁴⁶Interview with Patrick Ball, August 19, 2013.

5.1.2 Organizing and Preserving Data

Human rights activists and organizations are accustomed to fighting long-term battles. The information they collect may serve as evidence for both contemporary and future opportunities to inform the public or support legal action. Digital or digitized information thus requires preservation. The Historical Archive of the National Police (AHPN) in Guatemala has, for example, engaged in a massive effort to digitize millions of state records to preserve them for researchers and citizens for use in ongoing work to uncover the violence of the past.⁴⁷ The digitization process has helped investigators locate evidence to support criminal prosecutions of perpetrators of kidnappings and disappearances carried out decades ago.⁴⁸ Such projects highlight the importance of long-term preservation of data that will be critical to justice, truth and reparations, which often require information decades after the time of the incident or the collection of the data.

Databases and content management systems are also essential tools to help human rights practitioners store and structure data in ways that facilitate their daily work and core missions. Integration of technology to organize and preserve data is most effective with interdisciplinary collaborations that draw upon information science, archival expertise, subject-matter expertise, and legal reasoning.

5.1.3 Analysis and Interpretation

“We need complementarity between science and technology”⁴⁹

- Susan Wolfenbarger, American Association for the Advancement of Science (AAAS) Geospatial Technologies and Human Rights Project

The forms of analysis used in human rights work continue to evolve. They include qualitative accounts of testimonies and interviews, crime scene investigations, statistical analyses, forensic evaluations, and geospatial satellite data analysis. Data analysis is ultimately an epistemological endeavor that involves an array of methodological choices to connect the available data to human rights findings and assessments. In his book on knowledge infrastructure with respect to climate change, Paul Edwards writes: “knowledge production begins with observations, but those are only raw materials. Transforming them into widely accepted knowledge requires complex activity involving scientific expertise, technological systems, political influence, economic interests, mass media, and cultural reception. Even the question of what counts as a valid observation in the first place requires considerable negotiation” (Edwards, 2010). As with other sources of data about the social world, data relevant to human rights is never self-explanatory. Technology adds substantial power to data manipulation, but knowledge is determined by a combination of specific questions, networks of trust and access, and chosen methodologies. Throughout its lifecycle, data is continuously transformed by added judgements about its validity, by aggregations, by cross verification and comparison with other data sources.

Satellite imagery data, for example, has been heralded as pushing the frontier on what one can observe from out-

⁴⁷The University of Texas, Austin, Benson Library hosts a site that currently includes over 10 million scanned images of documents from Guatemala’s AHPN. This digital archive mirrors and extends the physical archive that remains preserved in Guatemala as an important historical patrimony of the Guatemalan people. See: <https://ahpn.lib.utexas.edu/>.

⁴⁸A recent case involved the conviction in 2013 of Guatemala’s former director of the National Police, retired Col. Héctor Bol de la Cruz, and his subordinate Jorge Alberto Gómez López, for the 1984 disappearance of student and labor leader Edgar Fernando García. See: <http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB440/>.

⁴⁹Interview held with Susan Wolfenbarger, August 5, 2013.

side an inaccessible location.⁵⁰ Digital photographs from space have the potential to corroborate stories on the ground, for example, with land movements suggesting mass graves, deforestation, waste or property destruction (Center for Research Libraries, 2012). However, using such data is quite challenging. Precise metadata is needed to support accurate before-and-after photos of specific locations. Appropriate interpretation of images requires specialized expertise (Marx and Goward, 2013; American Association for the Advancement of Science, 2013). To serve as evidence in a court of law, images must be accompanied by certification, which require negotiation with the data producers, usually government or commercial providers. As Susan Wolfenbarger notes: “using remote sensing data is complex and very methodologically rigorous, but it looks so simple.”⁵¹

There are some positive advances in ways technologies are used to cross-reference “born-digital” data on single events. For example, the Rashomon Project enables editing multiple perspectives from video footage of a single place and time.⁵² This tool was made with the intention of adding credibility to video data of violence when presented in court. The social media news agency, Storyful, combines journalistic investigation and social media data to assemble better information for more accurate reporting.⁵³ There have been some interesting collaborative projects between Witness, YouTube and Storyful to use video around human rights events.⁵⁴

Making sense of massive data in the aggregate, however, remains very difficult. Some analysts have suggested that “big data” collected through text messaging and social media applications (such as Twitter, Foursquare, or Facebook) may help in building a more complete aggregate picture of complex humanitarian emergencies and unfolding human rights situations (Heinzelman and Meier, 2012). There is also a sense that use of technology algorithms to extract data from more traditional sources, such as press accounts or existing human rights reports, can provide additional analytic power for statistical projections. However, as Boyd and Crawford (2011) have noted, enthusiasm around “big data” has been accompanied with a growing tendency to equate large quantities of data with an accurate representation of the world. Yet, simply acquiring large amounts of data does not avoid issues of sampling and modeling assumptions that always must accompany empirical data analysis. The mere quantity of data does not necessarily satisfy methodological requirements needed to make statistical projections or to characterize a complete population, in this case, a population of human rights violations. Work continues on these difficult issues. For example, the Center for Human Rights Science at Carnegie Mellon University, a multidisciplinary academic project, studies how to use and improve the relationship between big data and human rights.⁵⁵

Crawford (2013) offers an example using social media evidence from Hurricane Sandy. She notes that the hidden biases in big data may be at least as severe as those in traditional data formats. Further, differential access to networked digital technologies is constantly changing as networks evolve and new devices are developed. Butler (2013) noted other challenges that arise from changes in behavior and coverage of the networked: They reviewed how Google’s Flu Analytics Unit predicted that 11 percent of the U.S. population would contract flu that winter, but only 5.5 percent did.

⁵⁰See, for example, Amnesty International’s Science and Human Rights Program: <http://www.amnestyusa.org/research/science-for-human-rights>.

⁵¹Interview held with Susan Wolfenbarger, August 5, 2013.

⁵²The Rashomon Project is “an open source toolkit for assembling and analyzing multi-perspective video timelines.” See: <http://rieffer.berkeley.edu/rashomon/>.

⁵³See: <http://storyful.com/>.

⁵⁴See the Human Rights Channel, a joint project involving Witness, Storyful, and YouTube: <http://www.youtube.com/user/humanrights>.

⁵⁵See: <http://http://bit.ly/OIQoIc>.

This was a result of the Unit's misinterpretation of how representative users of Google search data were relative to the broader U.S. population. This points to the challenges of interpreting data collected through networked technologies, and in particular, of understanding how the data collected relates to the nature and context of the phenomenon being studied.

This challenge is not new. Based on testimonial accounts, the UN Historical Clarification Commission (CEH) found that Guatemalan state forces committed "acts of genocide" against the Mayan population during the 1980s (United Nations Commission on Historical Clarification, 1999). Yet, as Davenport and Ball (2002) showed, the way the press covered political violence at the time resulted in virtually no explicit reports attributing killings to the army. This underlines the problems of inferring national-level war mortality based on cases from just one source. Aggregating data from single sources gives a false sense of generalizable power.

While not properly recognized, this is essentially what happens when data from unknown underlying populations is centralized, aggregated, and immediately projected on a map. The visual representation of data via graphical tools involves methodological decisions. Yet as data management software and graphical mapping tools have become more powerful and user-friendly, there is a risk that graphical representation of data becomes routine and implicit. But maps and graphs are not neutral: they necessarily involve a user making connections between what has been documented and what was experienced. At best, data visualization that is not known to be representative of the entire population, including streams of social media data and other "big data," should be interpreted, in the words of Ball, as "existence proofs not pattern proofs."⁵⁶ The large quantity of data made available via new technologies does not solve this problem; rather it exacerbates it. This must be factored in to the conclusions we draw on the basis of the data.

Recent work by the Science and Human Rights Program of AAAS has shown a parallel example: even powerful satellite technology data are affected by cloud cover and by densely built-up environments (American Association for the Advancement of Science, 2013).⁵⁷ This makes the image from a single source hard to interpret; analysts must account for technological blind spots where direct observation is either not possible or is incomplete. With digital networked data, just as with data collected through more traditional means, analysts need to ask "who or what is omitted or hidden?" In this vein, support by groups that bridge technology, data, methodology and substantive human rights issues, such as AAAS and the Human Rights Data Analysis Group (HRDAG) has been essential in supporting the human rights community to avoid potential pitfalls and mistakes associated with data analysis.⁵⁸

In certain situations, commercial-style big data analytics applied to the social world can be appropriate. For example, Human Rights Watch (2011) applied descriptive statistical methods to immigration transfer data obtained from U.S. government agencies via Freedom of Information Act (FOIA) requests. In this analysis, HRW researchers were able to compile a comprehensive registration database of every detainee transfer over an approximate 10-year period. They then used the database to visually map the increasing number of detainee transfers by US immigration authorities, identify frequently-used detention centers, and highlight how problems associated with the distance and frequency of

⁵⁶Interview with Patrick Ball, August 19, 2013.

⁵⁷The American Association for the Advancement of Science is an international non-profit organization with the stated goals of promoting cooperation among young scientists, defending scientific freedoms, encouraging scientific responsibility, and supporting scientific education and science outreach for the betterment of all humanity. See: <http://www.aaas.org/>.

