A Rights-Based Evaluation of Humanitarian Information and Communication Technology Policy

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Abstract

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As new information and communication technology (ICT) continue to emerge, more attention is paid to the adverse effects ICTs have on individual and community data privacy and protection. In the wake of the 2015 UN Sustainable Development Goals, many humanitarian organizations began crafting their own data protection policies. However, there are currently no accepted standards or principles around the use of ICTs in humanitarian response. Using a mixed method content analysis, this study evaluates sixteen recent humanitarian data protection policies. The EU General Data Protection Regulation was used as a framework to assess the comprehensiveness of each policy. Results found significant differences in how organizations prioritize issues surrounding data and technology. This analysis provides guidance for policymakers in their efforts to develop safe and comprehensive policies surrounding the collection and use of individual and community data.

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CHAPTER 1: INTRODUCTION

The rapid development of the international humanitarian sector over the last two decades has brought with it the adoption of new information and communication technologies (ICTs). Humanitarian organizations are collecting data in new ways and at enormous rates, drastically transforming the humanitarian landscape (Harris et al. 2015). While there are data protection guidelines currently in existence, such as the European Union's General Data Protection Regulations (EU GDPR), they are not specific to international humanitarian data use. As a result, humanitarian actors and stakeholders often simultaneously gather volumes of data with little concern for issues of consent, privacy, coordination, or communication. Recent humanitarian initiatives, such as the 2010 Haiti Earthquake and the ongoing Syrian refugee crisis, have demonstrated shortcomings in regard to the protection of human rights in data collection and technology efforts (Duffield 2015).

Statement of Problem

Since the adoption of the UN Sustainable Development Goals (SDGs) in 2015, significant evolution has occurred in humanitarian information activities (HIAs). Major ICT advances include; crowd sourcing, smart-meters, satellite imagery, mobile data collection and data mining (SDSN 2015). However, as ICTs are adopted, new data protection issues and challenges come to light. The use of ICTs in humanitarian response often has unintended or unacknowledged consequences that limit or infringe on individual and community rights (Jacobsen 2015). As of yet, there are no internationally accepted standards or guidelines for humanitarian actors to follow in order to ensure the protection of human rights during data collection, curation, and dissemination.

Purpose of Study

Using a mixed method approach, the purpose of this study is as follows:

1. Describe current technology and data trends and challenges within the humanitarian sector.
2. Evaluate existing International Non-Government Organization (INGO), Inter-Governmental Organization (IGO), For-Profit Organization, and Community Organization data protection policies and principles in relation to the EU GDPR.
3. Describe the similarities and differences in the data and technology priorities of various types of humanitarian organization.

The study begins with a historical overview of the humanitarian sector, focusing on the development of ICT policy and guidelines. It continues by summarizing the main challenges facing the humanitarian community with the adoption of new ICTs. While taking into account the significant variation in the scope and purpose of humanitarian organizations, an evaluative instrument is proposed as a method for exploring the extent to which existing data protection policies address or ensure individual and community rights.

Significance of Study

This study contributes to growing body of knowledge related to humanitarian data policy by providing an evaluation of existing data protection policies of humanitarian organizations involved in ICT-related work. As an increasing amount of data is collected and shared between civil society, governments, and the private sector, the need for shared standards of best practice in ICT use is crucial. This analysis will provide guidance to future policymakers within the humanitarian community who are interested in developing safe and comprehensive policies surrounding the collection and use of individual and community data.

List of Acronyms

CBT- Cash-Based-Transfer
BIMS- Biometric Identity Management System
EU- European Union
GDPR- General Data Protection Regulation
HHI- Harvard Humanitarian Initiative
HIA- Humanitarian Information Activity
HOT- Humanitarian Open Street Map
ICT- Information Communication Technology
IGO- Intergovernmental Organization
ICCPR- International Covenant on Civil and Political Rights
ICESCR- International Covenant on Economic, Social, and Cultural Rights
IRC- International Red Cross
MDG- Millennial Development Goals
NGO- Nongovernmental Organizations
OECD-Organization for Economic Cooperation and Development
OCHA- Office for the Coordination of Humanitarian Affairs
OHCHR- Office of the High Commissioner for Human Rights
PII- Personally Identifiable Information
PDD- Principles of Digital Development
RBA- Rights Based Approach
SDG- Sustainable Development Goals
SDSN- Sustainable Development Solutions Network
UN- United Nations
UNGA- United Nations General Assembly
UDHR- Universal Declaration of Human Rights
UAV- Unmanned Aerial Vehicle

CHAPTER II: HISTORY AND THEORETICAL FRAMEWORK

This study is founded on the theoretical frameworks of human rights and humanitarian principles. The purpose of this chapter is to provide historical, legal, and policy context for humanitarian activity standards and guidelines. It begins with a history of the development of human rights and the fast-evolving climate surrounding information and technology within the humanitarian sector. The chapter concludes with a review of the influence of the Sustainable Development Goals (SDG) on humanitarian practices, along with the influence of international data protection regulations on existing data principles.

Human Rights and Humanitarian History

The philosophical debate around human rights has been in existence for over two thousand years (Heard 1997). While the contemporary meaning and use of the term "human rights" varies depending on cultural context and perspective, there is general agreement that it refers to the moral principles of human behavior fundamentally provided to all human beings. Early examples of the codification of moral behavior are seen mainly in spiritual and philosophical doctrine, such as the Summa Theologiae and the Analects of Confucius. Others, like the Reforms of Urukagina the Magna Carta, and the Constitution of Medina, grounded rights around societal and religious order. Whether religious, philosophical, or political in context, many of these early works include the similar expressions of dignity, humanity, equality, and freedom from discrimination (Heard 1997).

Many included the concept of natural rights, or behaviors that were inherently moral, solely due to the "divine authorship of humanity" (Heard 1997). Natural rights are not contingent on the laws or beliefs of any government or culture, but rather inalienable to all of humanity. However, this early definition of innate human rights lost popularity in European philosophy in

the 1600s. Philosophers like Thomas Hobbes argued that natural rights are nothing more than the reflection of a structured society and do not exist outside of its bounds. Hobbes introduced the idea of social contract theory, where individuals justify moral or legal rules through shared consensus. Rules and rights are legitimatized through rational agreement rather than specific merit or reasoning (D'Agostino, 2017). In this way, social contract theory is based on consent to determine what rights and rules exist within society.

Decades later, Hobbes's argument was expanded by works such as John Locke's Declaration of the Rights of Man and the Citizen in 1789, and Thomas Paine's In the Rights of Man (Heard 1997). These works emphasized political legitimacy through social contracts. However, in the aftermath of World War II, the concept of natural inherent rights surfaced once more, this time in the form of universal human rights and humanitarianism.

Adopted in 1948, the Universal Declaration of Human Rights (UDHR) acts as a "common standard of achievements for all peoples and all nations" (UDHR 1948). It sets out guiding principles to recognize the "equal and inalienable rights of all members of the human family" (UDHR 1948). Member states of the UN who ratified the document pledged to uphold the rights through their own domestic laws. However, upholding universal freedoms for all humans becomes much more difficult in practice. Under social contract theory, rights are relative to a specific culture and rely on localized implementation for their validity (D'Agostino, 2017). The non-binding nature of the UDHR leaves it to nation states to enforce and ensure the rights of their citizens.

As it became clear that the declaration itself could not address increasing affronts to human right around the world, Western nations began expanding the concept of humanitarianism. The United Nations Office for the Coordination of Humanitarian Affairs

(OCHA) describes humanitarianism as "aid that seeks, to save lives and alleviate suffering of a crisis affected population". It is the act of those who "have" extending sympathy, resources, services, or kindness to those who "have not". At its roots, humanitarianism is built on a foundation of moral imperative rather than legal discourse and frameworks (Barnett, 2011). The majority of humanitarian efforts respect and acknowledge the UDHR as principles that guide and motivate their work. One of the most noteworthy examples of this is the Code of Conduct for the International Red Cross (IRC). The code has now been signed by more than 600 organizations within the humanitarian sector (IRC 1994).

