The Center for Research Libraries

GLOBAL RESOURCES NETWORK®

Human Rights Electronic Evidence Study

Final Report

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I. Introduction

In 2008, the Center for Research Libraries (CRL) received an award from the John D. and Catherine T. MacArthur Foundation to assess the practices and technologies used by a variety of human rights monitoring groups in the United States, Mexico, Rwanda, and Russia to create and collect documentation, particularly electronic documentation, and the adequacy of that documentation for supporting advocacy, investigations, reporting, and legal proceedings on a local and international basis.

From the social media reports of violence following the 2008 Kenya elections to the widely shared videos of the protests of the Arab Spring, human rights organizations (HROs) around the world increasingly collect, create, and disseminate documentation in electronic form. While electronic "evidence" has been produced in a variety of media for more than four decades, the recent explosion of communication technologies and emergence of social media have offered unprecedented opportunities for the collection, use, and distribution of digital materials by human rights activists and advocates.

International NGOs like Human Rights Watch and WITNESS collect citizen journalists' digital photos and cell phone videos of instances of state-sponsored violence. Other groups compile and analyze statistics and mine digital news and incident reports using various types of proprietary and open source software. In the past, documentary evidence collected or produced by human rights and civil society organizations has had to survive for many years in order to be used in official investigations, legal proceedings, and government reparations, which can follow the documented events by years and even decades. For example, the incriminating files discovered in the Khmer Rouge's notorious S-21 prison in Phnom Penh in the 1980s were introduced as evidence in the international tribunal first convened in 2006.

With the fragility of digital data and rapid obsolescence of technology, troves of digital content likely would not survive if untended in similar conditions. The electronic evidence collected must be durable and stable enough to support investigations and judicial proceedings that can occur years after the events recorded. Evidence needs to be compatible with a variety of devices to remain usable even for short periods of time. Meanwhile, advocates must preserve the "chain of custody" of such materials, so that the documentation is credible as evidence and admissible in a court of law. The survival of such documentation from one generation to the next is also important to the affected societies, so that the historical record can be a hedge against deniability of crimes and abuses. Nelson Mandela famously lamented the corrosive effects of efforts to "erase the memory" of apartheid in South Africa.

The implications of the long-term use and storage of digital materials led CRL to propose the assessment of international and regional organizations' use of electronic documentation and to create a set of recommendations for libraries, archives, and HROs to manage these assets. The study stemmed in part from a 2007 public conference "Human Rights Archives and Documentation: Meeting the Needs of Research, Teaching, Advocacy and Social Justice," organized by the Center for Human Rights Documentation and Research (CHRDR) at Columbia University and cosponsored by the CRL Global Resources Network, the University of Texas Libraries, and the Center for the Study of Human Rights (Columbia).

The forum brought librarians and archivists together with human rights stakeholders from many disciplines to discuss the complex issues surrounding the "lifecycle" of human rights documentation:

- the creation of documentation and evidence relating to a human rights offence;
- the custody and use by individuals and institutions for purposes of advocacy or justice;
- the maintenance of these records by local organizations and their eventual disposition;
- the organization, preservation, and granting of access to documentation with appropriate restrictions; and
- the further use in teaching, research, legal proceedings, and social action.

Participants in the forum provided corroboration that significant human rights documentation is at risk or is being lost altogether. The losses are largely attributable to the inability of monitoring organizations and investigators in regions of conflict to adequately manage and maintain born-digital content. Protecting the integrity and utility of electronic evidence is a matter of **technology** and **practice**. Activist organizations must use technologies that are readily at hand, which may meet their immediate needs but often lead to unusable or compromised data and evidence in the long term. Documentation and evidence delivered to the courts and international human rights NGOs like Human Rights Watch, WITNESS and Amnesty International is often not able to be presented in court, distributed through the media, or disclosed at all because the proper releases and waivers were not obtained at the point of collection. Information, tools and guidance are needed by regional activists and organizations on the practices and technologies that can enable their data to better serve "downstream" purposes.