⁵⁸The Human Rights Data Analysis Group is a non-profit, non-partisan organization that applies scientific rigor to the analysis of human rights violations around the world. See: <https://hrdag.org/aboutus/>.

transfers impedes the ability of immigrant detainees to exercise their legal rights. This example exploited the existence of a comprehensive registration system maintained by government authorities and thus circumvented the analytical errors that can occur when a set of observed documented cases are used to make generalizable claims. However, such complete information is rarely available on many human rights phenomena.

In sum, technology tools applied to data do not necessarily lead to objective truth or informed understanding. Evidence-based analysis that engages policy questions is ultimately an interdisciplinary endeavor that will increasingly draw on technology to collect, manage and analyze data in scalable ways, but still requires use of contextualized subject-matter expertise and appropriate scientific method.

5.1.4 Communications and Strategic Use of Evidence

Human rights practitioners use technologies of all sorts for strategic and targeted purposes, including advocacy, calls for mobilization, and movement building. The information and communications technologies in today's networked world have greatly enhanced the possibilities for effective communication. For example, the internet itself has become an important venue for disseminating information, convening global conversations, and enabling the kinds of dissent and discourse that are essential for open societies underpinned by basic human rights principles. One program officer noted how "Rights defenders in the Global South once relied on allies in the U.S. and Europe for international advocacy and communications. Today, technological advances let Global South groups speak for themselves."⁵⁹

Indeed, technology opens up tremendous possibilities for the strategic presentation of information. Websites and online archives offer centralized and expansive repositories for data. For example, Witness and YouTube have created a forum for curating human rights footage from around the world. Another innovative project developed by the New Zealand office of Amnesty International, used data mining tools to create an interactive website to demonstrate to the world that any person can be targeted for abuse in a repressive context based on information they voluntarily reveal about themselves.⁶⁰

However, new technologies like the internet do not necessarily lead people to communication with new interlocutors (Zuckerman, 2013). Instead, internet-based communications tend to facilitate communication among the same people, just through different media and usually more efficiently. To that end, Zuckerman has emphasized the importance of bridging figures – people who act as interpreters between cultures, and who introduce people who look at the world in one way to different global lenses. Groups such as Global Voices have shown the synergies of the internet, as a non-hierarchical, distributed network, together with bridging figures, to make it easier for people to use their own voices to communicate human rights struggles that the mainstream media rarely covers.

A fundamental challenge around using technology is gauging its impact. For example, there is the hope and assumption that technology-enhanced communication will lead to mobilization or action, which in turn creates change. While it is clear that technologies expand the possibilities to reach more people, the extent to which enhanced communication in turn causes change is open to question. Zuckerman has examined the extent to which the internet has

⁵⁹ Anonymous interview.

⁶⁰ Amnesty International, TrialbyTimeline. See: <http://www.trialbytimeline.org.nz/>.

played a role in certain protest movements. His book offers an insightful study of the spread of the protest movements in Tunisia that set off the Arab Spring (Zuckerman, 2013). He explains how, after years of sporadic and failed protests in Tunisia, the act of self-immolation by Mohamed Bouazizi in the city of Sidi Bouzid set off a national protest movement against the dictator Ben Ali after Bouazizi's act of protest was captured on video by a simple camera phone and posted to an Arabic-language social networking site. However, the video did not go "viral" immediately, nor was it directly the cause of uprisings. Rather what spawned a national protest movement was the bridge between social media and mainstream media, when Al Jazeera got the video from nawaat.org and broadcasted it back into Tunisia, making Tunisians aware of what was taking place. Zuckerman and the Global Voices team argue that the important element was the engagement of low-cost participatory media with a larger media system that helped to stir up feelings and spread information within Tunisia. This example underlies the ways in which social media platforms and mainstream media can collaborate to advance public awareness and broaden debate about human rights issues.

Technology is not a self-organizing platform. It does not cause change by itself. However, it is intimately connected with effective use of information, amplifying people's voices, and connecting communities. In her account of the international human rights campaign on Tibet during the 2008 Summer Olympics, Becker (2012) has noted that, when the uprising began and spread from Lhasa to other parts of Tibet "Tibetans on the inside didn't have the technological capacity to get images of either the Tibetan protests or the subsequent Chinese crackdown." As a result, some key opportunities were missed. Despite the mobilization of networks connecting Tibetans to outside human rights campaigners, the latter made incorrect assumptions (perhaps partly fueled by the success of Burma's Saffron revolution in 2007) about the capacity of Tibetans on the ground to carry out basic documentation efforts and share information with the rest of the world. Becker (2012) also recounts how some of the most important successes of the Tibetan human rights campaign involved the melding of traditional human rights campaigning ideas with digital technologies in a way that recognized the Tibetan realities. Traditional campaigning approaches of advocacy network-building, exploiting high-profile media events (connected to the Olympics), and careful contingency planning were matched to powerful newer technologies. For example, social media platforms were used to rapidly scale fundraising efforts; media strategies drew from online video distribution platforms and cultivated partnerships with mainstream media outlets; technical support in navigating past Chinese internet surveillance and censorship was used to ensure the campaign reached a global audience. This experience is consistent with the observation of Tufekci (2012) that the distinction between "new media" and "old media" is unhelpful and that instead a more productive way to engage this area is to appreciate that technology is fueling a "new ecology."

The critical question again relates to the evaluation of impact: does more information, or more compelling information, or even better analysis help mobilize a mass movement, put more dictators in jail, or convince policymakers to reform a law? Of course it is difficult to assess the impact of the technology specifically. As Janet Haven pointed out, we must be careful about "not confusing correlation with causality."⁶¹ What Global Voices, the Tibetan human rights campaign, and the Tunisian case study reveal is the role networked technologies can play in democratizing voices, facilitating more conversations, and connecting communities. There was certainly no shortage of community organizing before the advent of the web. However, these networked technologies can enhance the reach and messaging of communities.

⁶¹Interview with Janet Haven, September 23, 2013.

The Media Cloud project at the Berkman Center for Internet and Society is conducting research using language detection algorithms and data analytics to track the ways in which political and social topics are covered in the news.⁶² This method could be applied to monitor how human rights topics are being discussed online over time, without conflating correlation with causation.

5.1.5 Data Security: Tools for Secure Information and Communications

Human rights defenders, activists, and organizations have serious cause for concern about security, as much human rights work is done in adversarial contexts. People's physical security can be at risk, especially when operating in unsettled environments and repressive countries. Hence, there is a need for people to secure data that contains identities, locations, and personal information. This extends to the people who are using tools for human rights documentation, to victims and witnesses being documented, and even to the families and friends of human rights defenders (Barry and Nainar, 2008). The risk also expands beyond targeted subjects, as online surveillance can uncover almost any individual's location, trace their communications, and divulge the identity of their associates.

Data security is relevant across all the stages of the human rights information lifecycle. In response to data security threats, technologists and the human rights community have been developing and deploying a wide array of digital security tools. This work has come a long way over the last 10-15 years. In the late 1990s and early 2000s, activists relied heavily on PGP (Pretty Good Privacy) encryption to communicate sensitive information securely and on the use of digital signatures to protect their reputations from spoofing attacks. At that time, these tools were enormously difficult for local groups to use and, as such, had low adoption amongst many human rights groups and defenders on the ground who needed such protections the most. Since then, there have been important advances in efforts to develop digital security tools specifically for human rights activists. For example, tools like Martus, ObscuraCam, and Medicapt build security and encryption into specific software applications.⁶³

Training on digital security tools has been offered to activists and groups, but trainings that focus on tools without careful consideration of daily realities, work practices, and capacities of organizations are of limited value. "There is a need for donor support to focus on timeless truths rather [than] transient tools. This involves teaching folks to fish as opposed to giving them fish. That is what meaningful capacity building looks like: teaching them how to think, teach them how to ask smart questions before they use technology, not after they use technology," offered Allen Gunn.⁶⁴ Similarly, Hankey and Clunaigh (2013) warn the human rights community about reliance on sophisticated technology to address digital security threats. By noting that human rights work can only be done as safely as the individual capacity of users to use tools, they argue for a graduated approach to building the capacities of human rights practitioners.

It has proven especially challenging to support human rights practitioners in the adoption of digital security tools. More recently, developers have increasingly focused on functional tools that are themselves wrapped within security tools, such as Martus, which as another interviewee put it, "as computers move increasingly towards tablets and mobile phones, [we] have far less control in terms of privacy and security. So this will bite human rights groups in the butt."

⁶²See Berkman Center for Internet and Society: <https://cyber.law.harvard.edu/research/mediacloud>.

⁶³For Medicapt, see: <http://physiciansforhumanrights.org/medicapt/>.

⁶⁴Interview with Allen Gunn, December 4, 2013.

There are attempts to extend protections given this reality. For example, Martus will offer users anonymity via Tor and integrate the Guardian projects' mobile security features.⁶⁵

Another layer of the problem is that during the information lifecycle of human rights data, data often passes through multiple technology platforms. A practitioner may need to export their data from a secure data capture tool into other software tools for data analysis and data visualization. When data leaves the “encryption zone,” it becomes vulnerable to risks of loss, compromise, and interference. The broad challenge is to provide end-to-end encryption in a user-friendly manner to non-technical users.

A report on “electronic evidence” for human rights, the Center for Research Libraries (2012) notes the important role of digital information in human rights work, but warns of associated costs and risks. “Born-digital” data is in constant motion, and passes through multiple data formats and technologies. Along the way, data precision and detail can be lost. Video data may degrade due to lossy compression (a method of compression that discards some of the data); information may be lost when aggregating data from single cases to patterns. While the use of digital data may enhance preservation of historical information, it also makes that information more vulnerable to surveillance, interception, manipulation, and other forms of interference.