The code was developed in 1994 after the advent of information technologies in the 1990's led to increased public scrutiny of international NGOs and IGOs working in humanitarian response (IRC 1994). The most prominent example being the 1994 Rwandan Genocide and the "unprecedented international humanitarian response which, under the spotlight of the international media, publicly magnified the fault lines within the humanitarian system to an extraordinary degree" (Buchanan-Smith 2005). Humanitarian organizations were accused of slow reaction times, protecting hostile actors, and turning a blind eye to escalating conflict. With immense global pressure, the humanitarian community rallied around the idea of a self-managed system of standards and principles that would guide organizations in a humanitarian rights-based response. In 1997, the Sphere Project's Humanitarian Charter and Handbook emerged as an internationally respected and recognized set of tools, standards, training, and best practices. It is still widely used today as a guide for providing minimum standards in health, shelter, food, and water while ensuring the protection of human rights (Sphere Project 2011).

The new millennium ushered in significant policy shifts within the international humanitarian community, mainly in the form of the Millennium Development Goals (MDG).

The eight time-bound, quantitative targets each include a series of health and economic policies to promote development (Steeks et al. 2010). The strong emphasis on meeting deadlines pushed the international community into neoliberal economic policies like the Washington Consensus and created long-lasting obligations to international financial institutions like the World Bank and the International Monetary Fund (Duffield 2014). The pressure also led to a focus on aggregated national statistics, multitudes of development indicators, and the extreme segregation of efforts by INGOs and governments. This created an atmosphere of unease and discontent between countries, as it pitted them against one another for funding and resources. The main criticism of the MDG's was the lack of analytical justification for the chosen objectives. Massive amounts of data were created with no real intent or transparency between organizations (Steeks et al. 2010). Success of humanitarian intervention was based on a high return on donor investment, efficiency, and key performance indicators. And as humanitarianism continued to expand its own governance and institutions, it "exercised power over the very individuals it hopes to emancipate" (Barnett, 2011).

Another major offshoot of the MDGs was the 2005 UN cluster approach for humanitarian aid. The idea was to "make humanitarian assistance more effective by introducing a system of sectoral coordination with designated lead organizations" (Steeks et al. 2010)). This approach has become very popular on both the global and country level. The shape and functioning of this approach is built on pillars of collaboration and delegation, similar to sentiments of the Sphere Project (Sphere Project 2011). Unfortunately, in many cases it ultimately was shown to silo intervention efforts and undermine national governments (UNOCHA 2015). Scaling the approach between local, government, and international partners has also led to muddled decision-making procedures and unclear responsibilities (UNOCHA 2013). As the first decade of

the millennium came to an end, it became clear that the quantitative rigidity of the MDGs offered few sustainable and equitable results (IEAG 2015).

Three years later, the Post 2015 Development Agenda marked the end of the MDGs and the beginning of the SDGs. The UN Secretary-General spoke on the need for a "data revolution" to collect and apply data in safer and smarter ways (Ki-Moon, 2015). The SDGs called for a focus on open data sharing, legal frameworks to ensure accountability, and above all the safeguarding of individual and community rights. After the SDG adoption, many humanitarian actors began recognizing the need to critically examine the use of technology in their data collection practices.

Humanitarian Technology

Issues around data protection have been referenced multiple times in international language. For instance, the UDHR includes "many principles directly applicable to the conduct of research", specifically the right to information and informed consent as a means of protecting individual rights (SDSN 2015). The right to information has been referenced several times over last twenty years, most recently in 2016 when UN Article 19 declared the right to "the promotion, protection and enjoyment of human rights on the Internet" and that "the same rights that people have offline must also be protected online" (UNHRC 2016, UNGA 1948). Similarly, Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) recognizes the right to "enjoy the benefits of scientific progress and its applications" (UNGA 1966). However, what the current language and interpretations do not reflect is the constantly evolving state of technology and the resulting violations of rights. There has been little acknowledgement or research on the potentially harmful and exploitive nature of data and technology, especially in humanitarian settings.

Along with international language, data protection policies have existed since the 1970s, with the adoption of the first national data protection law in Sweden in 1973 (Öman 2004). Despite numerous attempts, however, "no single agreed model for international data protection law exists at this stage" (UNCTAD 2016). Over the last four decades, a multitude of laws and regulations have emerged in both the private and public sectors, specifically related to issues of economic development and cross-border personal data transfers (EU Regulation 2016). The EU and Organization for Economic Cooperation and Development (OECD) have spearheaded many initiatives for international guiding data protection principles, including the 1995 Data Protection Directive, the 2013 Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, and most recently, the 2016 General Data Protection Regulation (OECD 1981, Singleton 1995, EU Regulation 2016). Primary challenges in developing international consensus on these regulations include gaps in national protection laws, varying data purpose, rapidly emerging technologies, and unclear jurisdiction. However, the majority of data protection literature includes the general themes of privacy, consent, protection, and accountability (UNCTAD 2016).

Another issue with existing polices and frameworks is that they are not specific to the humanitarian sector. This becomes especially clear when exploring the priorities and values surrounding data and technology use in the humanitarian sector as compared to the economic development sector. A 2013 Office of the Coordination of Humanitarian Affairs (UNOCHA) report —Humanitarianism in the Network Age— was one of the first to discuss the potential risks associated with data and technology in humanitarian initiatives (UNOCHA 2013). While the report's main message was on the benefits of ICTs in response, it also warned of the harmful consequences that poor data practices could have on vulnerable populations. This revelation came more than forty years after the first data protection law was adopted.

To address the need for sector specific language, many humanitarian organizations have published their own data protection principles. There are several promising examples from varying corners of the humanitarian sector vying for global support. Many organizations are basing their work around the core Humanitarian Principles of humanity, impartiality, independence, and neutrality (UNOCHA 2012). These four internationally recognized and accepted principles have acted as the foundation for previous humanitarian guidelines like the Sphere Standards, and are supported and justified by articles and resolutions from the UN General Assembly, IRC Code of Conduct, ICCPR, UDHR, Humanitarian Charter, and ICESCR (Buchanan-Smith 2005). While there is still no global consensus on how human rights and humanitarian principles can be applied to data and technology, the general themes of privacy, consent, protection, and accountability are clearly recognized.

CHAPTER III: TRENDS AND CHALLENGES

Humanitarian ICT Trends

The capitalistic and neoliberal drivers behind the MDGs, solidified the role of technology in humanitarian operations. ICTs are leveraged to collect and analysis data in order to measure the effectiveness of an organization. The ICT trends listed below are derived from the Sustainable Development Solutions Network's (SDSN) 2015 Needs Assessment for SDG Monitoring and Statistical Capacity Development.

Satellite Imagery and Geospatial Technology

The introduction of new satellite and geospatial technology has considerably lowered the cost of high-resolution imagery and geospatial data. As both the technology and the technical skills become more accessible, new ways to apply imagery and spatial data are being explored within the humanitarian community. The benefits of satellite imagery include the ability to analyze a situation remotely, quickly and safely.

Examples include disaster response, monitoring geographic patterns of diseases, measuring population density and the spread of new settlements; and developing situational awareness in conflict zones (SDSN 2015). In a humanitarian initiative, collecting accurate contextual information about the area of interest is crucial. In many cases, there is no existing baseline data on the physical geography of an area or demographic data on the population of concern. In situations like this, remote data collection through satellite imagery processing can help humanitarian actors respond and implement more effectively and efficiently.

Unmanned Aerial Vehicles

A popular trend in INGO work is the use of unmanned aerial vehicles (UAVs). UAVs, more commonly known as drones, offer a relatively low cost and low-tech option for community based initiatives. One of the main benefits of UAVs are their accessibility and participatory nature. Examples of INGO UAVs use include mapping rural health care systems and helping with disaster search and rescue efforts (Dette 2015). UAVs are flexible in their purpose and offer an inexpensive alternative to high-resolution satellite imagery.