I.A. Project Aims

The Human Rights Electronic Evidence Study focused on two principal objectives:

- to assess the practices and technologies used by local and regional monitoring groups and activists to create and collect documentation in electronic format of human rights abuses and violations; and
- to assess the adequacy of that documentation in supporting advocacy, investigations, reporting, and legal proceedings on a local and international basis.

The analysis focuses on original documentation in electronic form collected or produced by activists and advocacy groups. The focus of the study is on the evidence itself, and does not deal with the many kinds of secondary or derivative materials based on the documentation, such as reports, studies, press releases, and so forth. Examples of such documentation include text messages, cell phone images (still and moving), digital audio, photography, and video, websites and Web-based documents, and recordings of audio and video broadcasts. As media technologies and formats change rapidly, however, the assessment presented herein can thus only be a snapshot of current practice *vis-à-vis* emerging technologies. However, the principles of collection, organization, and management of documentation will remain constant and can thus guide long-term action by organizations collecting and using electronic human rights documentation, in whatever form that documentation exists.

I.B. Methodology

The project team at CRL, consisting of James Simon (principal investigator), Sarah Van Deusen Phillips (project coordinator), and Marie Waltz (special projects manager), provided most of the analysis for the project. Additional advisors and partners provided support. (See Section *I.D.* for a list of advisors and participants).

CRL's conducted a preliminary assessment of organizations and types of documentation involving:

- analysis of activities of various regional and international organizations with respect to their gathering and use of documentation in electronic form;
- identification of the types of documentation collected, file formats, and platforms used by the organizations;
- investigation of the various means and channels through which documentation and evidence are used, distributed, and stored; and
- mapping the flow of information and documentation from initial capture to end use.

Following the preliminary assessment, project staff conducted in-depth interviews with a variety of organizations (listed below in *Section I.C.*) to add more detail to the practices and tools in use. This was done through phone interviews and on-site visits, with follow-on discussions and clarification by e-mail or other written communication. CRL sought to examine how organizations in areas supported by the

MacArthur Foundation collect and handle documentation and evidence. See *Appendix IX.A.1* for a table of the organizations surveyed and types of electronic documentation activities undertaken by each.

CRL focused on human rights advocacy activities and the monitoring and investigation of human rights violations in Mexico, Rwanda, and the Russian Federation. While CRL's initial proposal to the MacArthur Foundation proposed assessing organizations in Nigeria, team members were not able to identify a sufficient number of organizations engaging in electronic documentation to justify a site visit. Based on recommendations from interview subjects and project advisory members, CRL selected Rwanda as an alternate site for its assessment.

CRL prepared a detailed survey framework to guides its discussions with organizations (see *Appendix IX.A.2*). However, discussions tended to be less definitive and specific than prescribed, given the reluctance of many grassroots organizations to share openly their practices and internal processes used in their sensitive areas of work. To facilitate trust in the discussions, CRL engaged organizations and individuals already working in the regions assessed to identify appropriate institutions and facilitate contacts. In Mexico, CRL worked with the Chiapas Media Project and Promedios de Comunicación Comunitaria to arrange meetings and engage human rights leaders. In Rwanda, CRL worked with the Kigali Genocide Memorial Center and the University of Texas Human Rights Documentation initiative to identify and arrange for visits. In Russia, CRL enlisted the help of HURIDOCS to perform the assessments of various organizations, many of which had already worked with HURIDOCS on other projects. Katherine Machalek, Project Manager at HURIDOCS, conducted the assessments in Moscow and St. Petersburg on the project's behalf.

Following the assessments, CRL engaged several advisors to review the outcomes of the project to date and to advise on next steps. The second phase of the project aimed to assess the adequacy of documentation practices to support the regional groups' own internal ends and "downstream" purposes such as international monitoring and reporting, proceedings in international criminal courts and tribunals, and government reparations.

The project team and advisory committee were tasked to:

- identify the various types of "downstream" purposes of documentation and organizations engaging in use of documentation to serve those purposes;
- evaluate standards and requirements of electronic documentation for such purposes, such as metadata standards, documentation of provenance, and legal requirements governing the admission of electronic documentation as evidence; and
- identify a set of best practices for collecting and maintaining the full range of electronic documentation.