5.2 Tool-building for Human Rights

Enthusiasm to harness the potential of technology has meant increased support over the years for tool development in the service of human rights. Interviewees stressed that this is an area where many lessons have been learned, but the lessons are often not shared with grantees, the donor community, or the human rights community at large. Of the many tools that have been designed, supported and built, only some tools have survived. About those that have not, it remains unclear what went wrong. As Janet Haven noted, “[m]y sense is that organizations are often afraid to report on those results honestly, for fear of alienating their donors, who may have encouraged them to take a tool-oriented approach, or who may simply have been willing to fund something on a leap of faith.”⁶⁶ It is important to rescue some of the lessons from these experiences for the benefit of the donor community as it tries to support technology for more effective and secure human rights work. Some broad themes have surfaced.

5.2.1 An Integrated Approach to Tool-Building

Throughout our conversations with practitioners, the most important theme discussed was that of the strong need to incorporate the views of intended users or user-community members into tool-building processes early on, starting with the innovation stage and tool-design considerations, through testing, implementation, adoption, and user support. This is essential to ensure that new tools are appropriate to the context, intent, and general capacity of users. The stages we outlined above – capture, organization and management, analysis, strategic use or communication, and the fundamental component of security – can serve as a guide to assess where certain tools fit into the work processes of human rights work. This framing can help shift the focus away from a tool-centric approach to an approach that considers the “business practices” and the “end user’s” work flow.⁶⁷ The recently concluded Tech Challenge for Atrocity

⁶⁵For Tor project, see: <https://www.torproject.org/>.

⁶⁶Interview with Janet Haven, September 23, 2013.

⁶⁷This expression was taken from our interview with Allen Gunn, December 4, 2013.

Prevention, co-sponsored by Humanity United and USAID, is a good example of a tool-building agenda that made an explicit effort have technology ideas map to core functional work processes of the human rights community, and to include experienced human rights practitioners in the tool-evaluation panel.⁶⁸ Challenges such as this one can be further enhanced in the future by facilitating a partnership between technologists and human rights practitioners in the development of the ideas and proposals themselves, and by hosting more integrated deliberations that cross the divide among the judges between technologists and human rights practitioners.

As highlighted throughout this study, although security is particularly central to the work of the human rights community, the adoption of security practices and procedures has proved difficult. After decades of experience supporting local NGOs, Patrick Ball notes that, “the only way you get crypto adopted is when people already want to use [a tool].” Therefore, he notes, tool-building needs to be “integrated with real needs of groups, and always be wrapped in security.”⁶⁹ To ensure security, quality, and benefit, tools built for the human rights community should always be subjected to open source standards of careful code review.⁷⁰ Tool developers themselves should also be scrutinized based on their credentials, history of success and failure, and demonstration of achievements.

5.2.2 Effective Collaboration: Challenges and Opportunities

Many interviewees, donors especially, discussed the notable cultural differences between the technology sector and the human rights community. The culture within the technology community is characterized by entrepreneurialism, risk taking, and a sense that “changing the world” is possible through the design and engineering of “disruptive technologies.”⁷¹ In contrast, the human rights community is characterized as a risk-averse culture, organized around norms and institutions designed to develop basic standards and defend rights. Human rights advances have been achieved through hard-fought struggles sustained over decades of activism, rather than through any quick-fix solutions. These differences can create disconnects that affect the processes of technology development, deployment and adoption. The technology community is energized by a sense that the development process may result in a “game-changing tool.” However, in order to build technology in the service of human rights, deployment and adoption must be carried out according to the user needs of human rights actors on the ground.

While there are different approaches to bridging the chasms, there is agreement on the need for experience and expertise that straddles the technology and human rights communities. Sometimes this experience is contained in one person, but more often it requires a collaborative team of individuals or organizations. Some developers have pioneered effective partnerships within the human rights community that can serve as models for future approaches. The organizers of the Tech Challenge for Atrocity Prevention stressed the value of “unicorns” (those rare individuals or organizations that embody all defining bridging characteristics) and the desire to “hold on to them” and “fund them strategically.”⁷² In other cases, capacity-building intermediaries have played an important bridging role between the two communities. For example, Witness and the Guardian Project are strategically partnering to develop video-based

⁶⁸The five categories for submission to the Tech Challenge for Atrocity Prevention were: Enablers, Capture, Model, Communicate, and ‘Alert.’ See: <http://thetechchallenge.org>.

⁶⁹“Crypto” refers to encryption. Interview with Patrick Ball, August 19, 2013.

⁷⁰Code review is systematic examination of computer source code, carried out with the intent of finding mistakes overlooked in the initial development phase, and to improve both the overall quality of the software and developers’ skills.

⁷¹For further characterization of the tech community, see Packer (2013), at: http://www.newyorker.com/reporting/2013/05/27/130527fa_fact_packer?currentPage=all.

⁷²Interviews with Michael Kleinman and Mia Newman, August 20, 2013.

tools such as InformaCam and ObscuraCam that embed critical security protocols into human rights documentation processes. In this case, work by Witness in the human rights field is combined with the technology know-how of the Guardian Project. The partnership dates back to a “hackathon” held in 2010 and has focused on tool development to enhance both the usability of video documentation and the security of those being filmed. Groups such as Tactical Tech, Aspiration and increasingly HURIDOCS are other examples of intermediaries that seek to facilitate technology adoption and integration by human rights groups, not by designing tools themselves, but rather by customizing technology to the needs and environment of specific human rights practitioners.

Better and more frequent partnerships between the technology and human rights communities are essential to employ technology in the service of human rights effectively. Interviewees expressed the hope that donors will play a central role in this process. For example, Christophe Billen, a developer, International Criminal Court (ICC) analyst, and recent winner in the Tech Challenge, stressed the importance of placing more emphasis on users in the next steps for Tech Challenge winners. To move from his initial prototype, to the pilot testing stage, and then to full deployment, Billen hopes donors can support not just funding the tool, but matching tech-challenge winners with different actors in the human rights community. He also emphasized the importance of developers who have engaged in creating tools for human rights purposes to learn from each other. “There is a lot of potential value in donors supporting knowledge-sharing between tech developers for the human rights community by supporting developer workshops and hangouts [web-based meeting spaces] during which developers can share lessons learned, brainstorm problems, and potentially explore opportunities for joint ventures.”⁷³ Indeed, the next iteration of the Tech Challenge will prioritize close collaboration between developers and user communities for successful implementation.

5.2.3 The Role of Innovation

Innovation is healthy and needs space in which to experiment, take risks, and (often) fail early. While technologists are generally comfortable with this reality, human rights donors are understandably wary of this approach given the scarcity of funding and the very real physical risks to grantees in the field. This concern has led to the emerging lab model – providing contained places for testing with the explicit assumption that many endeavors will fail – for the development of human rights tools. The idea at Benetech Labs, for example, is to draw on volunteers and facilitate interdisciplinary collaboration to develop potential high-risk technology ideas that could have high social impact. The lab environment is also geared towards designing and prototyping promising tech ideas. Lab environments can create safe spaces for innovation, where the negative risks can be managed and infeasible ideas or unsuccessful prototypes can be documented to support learning and knowledge building. A number of the people we interviewed welcomed the development of new laboratory spaces and exercises that are committed to documenting lessons learned in a way that is accessible to the broader non-profit community. A few donors expressed an explicit desire that these laboratory spaces not be narrowly limited to prototyping technology tools but also explore innovative technology projects and implementation approaches.

The use of contests is another growing model being used to draw new ideas from highly skilled engineers. Based on our interviews in Silicon Valley, we found that contests are becoming a popular way to engage technologists to contribute ideas and skills to “do good.” It is a way to entice technologists to gather concept notes for possible projects

⁷³Interview with Christophe Billen, November 7, 2013.

and offers rewards as incentives to participate. The Tech Challenge for Atrocity Prevention has been one of the most high-profile contests for the human rights field. We heard a variance of opinions on the efficacy of gathering ideas for human rights work through competitions. Some highlighted the obstacles noted above, pointing out that ideas that result from contests may be less relevant to human rights contexts, and expressing the view that technologists in Silicon Valley simply “don’t know human rights.” With respect to the Tech Challenge, some participants did come from communities such as Physicians for Human Rights and from the International Criminal Court. Others from the human rights practitioner community, however, who considered participating, admitted they were less familiar or comfortable with the contest model and were concerned about intellectual property issues and compensation. The divide between technologist and human rights specialists was evident in some of the submissions. While the panel of judges came from both technology and human rights sectors, there was a sense that the contest would have benefited if they had shared more and engaged in more integrated interaction across the divide between the two sectors.

In the words of Human Rights Program Director and Senior Product Manager at Benetech, Anna Berns, the key to transforming a good idea to a sustainable tool is to start small and iteratively scale the product, in terms of performance and sustainability. Berns suggested that to “build a prototype and get feedback – the process is very iterative.”⁷⁴ In sum, it is important to start small, engage users, and when scaled, to do so with the understanding that keeping a tool alive and in use is a long-term undertaking.

The enthusiasm around new technology has led to an influx of new technology development projects for human rights. However, the flood of new tools may reach the point of diminishing returns for the human rights field. One interviewee pointed to “disoriented funding of new apps, rather than improvements and usage.” Instead, the most effective approach to create useful tools may come from rescuing or improving existing tools. In this regard, another interviewee, Eva Galperin, recommended developers and donors look first to the “island of abandoned tools” and use that code as the starting point of new projects.⁷⁵ This would also encourage building on open source software, which fuels collaboration and progress within the developers’ community.