Crowd-Sourcing

The relative ease of global connectivity has created the opportunity for wide-scale participation in data collection and data processing. Crowd sourced data is appealing to the humanitarian community as it offers wide spread data collection at little to no cost. It also embraces principles of grass root efforts of community building and development. One example of crowd-sourcing data is Humanitarian Open Street Map (HOT). The open source application allows users all over the globe to digitize under mapped areas. Situations include road mapping, land cover classification, human rights monitoring, species inventories, and disaster response planning (HOT 2017).

Smart-Meters

While predominately implemented in North America and Europe, smart-meter initiatives are becoming more frequent in low income and developing countries. The premise of a smart meter is to reduce utility disparity. Users can save money by only paying for what they use. This also offers incentives to governments as a method of sustainable utility development. The increasing use of smart-metered systems for energy, water, and internet distribution allows for

the measurement and management of service provisions to be transmitted over communications networks (SDSN 2015).

Mobile Computing and Data Collection

Collecting data through mobile devices reduces the time and cost for data collection and improves integration with other information streams. Many surveys are now being conducted on digital mobile platforms which allows for increased penetration into low access areas (SDSN 2015). One example of mobile data use is analyzing population movement during the 2010 Haiti Earthquake. The INGO, Flowminder analyzed and anonymized 2 million mobile phone SIMs in order to determine post-earthquake population movements. Mobile phones are also being leveraged in cash-based transfer (CBT) initiatives. CBTs include a variety of ways in which funds are given out to individuals and families. CBT monetary remittance may take the form of physical money, bank transfers, electronic or paper vouchers, or other electronic platforms, such as special SIM cards or debit cards (WFP 2016).

Data Mining

Frequently data sources are used in analysis "emerging from processes not explicitly designed for such purposes, such as social media, consumer spending habits, and traffic patterns" (SDSN 2015). One example comes from the World Food Program's analysis of Syrian bread prices. Based on the average price of bread and other essential commodities in Syria, WFP was able to determine patterns related to purchasing power, vulnerable households, and increased levels of conflict (WFP 2013). Another example of data mining is an initiative by UN Global Pulse to leverage mobile call records from the mobile network operator ORANGE in Ivory Coast. In a country with outdated or nonexistent demographic data, Global Pulse developed algorithms using the call data in order to create a proxy census (Duffield 2016).

Biometrics

Many government and non-government entities are implementing biometric based registration to more easily track and confirm individual identity. Biometrics have been used in Refugee camps as methods for resource allocation, in border crossing stations, and in other CBT assistance programs. Biometrics include iris scans, fingerprints, facial recognition, and defining physical characteristics (Sandvik 2016). One of the perceived benefits of biometrics is the ability to reduce fraud and duplicated registration in those seeking services. Another benefit is the increased ability to collect and manage personal data more securely. Through a biometric system, personal data can be stored and analyzed more security and sustainably.

One example of the application of biometrics is in the Dzaleka refugee camp in Malawi. The United Nations High Commissioner for Refugees (UNHCR) completed a pilot study in 2014 of their new biometric database system proGres (Lodinová 2016). Those crossing into Malawi and seeking refuge from surrounding countries like Rwanda, Mozambique, Zimbabwe, and Burundi were registered at the border using iris scanning, facial recognition, and fingerprinting. From the border stations, registered refugees traveled to Dzaleka. Since 2013, UNHCR has rolled out a Biometric Identity Management System (BIMS) in over ten countries and plans to expand the system to all UNHCR operations by 2018 (Lodinová 2016).

Humanitarian ICT Challenges

Contemporary humanitarianism “celebrates the restorative powers of smart technologies and fast machine thinking” (Meier, 2015). However, the deluge of new actors and technology is transforming the humanitarian landscape with little research focused on the potential negative consequences. The following sections summarizes the main ICT issues and challenges, including: technological disparity, privacy and security, and data ownership and accountability.

Technological Disparity

There is growing disparity between those who have and do not have access to information and communication technology, the expertise necessary to use it, and access to the information derived. The majority of technological advancements used in humanitarian response originate from the Global North and are applied to situations and bodies in the Global South (Dette 2015). In many cases, "the same technologies that are subject to privacy restrictions, legal safeguards, and growing public distrust in the global-North, are being rolled-out in the global-South" with little regard to regulatory safeguards (Duffield 2016). Often, humanitarian initiatives are funded through foreign and private investments and generate significant revenue for the organization at the expenses of individuals experiencing the crisis on the ground. New technological developments have also allowed humanitarian actors to work remotely, replacing the need for "ground truth".

An example of this remote technology exploitation is the use of aerial and satellite imagery by INGOs. With a 12.9% projected annual growth, the satellite imagery industry is incredibly lucrative, especially with the increasing spatial resolution available (Cowan 2013). However, remote sensing and imagery analysis are highly technical fields that require expert-level knowledge. Commercial satellite organizations also license their data rather than sell it, making it virtually impossible for users to generate derivative products. As a result, there is little consensus within the community on how to share and host imagery publicly.

Because of the complex and expensive collection and processing costs, most humanitarian organizations still rely on remote third-party data brokers to own, analyze, and curate data. The danger then lies in using brokered imagery data with no way to ensure its accurate representation. One potential equalizer in the industry is the use of less expensive and

simpler UAVs. Many INGOs are incorporating the use of drones in community based mapping initiatives to collect "ground truth" data. However, highly industrialized nations like China, France, and the US hold the market share in drone development and technology.

Lastly, there is a large gap in who can and who cannot access and use data collected during an initiative. Many of the communities served by these technologies do not have the information networks and infrastructure necessary to access the personal data collected from them (Dette 2015). In many humanitarian information activities, little thought is given to the sustainability of the technological infrastructure. In many cases, vulnerable individuals and communities are used as guinea pigs for testing ICTs for more lucrative applications later on (Sandvik 2016).

Issues of Privacy, Consent, and Security

The issue of privacy, consent and personal security during a humanitarian initiative is a constant balancing act. While organizations and governments need as detailed and specific information as possible in order to be effective, the consent and privacy of individuals are often overlooked. This can be because of language barriers, misunderstanding of personal rights, the cultural norms surrounding the notion of privacy itself, or the intentional targeting of marginalized groups.

One example is the use of biometric registration in Thailand for all undocumented Rohingya refugees escaping neighboring Myanmar (Al Jeezera 2016). The Rohingya have faced cultural and political persecution from Myanmar, Bangladesh, Malaysia, and other nearby countries for almost 70 years. They are considered by the UN to be one of "the most persecuted minorities in the world" (Al Jeezera 2016). For those who have escaped into Bangladesh,

registering in a biometric system can mean further targeting under the pretenses of ensuring security and reducing fraud.

Public humanitarian data was also abused during the 2010 Pakistan floods, where Taliban forces targeted foreign aid workers and those they were assisting based on public clinic and food drop location information (UNOCHA 2013). The issue of consent is seen most frequently in health statistics collected by INGOs. An individual may consent to take part in a community survey or study, but often loses control or autonomy about how the data is aggregated or shared. The chain of consent is especially important for personal agency as "the aggregation of data may create data products that pose additional risks to affected populations compared to the unaggregated data" (UNOCHA 2015). Often individuals are never informed as to how their data will be used, where it will be shared, and if they will ever have access to it (UNOCHA 2013). This is especially true of data transfer agreements where data may change hands and form multiple times throughout its life cycle.

Data Responsibility and Ownership

Along the same lines as chain of consent is the issue of data responsibility and ownership. One of the primary concerns raised by the OCHA Humanitarianism in the Network Age report centered on issues of accountability and accuracy (UNOCHA 2013). What happens if inaccurate or false data is disseminated and shared? Who holds responsibility for potentially negative outcomes of bad data or analysis? This challenge is especially pertinent in initiatives relating to big data and data mining.

Facebook's Free Basics initiative offers a prime example of a data ownership concern. Free Basics is a bare bones 2G internet app which "provides access to a low-data version of Facebook and a limited number of pre-selected websites" (Nyabola 2016). While Free Basics

initially seems like an opportunity to provide internet access to millions of unconnected people, there is also significant risk of censorship from controlling governments. As Free Basics partners with government owned mobile providers, the user generated data could be monitored and censored.