In identifying best practices, the project sought to identify tools that "bridge the gap," such as manuals, guides, templates; written guidelines, and specifications and metadata requirements for electronic documentation. These recommendations and tools, described herein, will also be presented on CRL's project Web site (accessible at: http://www.crl.edu/grn/hradp/electronic-evidence).

I.C. Organizations Visited

CRL performed assessments (with select on-site visits and/or phone interviews) of the following U.S. and international organizations:

- Amnesty International (USA and International Secretariat)
- Human Rights Information and Documentation Systems, International (HURIDOCS)
- International Center for Transitional Justice (ICTJ)
- Open Society Institute (OSI)
- Ushahidi
- WITNESS

CRL also inventoried and assessed the methods, technologies, and techniques used by advocacy and activist organizations in the field to gather and maintain documentation and information in electronic form.

Mexico (visits conducted February 2010)

- Las Abejas (Acteal, Chiapas)
- Canalseisdejulio (Mexico City)
- Centro de Derechos de Mujer de Chiapas (San Cristóbal de Las Casas, Chiapas)
- Centro de Derechos Humanos Fray Bartolomé de Las Casas (Frayba) (San Cristóbal de las Casas, Chiapas)
- CP (San Cristóbal de las Casas, Chiapas)
- Chiapas Media Project (Chicago, Illinois / San Cristóbal de las Casas, Chiapas)
- FP (Ocosingo, Chiapas)
- Promedios de Comunicación Comunitaria (San Cristóbal de las Casas, Chiapas)
- Red Nacional de Organismos Civiles de Derechos Humanos "Todos los derechos para todas y todos" (Red TDT) (Mexico City)
- SP (Ocosingo, Chiapas)

Rwanda (May-June 2010)

- IBUKA
- International Criminal Tribunal Rwanda (ICTR) Documentation Center
- Institute for Research and Dialogue for Peace (IRDP)
- IWACU
- Kigali Genocide Memorial Center
- Ligue Rwandaise pour la Promotion et la Defense des Droits de l'Homme (LIPRODHOR)
- National Archives of Rwanda
- National Commission for the Fight against Genocide (CNLG)
- Nottingham School of Education: Pervasive Monuments Project
- Solace Ministries
- Voices of Rwanda (VoR)

Russia (November 2010)

- Freedom of Information Foundation (FIF) (St. Petersburg)
- International Protection Center (IPC) (Moscow)
- Lesbian Gay Bisexual and Transgender (LGBT) Network (St. Petersburg)
- Memorial (Moscow, St. Petersburg)
- Mothers' Rights Foundation (St. Petersburg)
- Public Verdict Foundation (Moscow)
- Russian Justice initiative (SRJI) (Moscow)
- SOVA Center for Information and Analysis (Moscow)

In addition, the project team conducted interviews and discussions with several documentation and preservation projects administered at U.S. institutions of higher education and research, including:

- Human Rights Documentation Initiative (University of Texas at Austin Library)
- Human Rights Web Archive (Columbia University Library and Center for Human Rights Documentation and Research)
- Thomas J. Dodd Research Center (Archives and Special Collections at the University of Connecticut Libraries)
- Web Ecology Project (independent interdisciplinary research group)

I.D. Advisors and Consultants

Consultants

- Karen Engle (Rapoport Center for Human Rights and Justice, University of Texas at Austin)
- Daniel Brinks (Rapoport Center for Human Rights and Justice, University of Texas at Austin)
- Lucy L. Thomson, Esq.