5.2.4 A Long-Term Investment

Funding in technology is a long-term undertaking. Once a project moves from an innovative idea to tool development, there are several key priorities to consider. For one, tool-building always requires performance testing and plans for maintenance and sustainability. Daniel D’Esposito added, “Wherever you have technology you have maintenance. It’s like a car, you don’t need a full time mechanic but you do need to know a good garage to take care of your car on a periodic basis, and whom you can call if you have an emergency. You need a good support relationship to outsource the geeky stuff. [However] the NGOs have all had their scares and are willing to fundraise for that now.” Further, to support users in the international human rights community with varying levels of technical capacity, effective tools will likely require good multi-lingual documentation, which must be updated regularly along with the technology itself.

Beyond building tools, investing in technology entails foreseeing and planning for deployment and effective adoption. Adoption may require building the capacity of users and ongoing user support, especially when considering

⁷⁴Interview with Anna Berns, August 21, 2013.

⁷⁵Interview with Eva Galperin, August 20, 2013.

that the goal is not to make the tool itself, but to make human rights actors safer and more effective over time. The implication, as Sam Gregory at Witness puts it, is that donors must “provide long-term support for partnerships and adjust monitoring and evaluation frameworks for a longer-term and collaborative approach. The world is not short on hackathons - what we really need is follow-through on supportive infrastructure and environment.”⁷⁶ Partnerships for tool adoption can take many forms, including tech visionaries or tech experts inside organizations, or working with appropriate intermediaries as described above.

In the past, donors have supported mass trainings around technology, with the hope that human rights organizations would in the process find tools to improve their work. Large-scale training for use of security tools were particularly popular. However, many who participated in the mass trainings agree that, for the most part, they were ineffective. Now, there is a general call for a greater focus and careful thinking on the capacity-building approach, and for greater accountability of those who are engaging in capacity-building efforts. Both the interventions and the beneficiaries should be evaluated in cases where tool adoption is ineffective. For success, beneficiaries need greater control and must be empowered to hold the tool suppliers to account for the successful or unsuccessful implementation of those tools.

Rick James has suggested that: “Capacity building requires long time horizons and engaging in the messy realities of change.”⁷⁷ Technology inevitably transforms the environment in which it is introduced. Technologists stand to benefit from transferring their expertise into an empowered dialogue that is framed around impact. “The policy point here is that a technology intervention is always a process of organizational change.”⁷⁸ In that sense, tool building, support, and sustainability need to be recognized as particular facets of organizational change, ones that require deliberate process of integration within mission goals and organizational strategy.

6 Digital Security in the HR-Tech Landscape: A Gateway Between Infrastructure and Instruments

The core rights and freedoms that are of concern in the digital sphere – freedom of expression and the right to privacy – are fundamentally dependent on technology. This is true both in terms of robust and secure infrastructure and in terms of layers of security around the tools people use to enhance their own control over the privacy of their information and communications. Therefore, digital security is an area highly relevant to both categories of work – infrastructure and instruments – we have identified in the HR-Tech landscape.

Above we discussed digital security tools used by human rights organizations and activists, designed specifically to incorporate robust security for the human rights community. However the bulk of human rights documentation uses general purpose tools such as web browsers, email clients, text messaging, instant messages, cloud storage facilities, word processors, spreadsheets, VoIP calls, and social media. To operate in an environment that respects rights to privacy, there is therefore a need to incorporate security and encryption features into general purpose platforms used

⁷⁶Interview with Sam Gregory, July 24, 2013.

⁷⁷See: <http://www.intrac.org/blog.php/50/calling-our-bluff-on-capacity-building>.

⁷⁸Interview with Daniel D’Esposito on 6 November, 2013.

by all. Jim Fruchterman of Benetech stresses the need to concentrate on securing high-value targets, “not just tools like Martus, but tools everyone uses, like Facebook, email, etc.”⁷⁹ As mobile phones increasingly become the channel through which people access the internet, there is a need for research on how to make mobile phone infrastructure and use more secure. This involves not only technology, but the broader standards development, advocacy and monitoring discussed above under “Infrastructure” (Section 4).

Ethan Zuckerman has argued that activists’ use of common tools makes them more secure from reprisal by governments than if they were using a dedicated activism platform.⁸⁰ Zuckerman’s “cute cat” theory of digital activism is based on the premise that shutting down a popular public platform provokes a larger public outcry than shutting down an obscure one. While this may be the case for distributed denial-of-service attacks (attempts to make machine or network resources unavailable to its intended users), popular platforms such as social networking sites do not offer a security solution to the range of data management, analysis, and dissemination needs of the human rights community.

Acquisti et al. (2011) highlight the added complexity to the security threat, as they demonstrate the relative ease of combining publicly available Web 2.0 data with off-the-shelf face recognition software for the purpose of large-scale, automated re-identification of individuals. Their experiments showed that the combination of face recognition, data-mining algorithms, and statistical re-identification techniques can facilitate highly accurate inference of personal or sensitive information about individuals from information that can easily be retrieved from the public (digital) domain. Their work raises serious privacy concerns arising from the convergence of different technologies and the broad availability of data on individuals in the digitally networked sphere. Moreover, new work by Kim et al. (2011) points to real possibilities whereby wireless patches can collect information on biometrics and spatiotemporal movement of individuals. Examining human mobility data from cellphones carried by 1.5 million individuals, de Montjoye et al. (2013) found that “in a dataset where the location of an individual is specified hourly, and with a spatial resolution equal to that given by [a] carrier’s antennas, *four* spatiotemporal points are enough to uniquely identify 95 percent of the individuals.” This recent research raises serious questions about the efficacy of self-regulation and opt-in mechanisms in protecting privacy rights. The potential of new technologies and digital footprints poses notable challenges for the development of robust protections and defense of privacy rights.

Tavani and Moor (2001) get at the heart of relying on “privacy enhancing technologies” of all sorts for privacy protections. Individual controls are limited in the level of protection they can provide, given the nature of threats to privacy in a networked world. In their words, “[w]e control so little.” Individuals and institutions will not have control over how their information travels across networks. Nonetheless, Tavani and Moor argue, in agreement with many privacy rights groups, that we should not lose our privacy simply because we do not have control. Therefore, use of digital security tools is prudent but not sufficient protection. Tool refinement and capacity building are important measures to enhance individual controls. Ultimately, however, the security challenges that arise from a world where data is constantly in motion across diffuse, distributed networks points to the dependence on a strong set of norms and accountability mechanisms to protect basic rights in the networked digital sphere.

Organizations working to protect digital rights emphasize the need for advocacy at the industry level to protect

⁷⁹Interview with Jim Fruchterman, August 21, 2013.

⁸⁰See Zuckerman’s discussion of his Cute Cat Theory of Digital Activism: <http://bit.ly/1hSDWhN>

basic rights, not just to improve applications. Organizations such as the Electronic Frontier Foundation advocate for better company practices of protecting rights, to help educate and encourage them not to acquiesce to unlawful governments requests. The hope is that working with sympathetic companies will set a standard, and lead towards the “rising tide lifting all boats” to establish more robust privacy norms.

Finally, it is worth noting that in this overlapping space, human rights advocates who have worked with technology and have prioritized digital security are well-aware of the risks and intersecting needs across the infrastructure and instruments categories of work. For example, as Witness increasingly recognizes the security risks in using video in human rights advocacy, they have expanded their work significantly to work with companies at both the political and technical level. They have engaged in targeted advocacy and partnership with YouTube to offer users tools that allow for anonymity via face-blurring options on uploaded videos. Likewise, digital security experts with experience serving groups in repressive contexts can likely bridge across the infrastructure and instrumentality components of the HR-Tech landscape. Many such actors see themselves as activists concerned with protecting core rights online and understand the technical nature of the challenges and threats. A search for experts with deep technological knowledge about digital security and experience working in contexts of human rights abuses will likely lead to sophisticated bridge figures and intermediaries to enhance collaboration across the spectrum of HR-Tech work.

7 Maximizing Donor Impact on the Human Rights and Technology Landscape

7.1 A Brief Description of Individual Donor Funding

The omnipresent nature of the digital sphere, where technology permeates all areas, is having a transformative effect on philanthropy. In their grantmaking, the donors who commissioned this study increasingly work to harness technology to serve humanity and to limit the misuse of science and technology in ways that threaten the public interest. We spoke with program officers whose work encompasses both the “infrastructure” and “instruments” categories of work. For some donors, these two areas are intricately connected in their vision, strategy, and funding. For others, HR-Tech programming is primarily divided among various program areas within each foundation.

Donors have different entry points and focal points within the landscape that includes both human rights and technology. The **John D. and Catherine T. MacArthur Foundation**, for example, has supported work in the field through its Human Rights and International Justice program for over a decade. This program is structured around a framework of human rights accountability (in both a judicial and political sense) that acknowledges the need for sustained support to strengthen justice processes. Early on, MacArthur saw technology as a mechanism that could be used to level the playing field between the human rights community and powerful adversaries. The primary concern in this area has been to support the development of knowledge about human rights threats and the violations that have taken place. Since 2000, the Foundation has made investments that tie technology closely with data-based research. Recently, digital-world priorities have featured front and center on its agenda; thus, its current portfolio spans the dimensions of the “infrastructure” and “instruments” categories via two substantive core aspects of human rights: freedom of expression and criminal justice.