There is also criticism that the initiative privatizes a public problem and discourages governments from investing in sustainable IT infrastructure (Nyabola 2016). All data generated from the app would also provide Facebook with millions of new data points and new profits. This challenge relates to expectations about what data is considered open and what data is considered proprietary or private. It brings up the questions: what are the implications of private actors operating without "shared mechanisms for monitoring and evaluation, guidelines for guaranteeing the safety of informants, and frameworks to hold practitioners responsible" (UNOCHA 2013)?

CHAPTER IV: METHODOLOGY

Research Questions

While there is literature both on how humanitarian technology leads to unintended human rights consequences (e.g. Jacobsen 2015) and the need for internationally recognized standards of practice surrounding the use of technology in response work (e.g. HHI 2017), there has been limited research evaluating the extent to which the humanitarian data policies and principles of various humanitarian organizations comply with data standards. The lack of objective measurements within rights-based policy makes it difficult to evaluate the effectiveness of such documents. The goal of this research is to quantify indicators of compliance around data protection and explore emerging trends and patterns of ICT data use. This research is guided by the following questions:

1. To what extent do various humanitarian organizations include data protection principles in their policies?
2. What similarities or differences exist between various humanitarian sectors in terms of their policies?

It is anticipated that as more violations of human rights emerge from the use of ICTs, the humanitarian community will continue to expand and elaborate policy and regulations surrounding issues of data privacy and protection. Therefore, there is need for agreement on a shared set of standards to mitigate the current and future risk and potential harm associated with ICTs.

Research Design

A quantitative content analysis methodology is used to evaluate how various humanitarian organizations are addressing the potential risks to human rights from ICT data practices.

Principle and Indicator Selection

Drawing from existing data policy and information trends within the digital humanitarianism literature, the GDPR was identified as the framework by which to evaluate the organizations. The GDPR is a binding legislative framework that all EU member states must adhere to when processing any kind of personal data (EU Regulation 2016). The GDPR was selected as the basis for the evaluative framework because of its emphasis on accountability, strong human rights background, and international recognition and support. The GDPR is based on the 1995 EU Directive which is considered one of the "most significant regional developments in data protection regulation" (UNCTAD 2016). The Regulation identifies seven key principles any organization must adhere to: 1) Open and fair; 2) Purpose and scope; 3) Data minimization; 4) Accuracy; 5) Storage limitation; 6) Integrity and confidentiality, and; 7) Accountability (EU Regulation 2016).

The seven principles were adapted and supplemented by additional literature to meet the needs of the study (Table 1). For each of the seven principles, a set of indicators was identified based on the data privacy literature, humanitarian technology trends, and international human rights laws and regulations. A total of 36 indicators were identified. After the policy approaches were analyzed, a quantitative comparison was conducted to determine descriptive statistics and themes between the various approaches.

Organization Selection

A total of sixteen organizations were selected for evaluation (Table 2). Organizations were identified to reflect a wide range of humanitarian perspectives and purpose including UN agencies, volunteer based efforts, academic and religious INGOs, and commercial businesses (Appendix A). Out of the sixteen, six represent intergovernmental organizations, four represent nongovernmental organizations, three were selected as examples of for-profit organizations, and three represent community organization efforts.

Table 1. Evaluation Principles and Corresponding Indicators.

Principle and Definition	Indicators
Purpose and Scope: Data is clearly defined. Data is collected for specified, explicit and legitimate purpose and context.	1. Purpose and rationale defined 2. Context defined 3. Key terms defined 4. ICT trends directly referenced 5. SDGs directly referenced 6. Participatory or user design principles referenced 7. Gaps in policy addressed
Open and Fair: Data is processed lawfully, fairly and in a transparent manner in relation to the data subject. Policy is based on existing laws and principles pertaining to human rights, humanitarianism, and international and domestic law.	1. Guiding principles referenced 2. Domestic and international laws referenced 3. Human rights language used 4. Data subject can access data 5. Consent or Privacy template included 6. Policy available in multiple languages 7. Vulnerable populations referenced 8. Open source practices referenced 9. Gender perspective referenced
Data Minimization: Data is adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed.	1. Data types defined 2. Data protection impact assessment referenced 3. Data processing is necessary and proportional 4. Sustainability is referenced 5. Specific tools and practices are included
Accuracy: Data is accurate and, where necessary, kept up to date. Data is properly removed or updated over time.	1. Specific accuracy mechanisms are listed 2. Data subject can correct data 3. Objection and refusal process referenced 4. Redress and dispute resolution mechanisms included
Storage limitation: Data is kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the personal data are processed.	1. Data storage is defined and limited 2. Personal data de-identification referenced 3. Feedback loops referenced
Integrity and Confidentiality: Data is processed in a manner that ensures appropriate security of the personal data, including protection against unauthorized or unlawful processing and against accidental loss, destruction or damage.	1. Specific data risks referenced 2. Security capabilities included 3. Third party consent and privacy discussed 4. Policy is mandatory 5. Data transfer agreement referenced
Accountability: The organization is responsible for, and able to demonstrate compliance with the listed principles and standards. The organization ensures accountability and oversight on all data processing.	1. Over sight or audit committee listed 2. Data request refusal process referenced 3. Compliance or enforcement mechanisms referenced

Table 2. Humanitarian sectors with associated organizations.

Type	Organization Name
Community	Principles of Digital Development UAViators The Bali Process
For-Profit	Digital Globe Microsoft Accenture
Intergovernmental	World Food Program UNHCR UNOCHA UN-Global Pulse UN-GGIM OHCHR
Nongovernmental	Humanitarian Open Streetmap Team World Vision Harvard Humanitarian Initiative Oxfam

Since a significant shift in perspective and approach to data collection and techno logy occurred with the adoption of the 2015 SDGs, the researcher limited analysis to organizations that have published data protection policies from 2015 to the present. Activities from this time forward are generally expected to be more conscious or inclusive of addressing SDG goals and targets, including human rights, as compared to those implemented before 2015.

Data was collected on each organization's stance on data protection and privacy. Sources include policies, guidelines, codes of conduct, frameworks, and principles put forth by the organization. Because of the heterogeneity of the selected organizations, in several cases multiple sources were used to develop an organization's stance. The relative infancy of many of the data policies sometimes meant that documentation relating to data collection and technology was not always present or available in a standardized manner. The final selection does result in some degree of bias as the scope, scale, and documentation for organization is not identical. However, the researcher believes that including a variety of documentation in the evaluation process accurately reflects the larger landscape of digital humanitarianism.

Evaluation Matrix

The selected organizations were evaluated using 36 indicators distributed across seven categories. The principles, derived from the GDPR, are listed and defined with their respective indicators in Table 1. The indicators were determined from various sources related to:

- Data protection policies (OECD 1981, Singleton 1995, EU Regulation 2016, Heeks 2014)
- Human rights instruments (UDHR 1948, UNGA 1976**,** UNGA 1966)
- Humanitarian best practices (Sphere Project 2011, UNOCHA 2012)

Evaluation Procedures and Scoring Protocol

Each organization's policy was evaluated based on the inclusion of the 36 indicators. Using a binary system, the organization received a pass-fail value for each indicator, creating a matrix (see appendix B). The raw values in the matrix were then used to calculate a weighted mean score for each of the sixteen organizations within the four types. The weighting adjusts for the unequal number of organizations within each type. After calculations, the maximum possible score was seven, meaning an organization met all of the 36 indicators that fall across the seven principles (Table 3).

A weighted mean was also calculated for each principle using the same method to account for the unequal number of indicators within each principle. Based on the number of records, a weighted score was calculated between 0-1 for each indicator and organization. All scores were then summed to create total weighted scores for each principle (Table 4). Once the data matrix was completed, Tableau was used to produce visualizations of the descriptive statistics.