Advisory Group:

- Daniel D'Esposito (HURIDOCS)
- Pamela Graham (Columbia University)
- Christian Kelleher (University of Texas at Austin)
- Grace Lile (WITNESS)
- Patrick Stawski (Duke University)

Additional Participants:

- Tessa Fallon (Columbia University)
- Katherin Machalek (HURIDOCS)
- Kathleen O'Neill (Rapoport Center)
- T-Kay Sangwand (University of Texas at Austin)
- Della Sentilles (Rapoport Center)
- Alex Thurman (Columbia University)
- Robert Wolven (Columbia University)

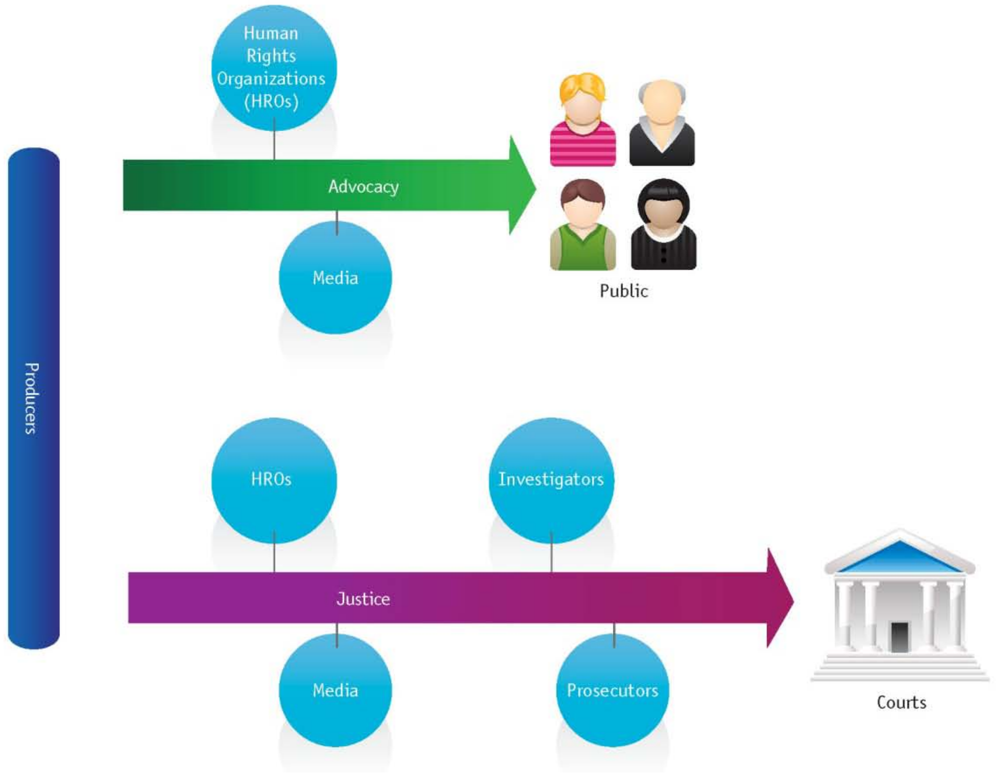
II. Landscape

Original documentation of human rights violations comes in many forms and is created for many purposes. For purposes of this study, electronic evidence is any primary record or information created or stored in digital form that is relevant to establishing the occurrence of a human rights event. Such evidence can be produced using a diverse array of devices including computers, cell phones, video recorders, and cameras. It may consist of first-person (primary source) recordings of events; testimonials and statements after the event has occurred; news articles and videos; communications and other electronic transactions between individuals or groups, forensic evidence collected with the intention of establishing facts of what occurred; and any manner of additional materials collected through real-time monitoring or subsequent investigation.

The types of documentation created in this manner may include, but are not limited to:

- digitally generated images and digitally encoded audio and video;
- networked communications, such as e-mail and text messages between individuals or among groups;
- information created and disseminated via web-based technologies (web pages, blogs, Twitter posts, and other social media);
- human- or computer-generated files in “born-digital” format (text files, word processing documents, spreadsheets, data files, indices, logs);
- database records, indices, reports, and supporting management systems;
- records of transactions (including communication logs and financial transactions);
- digitally converted evidence from content previously contained in analog formats (scanned images of a physical document, digitized audio or video, etc.).

Path of evidence



The figure above represents a generalized path of electronic documentation for use in two principle purposes: **advocacy** and **justice**. In both cases there are similarities in the process of collection, verification, and disposition of documentation. However, differences emerge in the timeframe for collection as well as in the requirements for handling material. Generally speaking, use of evidence by human rights organizations for advocacy purposes follows a shorter path from collection to dissemination to the public, while gathering evidence for local and international courts takes longer and involves more players in collection, authentication, organization and presentation of evidence in a manner that holds up to an international evidential standard.