The philosophy and strategies of the **Open Society Foundations** (OSF) are similarly grounded in the understanding that strong information and communication technology enhances and amplifies effective institutions and their advocacy outcomes. OSF's grantmaking approaches human rights and technology related work from multiple programs areas, including the International Justice Program at the Justice Initiative, Media Freedom, Public Health, and the U.S.-focused Democracy Fund. The Foundations' Information Program serves as an institution-wide and general community resource that facilitates the strategic use of information to enhance open societies. Program officers from OSF's thematic and regionally-focused work are making investments in both the broad "infrastructure" category as well as development and use of technology "instruments." Insights and lessons from these investments are spread across the various programs. A HR-Tech priority common to these efforts is to support institutional strengthening and develop more effective integration of technology for strategic use by human rights defenders.

At the **Ford Foundation**, grantmaking in HR-Tech is divided among program areas, including the Strengthening Human Rights Worldwide, Internet Rights (formerly within the Media Access program), and Promoting Reproductive Rights. However, currently there are concerted efforts to work across divides between program areas to harness synergies and lessons. Those involved in the program areas at Ford that we engaged see opportunities for increased focus and potential collaboration in the areas of safe, responsible and strategic use of technology for human rights purposes; governance strengthening, to ensure that human rights defenders and groups can use digital networked spaces safely; and strategic conversations and knowledge-sharing between actors who have shaped the international human rights system and those currently seeking to shape internet governance debates.

Humanity United (HU) is currently discussing the possibility of adding a technology focus to its grantmaking around atrocity prevention. Beginning in 2012, the foundation partnered with USAID in hosting the Tech Challenge for Atrocity Prevention (discussed above) to stimulate new ideas from Silicon Valley's technology sector to help advance atrocity prevention. They have plans to host a similar challenge to address human trafficking. HU is working with USAID to help Tech Challenge winners move through the process, from creating the idea and prototype through design, testing, customization, implementation, and integration.

The **Oak Foundation's** work at the intersection of human rights and technology has been geared towards supporting the human rights community to use new, general-use technologies safely and responsibly and supporting centers of excellence to adopt specialist technologies that underpin evidence-based claims in human rights debates. The Foundation has focused its efforts on four core areas: video documentation, geospatial technologies, classical documentation of human rights violations, and statistical analysis of human rights violations. Oak's work in this area is part of its general program efforts to build the capacity of the international human rights movement.

7.2 Donor Challenges

7.2.1 Challenges in HR-Tech Funding

Developing a Systems-Level Approach

The divides described in this study that separate difference levels of technological capacities and language fluency, different domains of expertise and interest, and dissonance in framing, are challenges that funders also encounter across the range of program support for HR-Tech work. A diversity of approaches exist between programs that frame the issue as it relates to human rights, media access, rule of law, privacy freedoms, internet rights, freedom of expression, and democratic governance. While these varying approaches offer important opportunities for collaboration across sectors, the differences present pressing challenges for aligning goals and objectives and coordinating effectively among actors. Finding a common framework to approach HR-Tech work is a first step towards overcoming obstacles.

The diversity of approaches is natural given that human rights and technology together has not yet been defined as its own field of work. Rather, it encompasses an intersection of varying agendas, interests, expertise, and instruments. Thus, the ways in which the work overlaps have not yet been explicitly defined and every foundation and programmatic area engages in a variety of approaches from differing entry points. Forming a common approach across program areas has also been difficult given the reluctance of donors to fund technology aspects of human rights projects where they lack familiarity with the technical issues. Those involved in grantmaking interviewed for this study emphasize that a systems-level approach to supporting HR-Tech work has been missing and have commissioned studies such as this one to construct a better vision for effective funding in this area. The map of the technology and human rights landscape set forth in this study is intended to highlight the overlaps that exist, and lead to improved collaboration across the divisions between areas of concentration.

A Divided Landscape

As discussed throughout this study, human rights actors often lack technological expertise. At the same time, experts in digital rights, media and communication, and technology often lack appreciation of fundamental human rights issues. This reality creates the imperative to take a critical look at ways to improve interdisciplinary collaboration to promote the advancement of human rights more effectively.

The pervasive nature of technology has generated a sense that philanthropic work needs more permanent resources with technological sophistication. Such resources include not only instruments, but more importantly human knowledge and capacity that can help facilitate a better understanding of technological infrastructure, its transactions, and its relationship with society. Funders have increasingly acknowledged the need to seek support from visionaries who understand technology and the related policies and regulations associated with it, either through the foundation's own programs or by establishing long-term strategic partnerships with outside actors. While outside consultancies are common, they have been carried out mostly on an ad-hoc basis, but this is less effective for achieving long-term goals. These personnel and partnerships ideally involve those whose experience and sensitivity to user contexts can help human rights funders navigate past technology that only appears useful on the surface to the instruments that are most effective for long-term strategic purposes.

Projects in HR-Tech face challenges that are often nebulous and require diligent assessments involving multiple sectors. Addressing these challenges requires technical expertise from those who know the policies and regulations, the principles of design and intended uses. At the same time, they must have the capacity to review technical concepts

and code, and to assess associated risks with adopting technology instruments. These qualities are rarely embodied in single individuals, and usually require actors with a variety of backgrounds and expertise. Dan Meredith described this fundamental challenge: “It continues to be tough for funders to find translators who can hang out in the middle space who can build bridges between different communities and connect different parts of the community together. This is happening, but very slowly. There is an important role here for funders to support and sustain these connectors, as this is a strategic approach to effectively making use of current skills base in the field.”⁸¹

An Expanded Human Rights Domain

The gap in technological expertise causes notable rifts and tensions within foundations over fear that the technology creeping into all areas extends beyond the comfort zone of some program officers. In some sense, this discomfort is justified. While technology does increasingly affect human rights work at the infrastructure level, and is integral to providing tools for rights defenders, it should not displace previous funding priorities. Technology is a phenomenon that is broadening the landscape as well as the capacity for new threats. These threats, however, are extensions of familiar threats, such as those stemming from government and corporate abuse. Funding should not be diverted by a sense of technological urgency and concerns away from old but continuing threats.

In order to fund programs in this area more effectively, it is essential to move beyond the superficial dichotomy between the physical and virtual worlds, which are no longer separated by defined boundaries. This entails better understanding of the long-term applications of human rights and technology funding, both with respect to movement-building, development of standards, creating better monitoring mechanisms, and producing evidence to defend rights and freedoms online, as well as supporting effective and secure development and use of technology in the human rights community. This endeavor does not mean that all human rights funding programs have, or should have, the capacity to cover every aspect of this reality at once; rather it signifies a broad scope for improvement in alliances and collaboration across multiple sectors.

Narrow Approaches to Technology

The tendency to oversimplify the technology landscape by characterizing the rapid pace of change as leading simultaneously to new opportunities and new dangers requires some caution. The sometimes-narrow “potential vs. threat” framing has led to some reactive grantmaking. Likewise, the desire to experiment and the lure of innovation has led to funders to pursue new tools that have only the appearance of bringing transformative change. Placing technology at the core, as opposed to considering it an amplifier, has led to a misperception of the influence of technology and its relationship with data and methods. It has also led to technology tools that are distanced from core human rights objectives, and disconnected from the capacity, intentions, and broader context of grantees at the individual and organization level. As one interview put it, “the world is not short on ideas, it’s short on long-term change and collaborative spaces.”

The most tech-savvy of our interviewees stressed the importance of managing expectations around technology, and acting with caution to not oversell technology as a solution. Allen Gunn at Aspiration emphasized that effective and sustainable use of technology in the human rights field involves “shifting from a tech or tool-centric approach to fram-

⁸¹ Interview with Dan Meredith, November 5, 2013.

ing collaborations around social justice value and [human rights] strategy.”⁸² Technology-centric approaches have a tendency to privilege the position of, and contributions by, the technology community. They also tend to focus interactions around technology issues that are constantly and rapidly changing. Such technology-centric approaches tend to marginalize critical focus on the importance of information and data, and the work process of human rights institutions.

Donors can play an important role by shaping realistic expectations around the potential of technology through creating incentives for the sharing of lessons learned from both failed and successful tool implementation among many actors. The broadening and deepening of the field’s knowledge and practice base can be engineered into a collaborative process for effective technology development, deployment, and adoption for human rights advancements.

7.2.2 Structural Challenges Acutely Impacting HR-Tech Funding

Those interviewed for this study on both the funding and grantee side noted structural challenges within and outside of foundations that have stifled opportunities for advancement. The structural barriers will require long-term approaches and changes in thinking to take full advantage of prospects for progressive improvements in human rights and technology work.

Project-Specific Funding on Short-Term Funding Cycles

Due in part to restrictive framing of technology threats and opportunities, project funding has often been narrowly focused to respond to urgent needs instead of plotting for strategic longer-term advancements. Programs must begin to embrace a broader vision that encompasses a system-level assessment when funding HR-Tech projects. A constructive theory of change that takes into account all aspects of the landscape is missing. Thus, funding must involve the iterative process and longer-term considerations that are integral to movement building, alliance formation, user-centered design and technology adoption.

Narrow Evaluation and Limited Lessons Learned

Development of effective monitoring and evaluation processes has been a challenge to all philanthropic and technology development projects. Foundations have worked diligently and invested large amounts of resources to strengthen their monitoring and evaluation capacity through the use of advanced qualitative and quantitative research methods.⁸³ Nonetheless, monitoring and evaluation around HR-Tech funding is underdeveloped, limiting progress in programming in this area.