CHAPTER IV: FINDINGS AND CONCLUSION

Findings

This research has been guided by two primary research questions: 1) to what extent do various humanitarian organizations include principles of data protection within their policies, and; 2) what similarities or differences exist between various humanitarian sectors with respect to adopting these principles?

Sector and Principle Comparison

This analysis found that the data protection policies of the 16 organizations referenced an average of 35% (weighted average = 2.48) of the indicators. Organizations ranged from 27% (1.86) to 44% (3.10) of indicators met (Fig.1, Table 3). On average, the Community organizations met the highest number of indicators, while For-Profit Organizations ranked the lowest (Table 3).

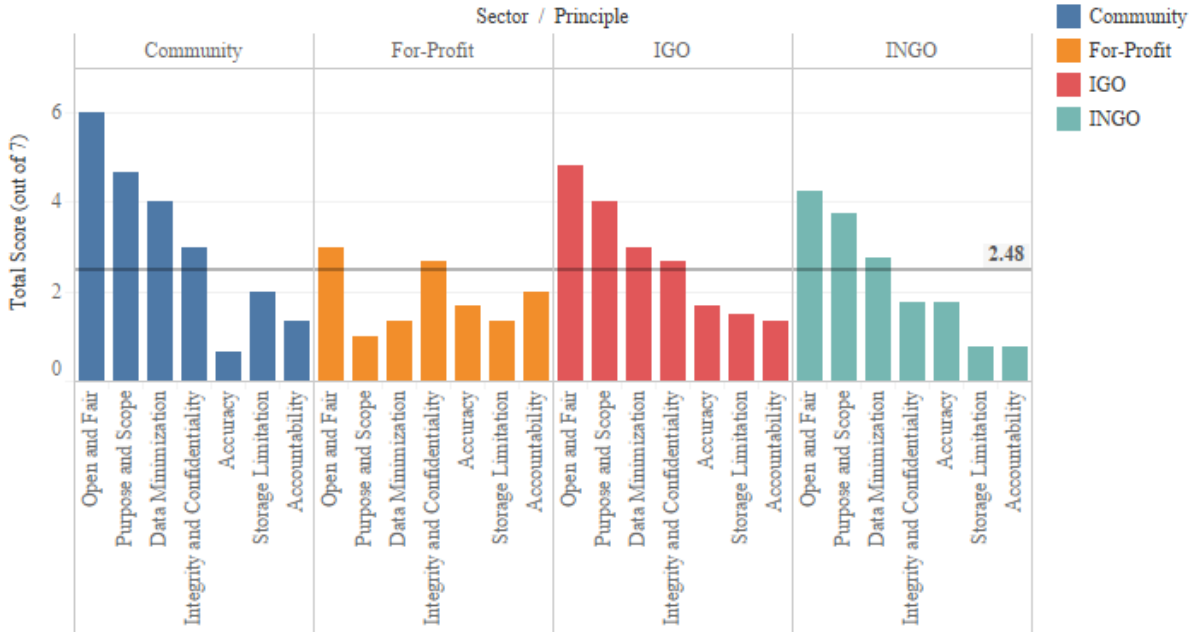

Figure 1. Weighted Average by Organization Sector.

Table 3. Weighted Score by Organizational Sector.

Sector	Community	For-Profit	IGO	INGO
Accountability	1.33	2.00	1.33	0.75
Accuracy	0.67	1.67	1.67	1.75
Data Minimizaton	4.00	1.33	3.00	2.75
Integrity and Confidentiality	3.00	2.67	2.67	1.75
Open and Fair	6.00	3.00	4.83	4.25
Purpose and Scope	4.67	1.00	4.00	3.75
Storage Limitations	2.00	1.33	1.50	0.75
Average (out of 7)	**3.10**	**1.86**	**2.71**	**2.25**
Percent Average	**44%**	**27%**	**39%**	**32%**

The most commonly referenced indicators were those within the Data Minimization principle, with 64% of indicators met across sectors. The least common were indicators within the Accuracy principle, with 38% of indicators met across all sectors (Table 4).

Table 4. Weighted Score by Principle.

Sector	Community	For-Profit	IGO	INGO	Total (out of 16)	Percent Total
Accountability	1.33	2.00	2.67	1.00	**7.00**	**44%**
Accuracy	0.50	1.25	2.50	1.75	**6.00**	**38%**
Data Minimizaton	2.40	0.80	3.60	2.20	**9.00**	**64%**
Integrity and Confidentiality	1.80	1.60	3.60	2.20	**8.00**	**50%**
Open and Fair	2.00	1.00	3.22	1.89	**8.11**	**51%**
Purpose and Scope	2.00	0.43	3.43	2.14	**8.00**	**50%**
Storage Limitations	2.00	1.33	3.00	1.00	**7.33**	**46%**

The largest number of organizations referenced the indicators “purpose and rationale” within the Purpose and Scope principle and “specific tools and practices” within the Data Minimization principle. Both were referenced by 14 organizations. The least common indicator, referenced once, was “system sustainability” also within the Data Minimization principle (Table 5, Fig. 2).

Table 5. Total Indicator Count by Sector

Indicator	Principle	Community	For-Profit	IGO	INGO	Total
Purpose and rationale	Purpose and Scope	3	1	6	4	**14**
Specified tools and practices	Data Minimization	3	2	6	3	**14**
Domestic and international laws	Open and Fair	3	3	5	2	**13**
Guiding principles	Open and Fair	3	1	6	3	**13**
Limited and defined storage	Storage Limitation	3	2	5	2	**12**
Human rights language	Purpose and Scope	3	2	4	3	**12**
Security capabilities	Integrity and Confidentiality	3	2	4	3	**12**
Vulnerable populations	Open and Fair	3	1	5	3	**12**
Proportional data processing	Data Minimization	3	1	4	3	**11**
Context defined	Purpose and Scope	3		5	3	**11**
Data protection impact	Data Minimization	3		4	3	**10**
Key terms defined	Purpose and Scope	1	2	5	2	**10**
Specific data risks	Integrity and Confidentiality	2	1	5	2	**10**
Data types defined	Data Minimization	2	1	4	2	**9**
Oversight committee	Accountability	2	2	3	2	**9**
System compliance	Accountability	2	3	3	1	**9**
Third party consent	Integrity and Confidentiality	2	2	3	2	**9**
Data subject can access data	Open and Fair	1	1	3	2	**7**
Data subject can correct data	Accuracy	1	1	3	2	**7**
Data transfer agreement	Integrity and Confidentiality	2	2	3		**7**
ICT trends	Purpose and Scope	2		2	3	**7**
Objection and refusal process	Accuracy	1	1	3	2	**7**
Open source	Open and Fair	2		2	2	**6**
Participatory or user design	Purpose and Scope	2		2	2	**6**
Redress and dispute process	Accuracy		3	2	1	**6**
Feedback loops	Storage Limitation	2	1	1	1	**5**
Personal data de-identification	Storage Limitation	1	1	3		**5**
Accessible in many languages	Open and Fair	1	1	2	1	**5**
Accuracy mechanisms	Accuracy			2	2	**4**
Gaps in policy	Purpose and Scope	2		1	1	**4**
SDGs	Purpose and Scope	1		3		**4**
Organizational refusal process	Accountability		1	2		**3**
Template consent forms	Open and Fair	2		1		**3**
Gender perspective	Open and Fair			1	1	**2**
Policy is mandatory	Integrity and Confidentiality		1	1		**2**
System sustainability	Data Minimization					**1**