In the section of this report on Documentation Lifecycle (*Section IV.*), CRL presents a number of examples of human rights organizations that use electronic media and documentation in their work. Two case studies in particular (briefly described below and detailed in *Appendices IX.C.1* and *IX.C.2*) illustrate the challenges institutions face in collecting and using such materials.

Gikonda Footage

A good example of the multiple uses of one piece of electronic evidence is the case study of film footage shot by British reporter Nick Hughes at the start of the Rwandan genocide. Using a digital camera, Hughes captured footage of the murder of a father and his daughter, along with other victims on April 11, 1994.[1] This footage is one of only three known pieces of footage of the killing that took place in Rwanda over one hundred days in 1994.

The first use of the footage was for public awareness, through media reports. Hughes' employer Worldwide Television News distributed the footage to a number of major networks shortly after capture and transmission. This footage was one of the first pieces of solid evidence of the atrocities occurring inside Rwanda.

Secondly, the documentation was used for purposes of justice. In 1998, Hughes' footage was entered as "Exhibit 467" in the trial of George Rutaganda, a leader of the Rwandan Hutu militia, before the International Criminal Tribunal for Rwanda. Mr. Rutaganda was convicted and sent to prison in 1998.

Finally, the footage has been used in a variety of settings: for research, teaching, and for remembrance. Scholar Alan Thompson used the footage in his research and publication of *The Media and the Rwanda Genocide*. Thompson reached out to witnesses and survivors to collect additional information and testimony, which was then used for a docudrama about the atrocities. The footage was archived at Carleton University to be used for future scholars and individuals pursuing truth of the events of 1994.