The problem is multifaceted. One primary challenge stems from the fact that required reporting for specific grants is often the primary source of information to evaluate achievements of program goals. This type of reporting tends to include data on the accomplishments of stated project-specific objectives. While this information is helpful at the micro level of individual grant management, it is less useful for developing and implementing larger theories of

⁸²Interview with Allen Gunn, December 4, 2013.

⁸³For example, the grantmaking organization, HIVOS, has developed monitoring and evaluation methods to measure the results of their programs. They also support different ways to gain insights from projects, such as joint efforts by organizations to develop recommendations on technology and transparency initiatives. See: <http://www.hivos.org/role/knowledge?snid=15031>.

change. This is even more notable in programs that fund projects at the field level that encompass multiple areas, such as human rights, governance and freedom of expression. It is difficult to translate reporting at the grantee level into information with explanatory power that can provide lessons learned for advancement. Moreover, there is little incentive for grantees with limited resources and timeframes to openly report setbacks or failures and conduct the type of self-evaluation necessary to benefit the human rights community at large.

In order to extract lessons from past successes and failures, there is a pressing need for meta-analysis at a program or systems level. The challenge is for donors to gather the information necessary to determine the overall value of investments, not merely to determine whether the grantee achieved its stated goals. This requires qualitative monitoring and evaluation to assess where investments fit into broader theories of change, system-level visions, priorities, and larger funding goals.

This has been a particularly acute challenge to donors funding HR-Tech work, given that the entire enterprise is in the early stages of envisioning goals and objectives under a unified framework. Additionally, it is difficult to determine the precise role that technology plays, given the myriad of confounding factors that obscure attempts to measure its outputs. Assessments that focus on technology tend to explain little, and are not the most effective starting points from which to measure the impact of particular funding interventions in the larger analysis of program goals.

Some donors have supported specific projects around the intersection of human rights and technology for over a decade. Program officers agree that there has been substantial learning through experiences in program areas and individual programs over the years. It is encouraging that some of these lessons have been documented and considered when shaping programmatic decision-making. Many lessons, as discussed in this study, essentially caution against tool-centric approaches that present technology as a solution and fail to consider the relationship between technology and strategies, work processes, and data strengths and limitations. In the past, such tool-centric approaches have led to low adoption rates of tools in the field, and misperceptions over how data produced by the technology can contribute to effective human rights work. These misconceptions remain a particular challenge given the increased enthusiasm around technology advances.

There is general agreement that prior lessons and new ones could be better examined and interpreted, so that past experiences can provide much needed guidance for future funding. Some basic questions about past experiences remain unanswered, such as: What do successful cross-sector partnerships look like across technical divides, and what are the factors that determine successes and failures? When is it effective to seek guidance from outside actors, such as experts in technology or data science, and under what conditions has it not been effective? What are the characteristics and formats that have been used for successful or unsuccessful multistakeholder meetings in the overlapping areas of human rights and technology? What are the defining characteristics that affect the outcomes of institutional and individual capacity-building efforts in HR-Tech work?

These unanswered questions emphasize the need to change the way reporting is conducted and information is shared, and to transform thinking by engaging in dialogues, carrying out evaluations, and generating knowledge that can translate into action and regular practice.

Limited Sharing of Visions and Experiences

The lack of extensive sharing of knowledge and lessons from past experiences between and within foundations remains a hindrance to more effective and efficient funding for HR-Tech work. There is a general call from program officers to enhance the sharing of visions, strategies, and funding for specific projects, as well as lessons learned to maximize funding outputs and ensure against duplicating efforts.

While short-term and reactive funding has led to both successful and unsuccessful initiatives, the paucity of sharing of lessons gleaned from these initiatives has stymied opportunities to build a stronger knowledge base for future practices. There is also a lack of consensus around donor coordination; some in the donor community welcome shared funding and multilateral exchanges of ideas. Others resist taking on too much overhead associated with coordination, although agreeing on the need for greater transparency and availability of public-goods material to promote peer learning and knowledge-sharing across foundations.

The lack of information sharing and effective dialogue between government and private donors is particularly acute when it comes to HR-Tech related programming. Private donors have a strategic role to play in terms of advancing work that governments are unable to support, or where grantees are unwilling to accept government funding. As a result, private foundations could benefit from a stronger comprehension of government HR-Tech funding in order to better address the challenges and opportunities and to support initiatives that complement government-sponsored programs. Better information sharing and regular dialogues, in particular, have the potential to aid the bridging of public/private divides.

7.3 Examples of Positive Practice

Despite the challenges that donors face, there have been a number of important initiatives. Actors in the field highlight initiatives ranging from internal institutional initiatives by individual donors, to donor networking activities, and the production of community resources.

Program officers emphasized the usefulness of internal initiatives within foundations designed to bring together skills, ideas, expertise, and perspectives from different programs, regional, and operational areas to think about technology challenges and opportunities. At the MacArthur Foundation, this type of initiative was carried out for a period through an internal technology working group. At the Open Society Foundations, the Information Program serves this function. This unit actively advises other programs about the strategic use of technology and information and engages in joint grantmaking exercises with other OSF programs. These internal initiatives are seen by a number of grantmaking professionals as playing a critical role in navigating the cross-cutting nature of information and technology while also ensuring program synergy.

A number of donors also noted the importance of professional networking exercises that facilitate coordination between human rights professionals, donors, and technologists. Although a number of important donor networking initiatives have developed over the years, the donors we spoke to indicated that these initiatives have tended to focus on a specific program area or domain of expertise (e.g., the International Human Rights Funders Group). While such

a focus is of course useful, such networking initiatives do not foster cross-program connections and learning opportunities. In contrast, the annual RightsCon event organized by Access, an organization mobilizing for global digital freedom, was noted as an important new forum for networking and collaborative learning for professionals working at the intersection of human rights and technology.⁸⁴

Production of community resources has also helped keep donors, practitioners and developers abreast of emerging developments in the field. One such example is the OSF Information Program's news digests that update practitioners about news, opinions, and events in the human rights and technology space, and also reviews recent policy and scholarly writings on substantive HR-Tech issues. A number of our interviewees also highlighted donor-led initiatives that document lessons learned and share know-how in HR-Tech grantmaking, such as recent work by the Open Technology Fund (OTF) in sharing its relevant experiences and lessons learned. As a result of such initiatives, OTF has produced and publicly released white papers that document the Fund's experience with its technical review panels, produced manuals on how to undertake digital security audits, and developed monitoring and evaluation metrics for HR-Tech grantmaking. A number of technologists, donors, and human rights practitioners endorsed these practices as important examples of the adaptation and translation of open source technology principles to the field of philanthropy.

7.4 Grantee Expectations

Current and potential grantees involved in human rights and technology work outlined three critical areas where they would like to see increased leadership by donors: first, in the style of engagement by donors with grantees; second, through improved communication and coordination between donors; and third, via active bridge building to push past traditional demarcation lines in philanthropy, academia, and non-profit management.

A number of practitioners in the HR-Tech space noted that many foundations have long been important resources for NGOs in the areas of corporate governance, communications, fiscal management, and strategic planning. Such institutional capacity building has come to be seen as a core function of professional philanthropy. Practitioners in the field outlined hopes and expectations that donors will adopt similar approaches in how they engage the HR-Tech landscape, by organizing donor-supported initiatives around a broad and integrated program of change management, knowledge sharing, and skills acquisition that seeks to develop deeper expertise across the grantee landscape in the area of technology. The HR-Tech space has, at times, been structurally "siloed" and constrained due to breakdowns in communication and missed connections across the divides between cultures, languages, and program areas. Practitioners noted that an integrated approach by donors is essential to approach technology not as an entry point or subject of grantmaking, but rather as critically important connective tissue both at the infrastructure and at the tactical level.

7.5 Recommendations To Donors

This study is an initial effort to capture the principles of the human rights and technology landscape, and to identify challenges, overlapping areas of work, and opportunities for advancement. As such, it presents a systems-level map to help donors define and delimit the landscape and its internal cleavages, and to serve as a guide to navigate and strategize accordingly. It should be noted, however, that this study does not provide specific prescriptions for charting this course. Rather, it identifies donors within the environment as critically important and highly influential actors in

⁸⁴See Access: <https://www.accessnow.org/>. For RightsCon, see: <https://www.rightscon.org/>.

shaping the future of HR-Tech work. The manner in which they are structured and operate shapes the world around us, and their visions and investments enable the work of human rights defenders to continue. There is potential for donors to expand on this capacity to act more directly as creators of knowledge, and to shape policy and guidelines for practice based on their own experiences in the field, not just via their grantees and investments. Donors have the capacity to shift from serving as gatekeepers of funding, to actively embracing a role as actors at the forefront of HR-Tech work.