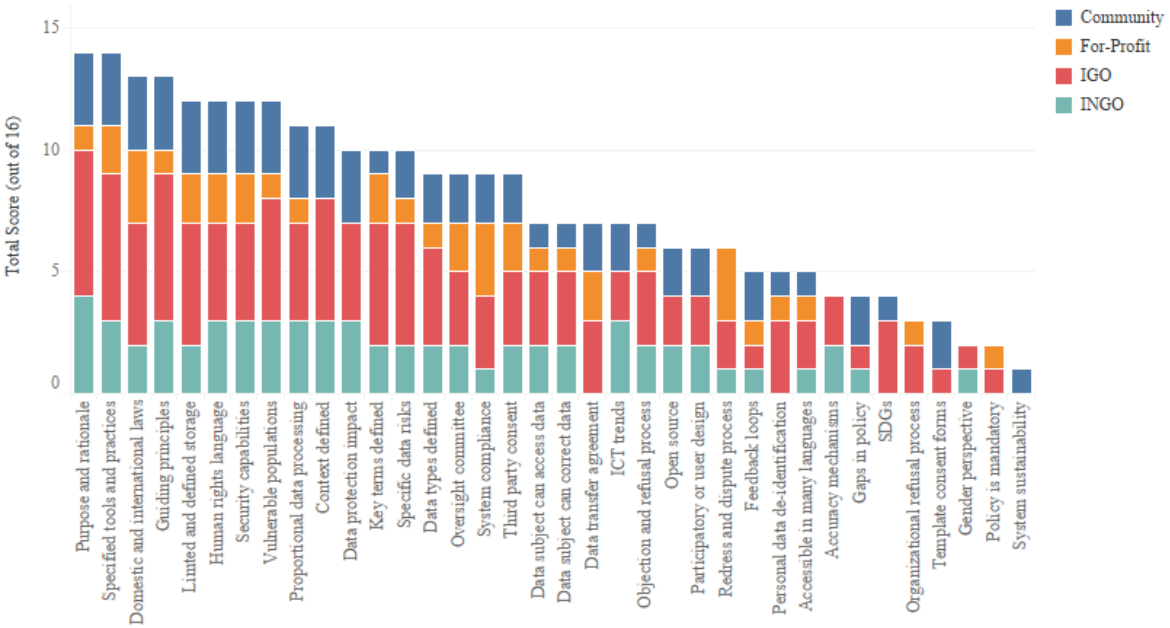

Figure 2. Total Number of Indicators Met by Sector.

In regard to the second research question, the results showed a wide range in the way organization sectors addressed data protection. This research revealed several interesting patterns in how humanitarian organizations prioritize and approach responsible data protection;

1. Community organizations are the most comprehensive in their data protection perspectives;
2. There is significant variation in the priorities of For-Profit Organizations and Intergovernmental Organizations;
3. System sustainability and integration with the SDGs have yet to be reconciled;
4. Few organizations are applying a gender perspective to data issues;
5. Policies do not appear to have improved over time;

The following sections discuss these findings, and how they impact ICT and data use in more detail.

Data Protection within Community Organizations

Community initiatives, by nature, include a wider range of perspectives than other humanitarian sectors (Berens 2016). Most commonly developed out of a shared goal or challenge, community collectives represent a variety of perspectives including individuals, organizations, donors, government, and nongovernmental organizations. Community organizations ranked the highest on average, meeting 44% possible indicators (Table 3). Community organizations particularly succeeded in indicators within the Open and Fair and Purpose and Scope principles (Fig.1). More specially, organizations scored high in the inclusion of human rights language, guiding principles, existing data law, and specific risks to vulnerable populations (Table 5).

This indicates a level of forethought to the potential negative consequences of ICT data as well as to harm prevention mechanisms. This combination of indicators is especially important in addressing what Duffield calls "ethical schizophrenia", where "people in the global-North are… increasingly concerned with their own online privacy…when applied to the global-South, the same technologies morph into a benign force for good" (Duffield 2014).

However, Community organizations were lacking in their inclusion of Accuracy and Accountability indicators. UAViators, a digital community for humanitarian UAV operators and manufacturers, failed to mention any of the six possible indicators (Fig.3). Accuracy and Accountability indicators included data subject refusal, data correction, redress, accuracy mechanisms, and oversight. While it is not unexpected that a relatively new technology, being entirely remote and non-terrestrial, does not prioritize individual data agency, it does point to an oversight within the UAV community. In a field where technology is evolving at an increasingly rapid pace, individual identification through aerial imagery is no longer an abstract concern. This

may also be an example of technology outpacing existing restrictions and knowledge. Similar to DigitalGlobe's new foot-by-foot satellite resolution, data collected by UAVs are loosely bound by legal precedent and little research has explored the individual privacy and protection risks now at play.

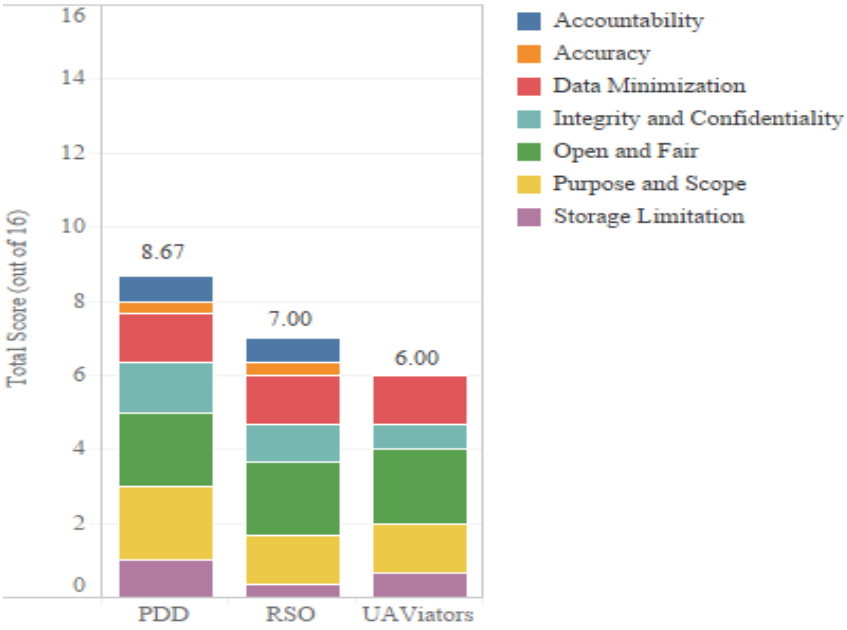

Figure 3. Community Organizations by Principle.

For-Profit and IGO Partnerships

While the overall scores of For-Profit organizations (27%) and IGOs (39%) are relatively similar, the way in which each sector received their score is very different (Table 3). The data showed significant variation in indicators met. IGOs were much more likely to include explicit statements on how and why data was applied along with the context behind use. IGOs were also more likely to include key definitions of related terms like "personal identify information" and define specific risks faced by vulnerable populations. Conversely, For-Profit organizations included more indicators related to data accuracy, storage, and accountability than their IGO

counterparts (Fig. 4). This disparity in policy priorities is important to discuss within the context of For-Profit/IGO partnerships.

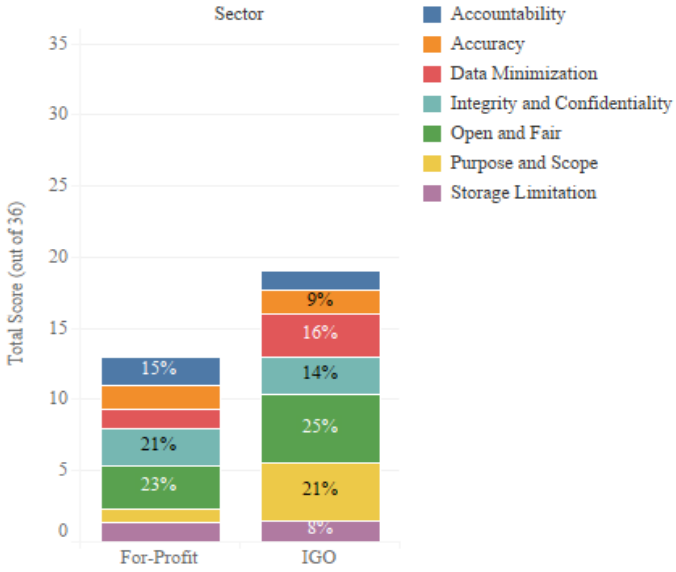

Figure 4. For-Profit and IGO Organizations by Principle.