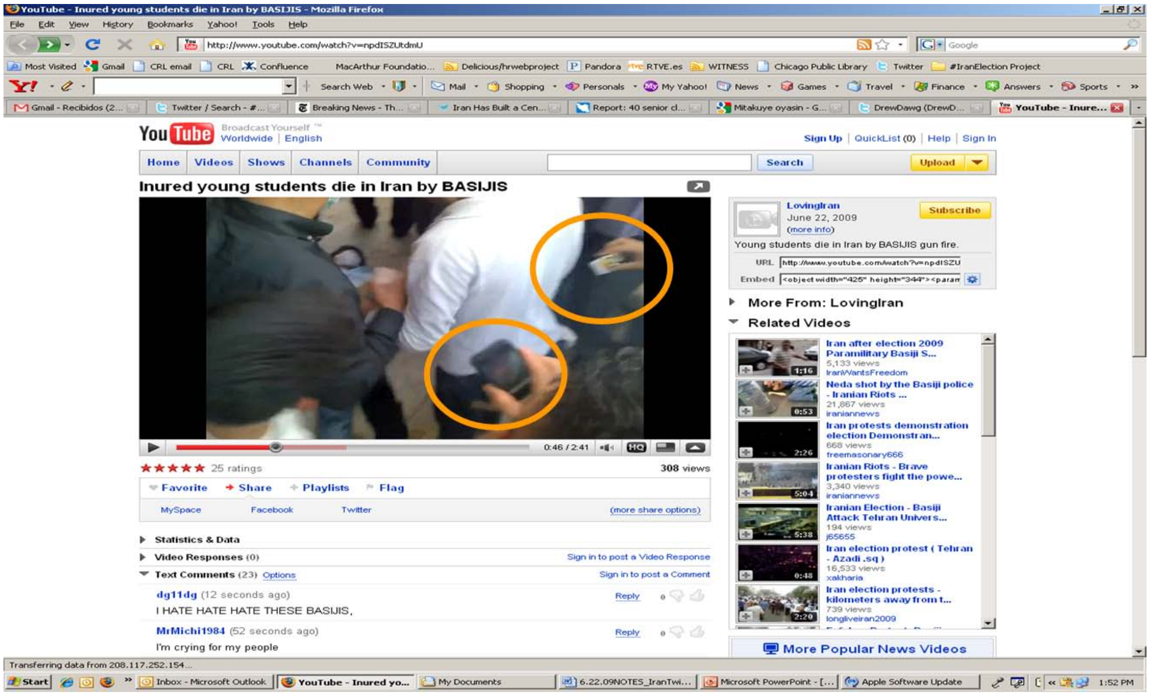
Iran Elections 2009

Altogether different was the part played by a variety of digital media in documenting post-election violence in Iran in 2009. The Iranian presidential elections pitted incumbent Mahmoud Ahmadinejad against three challengers. Perceived manipulation of the vote by the regime provoked widespread protests and civil unrest. The Iranian government responded by shutting down news outlets and many communication resources, and expelling foreign journalists from the country. In this restricted environment, the emergence of social media and digital devices played a significant role in subsequent events.

Demonstrators with cell phones produced photos, videos, and text messages during the protests. Thousands of videos were posted—or re-posted—to YouTube. By one account, more than 184,500 Videos on Iran were available by June 17, with a rate of 3000 videos being uploaded per day.[2]

[1] The footage can be viewed through the Toronto Star's website: http://www.thestar.com/videozone/616554--rwanda-s-forgotten-a-record-of-genocide

[2] http://mashable.com/2009/06/17/iranelection-crisis-numbers (Accessed December 22, 2011).


YouTube - Inured young students die in Iran by BASIJIS - Mozilla Firefox
File Edit View History Bookmarks Yahoo! Tools Help
http://www.youtube.com/watch?v=npdISZUtdmU
Most Visited Gmail CRL email CRL Confluence MacArthur Foundatio... Delicious/hrwebproject Pandora RTVE.es WITNESS Chicago Public Library Twitter #IranElection Project
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Inured young students die in Iran by BASIJIS

LovingIran
June 22, 2009
(more info)
Young students die in Iran by BASIJIS gun fire.

★★★★★ 25 ratings 308 views

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Iran election protest (Tehran - Azadi .sq) 0:48 16,533 views xakharia
Iran election protests - kilometers away from t... 2:20 739 views longliveiran2009

Statistics & Data
Video Responses (0) Sign in to post a Video Response
Text Comments (23) Options Sign in to post a Comment

dg11dg (12 seconds ago)
I HATE HATE HATE THESE BASIJIS,

MrMichi1984 (52 seconds ago)
I'm crying for my people

Screenshot of bystanders using cell phones to record the suffering of a protester who was shot in Iran.[3]

Twitter was also used to spread information about the protests. Using hashtags such as #iranelection, #iran, and #neda, Twitter users supplied a steady stream of information about events occurring in Iran. More than two million tweets were posted in the first 18 days of the protest.[4] Taken together, these brief messages provide a virtual blow-by-blow account of the civic activism and state violence in Iran during this turbulent period. Bloggers inside Iran and without actively reported and commented on the events leading up to the Iranian elections and during the violent protests, These comments provide invaluable information about Iranian youth and opposition movements, and the wide range of opinions held by those sectors of society.

While the true impact of social media and electronic evidence on events in Iran remains, as yet, uncertain, it is clear that these media generate important documentation that can be brought to bear on human rights advocacy and justice. In a paper written as part of her Master's fulfillment, Layla Hashemi (New York University) writes "Although the Internet cannot stop every unjust execution or sentencing from happening, it does have the power to report and permanently archive these injustices."[5]

Documentation Challenges

At the same time, as CRL investigated the current landscape of human rights activism and advocacy, some of the challenges of managing and using electronic documentation became apparent. These challenges can potentially undermine the usefulness and effectiveness of digital data and content for human rights-related work. They include:

[3] "Inured [*sic*] young students die in Iran by BASIJIS," http://www.youtube.com/watch?v=npdISZURdmU (Accessed June 22, 2009. No longer accessible).