Based on interviews with donors and a diverse range of practitioners, we identified the following areas as requiring improvement to overcome pressing challenges and advance human rights and technology work more effectively:

Recommendations:

- **ENGAGE IN A SYSTEMS-LEVEL APPROACH TO PROGRAMMING.** Visions of change at the systems level should incorporate long-term strategic goals that promote the protection of rights in an increasingly digital world and aim to harness technology that can amplify more effective and secure human rights work. Visions of change can be continually refined through more informative evaluations of investments and can help in efforts to overcome the limitations of project-specific, short-term funding cycles. Multilateral as well as foundation-specific conversations can contribute significantly to this development. These visions and strategies should be shared with peers in philanthropy as well as with grantees in the field.
- **EXPAND PREVIOUS HUMAN RIGHTS PRIORITIES TO INCLUDE THE DIGITAL WORLD.** Donors should approach the expanded landscape that technology brings to human rights work as an extension of opportunities, while not displacing previous priorities. New challenges should be recognized as an expansion of prior ones and “urgent threats” that technology can induce should not lead to shifting priorities away from prior existing threats.
- **REFRAME APPROACHES TO HR-TECH TO EMPHASIZE COMMONALITIES ACROSS SPHERES OF WORK.** Drawing lessons from the decades-long human rights movement and incorporating existing norms and standards into the infrastructure realm of work can help bridge the divide between digital rights advocates and traditional human rights defenders. This can enhance collaboration between the various branches of the global human rights movements, cement alliances, and centralize coordination on critical efforts such as production of evidence and strategic communication in advocacy campaigns.
- **CONDUCT REFLECTIVE STUDIES BASED ON PAST EXPERIENCE AND IMPROVE DONOR AND GRANTEE LEARNING PROCESSES.** There are important lessons that can be learned by examining past experiences that have encompassed the different categories of work, as well as multiple sectors and program areas. To keep up with the fast-paced nature of technology advancements, there is a need for regular review that reflects on past experiences to extract informed lessons that can improve programming going forward in both the infrastructure and instruments categories of HR-Tech work. A reflective approach should also incorporate efforts to improve grantee-reporting processes to better capture and interpret lessons that could enhance ongoing learning. Overall, taking a more holistic and systems-level approach, improved monitoring and evaluation will facilitate greater learning and strategic planning to achieve larger goals.
- **DRAW LESSONS FROM MULTI-SECTOR AND INTERDISCIPLINARY COLLABORATIONS AND PARTNERSHIPS.**

Lessons can be taken from past collaborations, analyzing successful and unsuccessful initiatives, and sharing lessons. Donors are in unique positions to support thinking, models, and institutions that encourage more fruitful collaboration across sectors.

- **SUPPORT ITERATIVE INNOVATION.** Incorporate learning models and consider small, iterative, scaled funding to support innovation. Innovation should be accompanied by processes that embed the visions of human rights users, their needs, and their workflow and security concerns from the start, and throughout the entire process.
- **INTEGRATE BRIDGES AND INTERMEDIARIES MORE CENTRALLY INTO PHILANTHROPY.** Placing bridge figures more centrally in the donor processes will allow for strategic contributions that can broaden visions and build capacity on both the donor and grantee sides. Acquiring in-house expertise, or forming strategic external partnerships with trusted technology consultants and data experts can help bridge gaps and help donors navigate across the HR-Tech divides.
- **EVALUATE AND IMPROVE CAPACITY-BUILDING ACTIVITIES.** Trainings and capacity-building efforts should be strategic and tailored to the broader goals of grantees. Capacity-building approaches must account for the complexity around how and where actors work, the risks they face in the digital world and in the physical world, how they intend to use information and how they seek to strategically communicate.
- **SHARE KNOWLEDGE, EXPERIENCE AND VISIONS.** Donors have an important responsibility to share their knowledge and to develop community-wide resources that are in scarce supply and high demand. By engaging in the measures outlined above, philanthropic foundations can benefit from sharing emerging strategies and visions, monitoring and evaluation methods, technical review mechanisms, and security audit protocols inside each foundation as well as with the broader philanthropic and practitioner communities. They can also serve as bridges themselves to connect diverse sectors with shared goals, and to advance the human rights movement as a whole by strengthening learning and collaboration across the HR-Tech landscape.

8 Appendix I: Study Methodology

Our research methodology was qualitative: it consisted of in-depth interviews, literature reviews of recent writings, and reviews of grantmaking information that donors shared with us. We chose interview subjects and literature based on suggestions from the five foundations who commissioned this study.⁸⁵ Interviewees and literature were selected to provide a range of perspectives on the human rights and technology space from donors, thought leaders, human rights practitioners, and the technology community. All interviews were carried out between July and December 2013. We did not seek to be comprehensive or representative of all the activities and perspectives of professionals working in the human rights and technology space. Rather our work sought to identify the broad trends in this field, critical assumptions behind different interventions, and emerging opportunities as well as challenges. There was a sentiment amongst many study participants that strategy and funding is currently somewhat piecemeal, disjointed and, at times, opaque. Hence, many of our study participants welcomed sector-wide engagement on what the space looks like, who is doing what, and identification of blockages and gaps in the field.

Where possible, we incorporated from other regions of the world, but mostly we were limited to people and organizations based in the North Atlantic region. One key finding, and critical feedback on early drafts of this paper, is that technology organizations in the Global South are under-represented in the funding portfolios of many key donors, so much so that the sample of organizations recommended for this study did not include strong regional representation. Increased attention to Global South contributions on issues that touch the human rights and technology space is critical.

⁸⁵See Appendix II for a list of individuals that we consulted during this study.

9 Appendix II: List of Interviews

1. Alexa Koenig, Human Rights Center, UC Berkeley
2. Alison Cole, Justice Initiative, Open Society Foundations
3. Allen Gunn, Aspiration
4. Anna Berns, Benetech
5. Brett Davison, Public Health Program, Open Society Foundations
6. Camille Crittenden, CITRIS Data and Democracy Initiative, UC Berkeley
7. Chris Albon, Ushahidi
8. Chris Soghoian, American Civil Liberties Union
9. Christophe Billen, People's Intelligence
10. Cynthia Wong, Human Rights Watch
11. Dan Meredith, Open Technology Fund
12. Daniel D'Esposito, HURIDOCs
13. Elizabeth Eagen, Information Program, Open Society Foundations
14. Enrique Piraces, Human Rights Watch
15. Eric Sears, Human Rights and International Justice Program, John D. and Catherine T. MacArthur Foundation
16. Eva Galperin, Electronic Frontier Foundation
17. Evan Mackinder, Sunlight Foundation
18. Fieke Jansen, Digital Natives with a Cause Knowledge Programme, HIVOS
19. Gene Kimmelman, New America Foundation
20. Ian Schuler, New Rights Group
21. Ivan Sigal, Global Voices
22. James Logan, Human Rights and International Justice Program, Oak Foundation
23. Janet Haven, Information Program, Open Society Foundations
24. Jenny Toomey, Internet Rights Program, Ford Foundation
25. Jessica Wyndham, Science and Human Rights Program, American Association for the Advancement of Science
26. Jillian York, Electronic Frontier Foundation

27. Jim Fruchterman, Benetech
28. John Heffernan, Speak Truth to Power Program, Robert F. Kennedy Memorial Center
29. Julie Broome, Human Rights Program, Sigrid Rausing Trust
30. Kristin Antin, New Tactics for Human Rights
31. Louis Bickford, International Human Rights Program, Ford Foundation
32. Lourdes Riviera, Sexual and Reproductive Rights Program, Ford Foundation
33. Martin Abregu, Democracy, Rights and Justice Program, Ford Foundation
34. Mary Page, Human Rights and International Justice Program, MacArthur Foundation
35. Mia Newman, Humanity United
36. Michael Kleinman, Humanity United
37. Patrick Ball, Human Rights Data Analysis Group
38. Rebecca MacKinnon, New American Foundation
39. Sam Gregory, Witness
40. Samar Haidar, Arab Human Rights Fund
41. Sameer Padania, Media Program, Open Society Foundations
42. Sanjana Hattotuwa, TED Fellow and Groundviews.org
43. Santiago A. Canton, Human Rights Defenders Program, Robert F. Kennedy Memorial Center
44. Sascha Meinrath, Open Technology Initiative, New America Foundation
45. Scott Edwards, Amnesty International USA
46. Sean Gallagher, Index on Censorship
47. Stephen Coady, Human Rights Center, UC Berkeley
48. Steve Grove, Community Partnerships, Google
49. Susan Atwood, New Tactics for Human Rights
50. Susan Morgan, Global Network Initiative
51. Susan Wolfenbarger, Science and Human Rights Program, American Association for the Advancement of Science
52. Tom Lee, Sunlight Foundation
53. Vera Franz, Information Program, Open Society Foundations
54. Yvette J. Alberdingk-Thijm, Witness

10 Appendix III: About the Authors

Tamy Guberek, M.A., M.Sc.

PRIMA co-founder Tamy Guberek is a human rights researcher who has, for over a decade, advised organizations worldwide on data collection methods, quantitative analysis, historical interpretation, and effective integration of technology to advance human rights goals. Tamy is the co-author of many policy, methodological, and scholarly reports on patterns of human rights abuses and transitional justice. She earned her M.A. in World History at Columbia University and her M.Sc. in International History at the London School of Economics. She is working on a Ph.D. at the University of Michigan's School of Information.

Romesh Silva, Ph.D.

Romesh is a co-founder of PRIMA. Over the last 12 years, Romesh has consulted to many human rights organizations on the use of scientific methods to collect, manage, analyze, and report on data about large-scale human rights violations. His work has involved customizing tools and methods to diverse international contexts for international human rights NGOs, official truth commissions, national human rights commissions, an African Union peacekeeping mission, and numerous local organizations. He serves on the the advisory board of Ensaaf, the American Statistical Associations Committee on Scientific Freedom and Human Rights, and editorial boards of the journal *Conflict & Health* as well as the *Statistical Journal of the International Association for Official Statistics*. Romesh has co-authored a number of policy-related reports and scholarly publications on the collection and analysis of data on large-scale human rights violations in conflict zones. He is currently a research faculty member at the Johns Hopkins Bloomberg School of Public Health.