One topical example is the newly unveiled five-year partnership between the Office of the United Nations High Commissioner of Human Rights (OHCHR) and Microsoft "to harness the potential of technology to tackle human rights abuse more effectively, and…respond to the new human rights challenges that may be posed by technology" (Reuters 2017). The involvement of technology giants, such as Microsoft, in humanitarian efforts is a relatively new development. However, centralizing the sensitive personal data of the world's most vulnerable on to privately owned third party servers may expose data subjects to more risks than benefits. This is especially true if there is no consensus around issues of data protection and privacy.

For instance, within their data policy, OHCHR includes provisions that data subjects can access, correct, and opt out of data collected. They promote participatory design in data collection and acknowledge the importance of applying a gender perspective to technology. As of November 2016, Microsoft's policy included none of these indicators. And, while the two

organizations both include indicators related to oversight and compliance, neither make mention of third party transfer agreements or data sharing.

SDGs in Data Protection Policy

In regard to the 2015 shift in data rhetoric, only two organizations referenced the SDGs within their policies, the majority of which are UN affiliated (Table 5). And sustainability, by far the strongest theme of the new Development Agenda, was only referenced within one organizational policy. Thus far, humanitarian organizations have disseminated and tested ICT infrastructure within low-connectivity areas with little thought to IT sustainability (Jacobsen 2015). Rather than strengthen existing infrastructure, humanitarian ICTs are developed specifically to circumnavigate subprime IT landscapes (Duffield 2016). The private, and often cheap, roll out of IT networks can undermine a government's responsibility to invest in sustainable infrastructure.

Gender and Data

One of the main take-aways from the MDGs was the need for more disaggregated statistics to account for the most vulnerable and marginalized populations, specifically women (UNHCHR 2015). Disaggregated gender data is useful as it "takes into account the relationship between women and men based on socially or culturally constructed and defined identities, status, roles and responsibilities" (OHCHR 2016). A gender perspective in data collection includes strategies to reduce barriers to participation of women and ensure equal and accurate representation at all stages of a data cycle.

Only two organizations include gender as a priority in responsible data (Table 5). Though six organizations referenced participatory design principles, which could include gender specific

practices. One challenge that emerges from the disaggregation of population data is the increased risk of data re-identification.

Re-identification is the process where anonymized data is connected back to its owner. This can lead to the exploitation of financial, behavioral, or biometric data through large scale data mining. To prevent re-identification, safeguards must be built into a data management systems. Thirty-one percent of organizations referenced the importance of de-identification mechanisms. However, Principles of Digital Development was the only organization to reference gender perspectives in tandem with de-identification mechanisms (Table 6).

Table 6. Gender, User Design, and De-identification Indicators.

Indicators	Accenture	HHI	HOT	OHCHR	Oxfam	PDD	UAViators	UNGP	WFP
Gender perspective				X	X				
Participatory or user design		X	X	X		X	X		X
Personal data de-identification	X			X		X		X	X

Lack of Improvement Over Time

The two years since the adoption of the SDGs have resulted in a plethora of new guidelines, codes of conduct, policies, and statements around responsible data. However, there does not yet appear to be improvement in the comprehensiveness of the policy (Fig.5). When graphed temporally with a linear trend, r and p scores were not significant.

Figure 5. Organization Score by Policy Publication Date.

Discussion and Recommendations

As humanitarian actors continue to expand responsible data practices, a few themes should be given specific attention:

1. Develop policy based on existing binding and non-binding precedent.

This study demonstrates the wide range in which humanitarian organizations are crafting data policy. Legal precedent seems to be encouraging organizations to comply with indicators related to security and privacy. For instance, the For-Profit and IGOs were more comprehensive in their technical and legal indicators, most likely because of existing and binding data frameworks like the GDPR. With underlying human rights and humanitarian principles as the foundation, policies should then aim to include specific domestic and international laws by which to hold themselves accountable. Adhering to existing law, not only ensures channels for redress and retribution on the behalf of the data subject, but also ensures data standards are upheld in sharing and transfer practices.

2. Adopt shared data protection best practices across the entire humanitarian landscape.

A consensus on best practices is necessary for the sustainable evolution of digital humanitarianism. Similar to the Sphere Standards, such guidelines may provide clear limitations and boundaries for organizations as they adopt new ICTs. The guidelines would need to be flexible enough to handle new technology, but stringent enough to offer channels of accountability. Based on the results of the study, the Principles for Digital Development seem like a potential candidate. PDD was the most comprehensive in its reference to the GDPR principles as well as underlying human rights. As a Community organization, PDD can act as a neutral bridge between government, civil society, and the private sector.

3. Implement critical monitoring and evaluation of ICT practices.

In order to ensure rights are being protected, organizations must monitor and evaluate existing and future ICT actives. One suggestion is to mandate all ICTs be reviewed and approved by an oversight committee, such as an Institutional Review Board. At this stage, the sands are constantly shifting in terms of ICT development and application. Research must be done to assess the potential risks associated with the introduction of ICT in humanitarian work. Many organizations referenced data protection impact assessments to be implemented before, during, and after an initiative as a means to determine affect.

4. Incorporate responsible data practices at all stages of the data lifecycle.

The main challenge in ICT activities will be translating high level policy into on-the-ground action. In the case of an emergency or conflict, many best practices, like the right to access data, becomes increasingly difficult. Education and training on data rights should be incorporated as a mandatory part of all employee training.

5. Encouraging horizontal accountability.

Developing partnerships between sectors will require organizations to hold one another accountable. To prevent gaps in protection during data sharing and transfer, organizations should have clear third-party agreement forms with specific rights language included. The privacy policies of For-Profit organizations should aim to be more transparent and accessible to those outside of the industry. The danger of For-Profit partnerships lies in the commodification of aid. The humanitarian community must balance the adoption of capitalistic practices with ethical checks and balances.

Conclusion

Based on lessons learned from the MDGs, it is no longer acceptable to blindly collect and share data without accepting responsibility and ensuring the protection of individuals and communities. Progress already made by humanitarian organizations must be maintained by building off of existing rights based policies and create "a normative framework appropriate for the unique challenges and opportunities that the growing reliance on digital data and ICTs presents" (HHI 2017).

Technological advancement will not be enough to mitigate the growing number of crisis in the world. Strong partnerships, creative community initiatives, and foundational ICT systems strengthening are also critical and should be encouraged. Organizations at the forefront of humanitarian information management and exchange like UN WFP, PPD, and HHI should continue to collaborate with other organizations on the adoption of shared humanitarian data protection principles. Strengths from For-Profit organizations like accountability, storage limitation, and security must be blended with ethical frameworks to include a defined purpose, human rights language, and attention to vulnerable populations.

Delimitations

The study is delimited as follows:

- Only data privacy and protection policies implemented after the adoption of the 2015 SDGs were considered. When a month-specific publication date was not available, the policy was set at the first month of the year.
- Only organizations explicitly dealing with ICT data were evaluated.
- Analysis was limited to the comprehensiveness of the policy documentation with the assumption that the application of these policies is reflected in field practices.
- Selected organizations were chosen to represent specific sectors within the humanitarian landscape.

Limitations

The study is limited as follows:

- Organizational policy documents are often not comprehensive and may not reflect the views and practices of the organization.
- The emergent properties of ICTs and data protection policies limit the availability of organizational information.
- The study is based predominately on a European Union perspective of human rights and data protection regulations.
- Organizations may not represent a comprehensive overview of existing approaches.
- The presence of each of the data protection policies in each organization's policy documents was determined on a binary system (included, not included) based solely on the researcher's perspective and judgement.

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Appendix A. Selected Organizations

Accenture: Privacy Statement
Publication date: January 2017
Organization sector: For-Profit
Sector and purpose for the use of data: Biometrics, technology consulting, big data
Document type: Website
Link to document: https://www.accenture.com/us-en/privacy-policy#CookieIDA

DigitalGlobe: Privacy Policy
Publication date: January 2017
Organization sector: For-Profit
Sector and purpose for the use of data: Satellite imagery, data lending
Document type: Website
Link to document:https://dg-cms-uploads-production.s3.amazonaws.com/uploads/legal_document/file/1/FORM_WW0001D_ProductTermsandConditions_Ver12-7-16.pdf

Harvard Humanitarian Initiative: The Signal Code
Publication date: January 2017
Organization sector: INGO
Sector and purpose for the use of data: Academia, humanitarian crisis, human rights
Document type: Report
Link to document: http://hhi.harvard.edu/publications/signal-code-human-rights-approach-information-during-crisis

Humanitarian Open Street Map: HOT Wiki Page
Publication date:
Organization sector: INGO
Sector and purpose for the use of data: Crowd Source, disaster relief
Document type: Website
Link to document:
http://wiki.openstreetmap.org/wiki/Humanitarian_OSM_Team#HOT_Mission_and_Objectives

Microsoft: Global Human Rights Statement
Publication date: November 2016
Organization sector: For-Profit
Sector and purpose for the use of data: Big data, innovation, IT infrastructure
Document type: Website
Link to document:https://www.microsoft.com/en-us/about/corporate-responsibility/CMSFiles/Microsoft-Global-Human-Rights-Statement-en-us.pdf?version=e2899017-f8e1-bbc8-ec49-d803e67d1279

OHCHR: A Human Rights-Based Approach to Data: Leaving No One Behind in the 2030 Development Agenda
Publication date: February 2016

Organization sector: IGO
Sector and purpose for the use of data: Human rights, ICTs for development
Document type: Report
Link to document:
http://www.ohchr.org/Documents/Issues/HRIndicators/GuidanceNoteonApproachtoData.pdf

Oxfam: Responsible Program Data Policy
Publication date: April 2015
Organization sector: INGO
Sector and purpose for the use of data: Poverty eradication, disaster relief, advocacy, policy
Document type: Report
Link to document:
https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/story/oxfam-responsible-program-data-policy-feb-2015-en_1.pdf

Principles for Digital Development: From Principle to Practice: Implementing the Principles for Digital Development
Publication date: February 2016
Organization sector: Community Organization
Sector and purpose for the use of data: Development, digital rights
Link to document: http://digitalprinciples.org/wp-content/uploads/2016/02/mSTAR-Principles_Report-v6.pdf

Regional Support Office of the Bali Process: Policy Framework for the Regional Biometric Data Exchange Solution
Publication date: December 2015
Organization sector: Community Organization
Sector and purpose for the use of data: Human trafficking, biometrics, intelligence sharing, regional cooperation
Document type: Report
Link to document:
http://www.baliprocess.net/UserFiles/baliprocess/File/Policy%20Framework%20for%20the%20RBDES%20part01.pdf

UAViators: Code of Conduct and Best Practices
Publication date: March 2017
Organization sector: Community Organization
Sector and purpose for the use of data: UAVs, humanitarianism, drone law
Document type: Website
Link to document: https://docs.google.com/document/d/1Uez75_qmIVMxY35OzqMd_HPzSf-Ey43lJ_mye-kEEpQ/edit

UN Global Pulse: Privacy and Data Protection Principles
Publication date:
Organization sector: IGO
Sector and purpose for the use of data: UN data development, big data, innovation

Document type: Website
Link to document: http://www.unglobalpulse.org/privacy-and-data-protection-principles

UNHCR: Policy on the Protection of Personal Data of Person of Concern to UNHCR
Publication date: May 2015
Organization sector: IGO
Sector and purpose for the use of data: UN refugee assistance, registration, and resettlement
Document type: Report
Link to document: http://www.refworld.org/pdfid/55643c1d4.pdf

UNGGIM: Strategic Framework on Geospatial Information and Services for Disaster
Publication date: May 2016
Organization sector: IGO
Sector and purpose for the use of data: UN data infrastructure, spatial data, satellite imagery
Document type: Report
Link to document: http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/02/HCC-Annual-Report.pdf

UNOCHA: Building Data Responsibility into Humanitarian Action
Publication date: May 2016
Organization sector: IGO
Sector and purpose for the use of data: UN collaboration, humanitarianism, information sharing
Document type: Report
Link to document:
http://www.unocha.org/sites/unocha/files/Building%20data%20responsibility%20into%20humanitarian%20action.pdf

World Food Program: Guide to Personal Data Protection and Privacy
Publication date: June 2016
Organization sector: IGO
Sector and purpose for the use of data: UN food assistance, cash based transfer programs
Document type: Report
Link to document:
https://docs.wfp.org/api/documents/e8d24e70cc11448383495caca154cb97/download/

World Vision: Data Protection, Privacy and Security for Humanitarian & Development Programs
Publication date: May 2017
Organization sector: INGO
Sector and purpose for the use of data: Religious affiliation, well-being of children, activism
Document type: Report
Link to document: http://www.wvi.org/sites/default/files/Discussion%20Paper%20-%20Data%20Protection%20Privacy%20%26%20Security%20for%20Humanitarian%20%20%26%20Development%20Programs%20-%20FINAL.pdf

APPENDIX B: Evaluation Matrix

PRINCIPLE/indicator	WV	HHI	HOT	OXFAM	UNHCR	UNGP	OHCHR	WFP	GGIM	OCHA	RSO	UAV	PDD	ACNT	DG	MCRST
PURPOSE AND SCOPE																
Purpose and Rationale	X	X	X	X	X	X	X	X	X	X	X	X	X			X
Description of context	X	X		X	X		X	X	X	X	X	X	X			
Key terms defined		X		X	X		X	X	X	X			X		X	X
ICT trends are directly referenced	X	X	X						X	X	X	X				
SDGs are referenced						X	X		X				X			
Participatory or user design principles included		X	X				X	X				X	X			
Gaps in Policy Addressed	X								X		X		X			
OPEN AND FAIR																
Guiding Principles referenced	X	X	X		X	X	X	X	X	X	X	X	X			X
Domestic and International laws are referenced	X	X			X		X	X	X	X	X	X	X	X	X	X
Human Rights language used	X	X		X	X		X	X		X	X	X	X	X		X
Data subject can access data		X	X		X		X	X			X			X		
Template Consent and Privacy forms available								X			X	X				
Policy or guideline publicly accessible in multiple languages				X			X	X					X			X
Vulnerable Populations referenced	X	X		X	X	X	X	X		X	X	X	X			X
Open Source referenced	X		X						X	X		X	X			
Gender Perspective referenced				X			X									
DATA MINIMIZATION																
Data types defined		X		X	X			X	X	X	X	X			X	
Data Protection Impact Assessment referenced	X	X		X	X	X		X		X	X	X	X			
Data processing necessary and proportional	X	X		X	X	X		X		X	X	X	X	X		
System Sustainability is referenced													X			
Specified tools and practices	X	X	X		X	X	X	X	X	X	X	X	X	X		X
ACCURACY																
Accuracy mechanisms referenced		X		X	X			X								
Data subject can correct data		X	X		X		X	X			X			X		
objection and refusal processing referenced		X		X	X		X	X					X	X		
Redress and dispute resolution mechanisms		X			X			X						X	X	X
STORAGE LIMITATION																
Date storage is defined and limited		X		X	X	X		X	X	X	X	X	X	X	X	
Feedback loops referenced		X								X		X	X			X
Personal data de-identification is referenced						X	X	X					X	X		
INTEGRITY AND CONFIDENTIALITY																
Specific data risks are referenced	X	X			X	X	X	X		X		X	X			X
Security capabilities are referenced	X	X		X	X			X	X	X	X	X	X	X	X	
Third party transfer consent and privacy		X		X	X	X		X			X		X	X	X	
Policy is mandatory					X									X		
Data transfer agreement is referenced					X			X		X	X		X	X	X	
ACCOUNTABILITY																
Oversight Committee referenced		X		X	X		X	X			X		X		X	X
Organization refusal request process referenced					X			X						X		
System to enforce compliance with standards				X	X		X	X			X		X	X	X	X