PRIMA's expertise in data collection, survey design, statistical analysis, information management, and historical interpretation focuses on advancing human rights. In collaboration with non-governmental organizations, philanthropic foundations, and governmental and international agencies, PRIMA works to strengthen human rights evidentiary practices in support of policy design, advocacy, legal cases, and processes of historical clarification worldwide.

11 Appendix IV: Acknowledgements

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References

- Acquisti, A., Gross, R., and Stutzman, F. (2011). Faces of Facebook: Privacy in the Age of Augmented Reality. Scientific Paper Presented at BlackHat Las Vegas, August 4.
- American Association for the Advancement of Science (2013). Human Rights Applications of Remote Sensing: Case Studies from the Geospatial Technologies and Human Rights Project.
- Ball, P. (1996). *Who Did What to Whom? Planning and Implementing a Large-Scale Human Rights Project*. American Association for the Advancement of Science.
- Barry, J. and Nainar, V. (2008). *Insiste, Resiste, Persiste, Existe: Women Human Rights Defenders' Security Strategies*.
- Becker, J. (2012). *Campaigning for Justice: Human Rights Advocacy in Practice*. Stanford University Press, Stanford, CA.
- Benkler, Y. (2006). *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. Yale University Press, New Haven, CT, USA.
- Boyd, D. and Crawford, K. (2011). Six Provocations for Big Data. Paper presented at the Oxford Internet Institute Decade in Internet Time Symposium, September 22.
- Butler, D. (2013). When Google Got Flu Wrong. *Nature*, 494(7436).
- Center for Research Libraries (2012). Human Rights Electronic Evidence Study.
- Cohn, C., Timm, T., and York, J. C. (2012). Human Rights and Technology Sales: How Corporations Can Avoid Assisting Repressive Regimes.
- Crawford, K. (2013). The Hidden Biases in Big Data. <http://blogs.hbr.org/2013/04/the-hidden-biases-in-big-data/>.
- Danner, M. (1994). *The Massacre at El Mozote*. Vintage, New York.
- Davenport, C. and Ball, P. (2002). Views to a Kill: Exploring the Implications of Source Selection in the Case of Guatemalan State Terror, 1977-1996. *Journal of Conflict Resolution*, 46(2):427-450.
- de Montjoye, Y.-A., Hidalgo, C. A., Verleysen, M., and Blondel, V. D. (2013). Unique in the Crowd: The Privacy Bounds of Human Mobility. *Scientific Reports*, 3.
- Deibert, R. J. (2013). *Black Code: Inside the Battle for Cyberspace*. Random House.
- Deibert, R. J., Palfrey, J. G., Rohozinski, R., and Zittrain, J. (2011). *Access Contested: Security, Identity and Resistance in Asian Cyberspace*. MIT Press.
- Eckersley, P. (2009). Six Ideas For Those Needing Defensive Technology to Protect Free Speech from Authoritarian Regimes and Four Ways the Rest of Us Can Help. Electronic Frontier Foundation White Paper Series.

- Edwards, P. N. (2010). *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*. Massachusetts Institute of Technology.
- Faris, R. and Heacock, R. (2013). Measuring Internet Activity: A (Selective) Review of Methods and Metrics. *Social Science Research Network Working Paper Series*.
- Faris, R. and Villeneuve, N. (2008). Measuring Global Internet Filtering. In Deibert, R. J., Palfrey, J., Rohozinski, R., and Zittrain, J., editors, *Access Denied*. MIT Press.
- Foundation Center and International Human Rights Funders Group (2013). *Advancing Human Rights: The State of Global Foundation Grantmaking*.
- Freedom Online Coalition (2011). Final Declaration: Joint Action for Free Expression on the Internet. Adopted in The Hague, Netherlands, December 9, 2011.
- Global Network Initiative (2008). *Global Network Principles*.
- Hankey, S. and Clunaigh, D. Ó. (2013). Rethinking Risk and Security of Human Rights Defenders in the Digital Age. *Journal of Human Rights Practice*, 5(3):535–547.
- Heinzelman, J. and Meier, P. (2012). Crowdsourcing for Human Rights Monitoring: Challenges and Opportunities for Verification. In Lannon, J. M. and Halpin, E. F., editors, *Human Rights and Information Communication Technologies*, pages 123–138. IGI Global.
- Human Rights Center, University of California Berkeley (2014). *Digital Fingerprints: Using Electronic Evidence to Advance Prosecutions at the International Criminal Court*.
- Human Rights Watch (2011). *A Costly Move: Far and Frequent Transfers Impede Hearings for Immigrant Detainees in the United States*.
- Keck, M. and Sikkink, K. (1998). *Activists Beyond Borders: Networks in International Politics*. Cornell University Press, Ithaca, NY.
- Kim, D.-H., Lu, N., Ma, R., Kim, Y.-S., Kim, R.-H., Wang, S., Wu, J., Won, S. M., Tao, H., Islam, A., Yu, K. J., Kim, T.-i., Chowdhury, R., Ying, M., Xu, L., Li, M., Chung, H.-J., Keum, H., McCormick, M., Liu, P., Zhang, Y.-W., Omenetto, F. G., Huang, Y., Coleman, T., and Rogers, J. A. (2011). Epidermal Electronics. *Science*, 333(6044):838–843.
- Land, M., Meier, P., Belinsky, M., and Jacobi, E. (2012). *Information and Communication Technologies for Human Rights*. World Bank Institute.
- Lannon, J. M. and Halpin, E. F. (2013). *Human Rights and Information Communication Technologies: Trends and Consequences of Use*. Information Science Reference.
- MacKinnon, R. (2012). *Consent of the Networked: The Worldwide Struggle for Internet Freedom*. Basic Books.
- Manovich, L. (2011). Trending: The Promises and the Challenges of Big Social Data. In Gold, M., editor, *Debates in the Digital Humanities*. University of Minnesota Press.

- Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., and Byers, A. H. (2011). *Big data: The Next Frontier for Innovation, Competition and Productivity*. McKinsey Global Institute.
- Marx, A. and Goward, S. (2013). Remote Sensing In Human Rights and International Humanitarian Law Monitoring: Concepts and Methods. *Geographical Review*, 103(1).
- Mayer-Schönberger, V. and Cukier, K. (2013). *Big Data: A Revolution That Will Transform How We Live, Work, and Think*. Eamon Dolan/Houghton Mifflin Harcourt, New York.
- Morozov, E. (2011). *The Net Delusion: The Dark Side of Internet Freedom*. Public Affairs, New York, NY.
- Morozov, E. (2013). *To Save Everything, Click Here*. Penguin Books Limited, New York.
- Packer, G. (May 2013). Change the World. *The New Yorker*.
- Padania, S., Gregory, S., Alberdingk-Thum, Y., and Nunez, B. (2011). *Cameras Everywhere: Current Challenges and Opportunities at the Intersection of Human Rights, Video & Technology*. Witness/Printech Business Systems, Inc.
- Prakash, P. (2013). How Surveillance Works in India. *New York Times*, 10 July.
- Privacy International, Access, and the Electronic Frontier Foundation (2013). International Principles on the Application of Human Rights to Communications Surveillance. <https://en.necessaryandproportionate.org/text>.
- Puddephatt, A. (2011). Mapping Digital Media: Freedom of Expression Rights in the Digital Age. Open Society Foundations.
- Salgado, R. (2013). Government Requests for User Information Double Over Three Years. <http://googleblog.blogspot.com/2013/11/government-requests-for-user.html>.
- Scott-Railton, J. and Marquis-Boire, M. (2013). A Call to Harm: New Malware Attacks Target the Syrian Opposition. Citizen Lab, University of Toronto.
- Shirky, C. (2008). *Here Comes Everybody*. Penguin Books, USA.
- Skepys, B. (2012). Is There a Human Right to the Internet? *Journal of Politics and Law*, 5(4):15–29.
- Toyama, K. (2010). Can Technology End Poverty? *Boston Review*, November/December.
- Toyama, K. (2011). Technology As Amplifier in International Development. In *Proceedings of the 2011 iConference*, pages 75–82, New York, NY, USA.
- Tufekci, Z. (2012). Why More, is More Than Merely More. Paper presented at the Internet @ Liberty Conference.
- United Nations (2011). Report of the Special Rapporteur on Key Trends and Challenges to the Right of All Individuals to Seek, Receive and Impart Information and Ideas of All Kinds through the Internet. A/HRC/17/27 Human Rights Council. Twenty-first session.
- United Nations (2012). Report of the Special Rapporteur to the Human Rights Council on the Protection of Journalists and Media Freedom. A/HRC/20/17 Human Rights Council. Twenty-second session.

United Nations (2013). Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression, Frank La Rue. A/HRC/23/40 Human Rights Council. Twenty-third session.

United Nations Commission on Historical Clarification (1999). *Memoria del Silencio*.

Van Schewick, B. (2010). *Internet Architecture and Innovation*. MIT Press.

Wong, C. (2013). Surveillance and the Corrosion of Internet Freedom. *The Huffington Post*, July.

Zittrain, J. and Edelman, B. (2003). Empirical Analysis of Internet Filtering in China: Technical Appendix.

Zuckerman, E. (2013). *Rewire: Digital Cosmopolitans in the Age of Connection*. W. W. Norton.

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