[4] Web Ecology Project, *The Iranian Election on Twitter: the First Eighteen Days*, 26 June 2009 http://webecologyproject.org/wp-content/uploads/2009/08/WEP-twitterFINAL.pdf

[5] Hashemi, Layla M., *Dynamics of Contention : Media and Social Movement in Post-Revolutionary Iran*, New York University, 2010. http://resources.betterfly.com/uploads_resources/20000/19128/1306946294-9071.pdf

Volume and rapid distribution of electronic documents

Digital documentation is cheap, easy to produce, and quickly disseminated. This is due in large part to two technological developments. The first is the availability of small, cheap recording devices (including digital cameras, digital video recorders, cell phones, "smart phones" and the like). The second is greater access to free Internet communication tools, such as video webcast sites, email, blogs, and social networking services. These developments have allowed people to capture events in real time and provide quick access to channels of dissemination to expose to a wide audience human rights events that previously may have been limited to the communities that experienced abuses directly.

The combination of increasing use of digital devices and ready means to disseminate electronic communications creates a challenge of **volume**, as images, texts, and videos of human rights events flood the World Wide Web. Organizations are increasingly creating internal, operational documents via electronic means, resulting in a larger volume of production than paper documentation previously allowed. In both cases, human rights organizations, courts, investigators, and those that support them are challenged to cope with a rising tide of digital information and content.

Ephemeral nature of digital media

Digital documents are ephemeral—they lack the tangibility of hand written notes, printed photos, or typed reports. And because computer storage is a limited resource for non-profit organizations (particularly in developing world areas), such documents are frequently deleted with no hard-copy back-up. To further complicate this issue, all forms of digital documentation are created in a context of constantly changing technological media, making it difficult to maintain access to documents that do get saved. Digital data presented over the Web (such as videos, Twitter tweets, discussion forums) frequently are accessible for only limited periods of time. Links between Web pages suffer "link rot" or break down as content is moved, removed, or simply “disappeared.” The use of URL shorteners (tinyURL, Bit.ly) add an additional layer of complexity to the process of identifying, retrieving, and storing potentially relevant documentation (Tr.im, for example, shut down in 2009, causing all of their URL links to break).

Recording provenance, contextual information & metadata

Field workers often do not collect provenance (chain of custody), contextual information, and metadata associated with the digital documents they create—information that is necessary if documents are to continue to serve advocacy, policy making, and legal work. Documenting the provenance and contextual information about collected data is difficult in the heat of the moment (i.e., during an event). Training and protocols are required, but rarely available, for human rights workers and volunteers to ensure collection of information (e.g., date, time, participants, events captured) on the circumstances surrounding production of captured images.

Safety, consent, and confidentiality of producers and subjects of digital media

Material collected often contains sensitive, high-risk information, both to the witness as well as the subjects of the evidence. The ubiquity of capturing technology has allowed for greater opportunities to record events as they occur. However, the wide accessibility of information must be balanced against concerns for the security of the surrounding individuals. Public dissemination on the Internet may create risks of endangering people’s safety.

Institutions surveyed show inconsistent practices in obtaining consent to access and use content. Moreover, individuals with limited understanding of new technologies may not be fully aware of how content may be secured, distributed, manipulated, and otherwise used. Institutions must engage in a process to obtain "informed consent," clearly establishing the rights of the individuals (including the ability to rescind permission). Organizations should also have clearly stated guidelines for instances where obtaining informed consent is impossible but there is a clear and compelling need to record an event or situation.

Archival challenges of digital media

Many institutions lack a clearly stated policy of how to store and manage data once collected. This applies to internal documentation as well as externally-collected evidence. Documentation threatens to be lost due to backlogs of content that are not properly organized or backed-up. The diversity of file formats and the need to refresh and migrate data pose similar challenges. The problem of "version control" is particularly relevant in the electronic context, as multiple iterations of data may be made from original material. Clearly documenting how materials have been used (and stored) is a growing concern for most institutions.

The proper creation and collection of standardized metadata impacts the ability to manage, control, and store information over time. Separately-created files (spreadsheets, etc.) may not accompany digital objects as they migrate to new platforms, servers, or repositories. Similarly challenging is the maintenance of clearly established chain of custody of the documentation, important for potential uses of content in future legal processes.

III. Nature and Varieties of Electronic Evidence

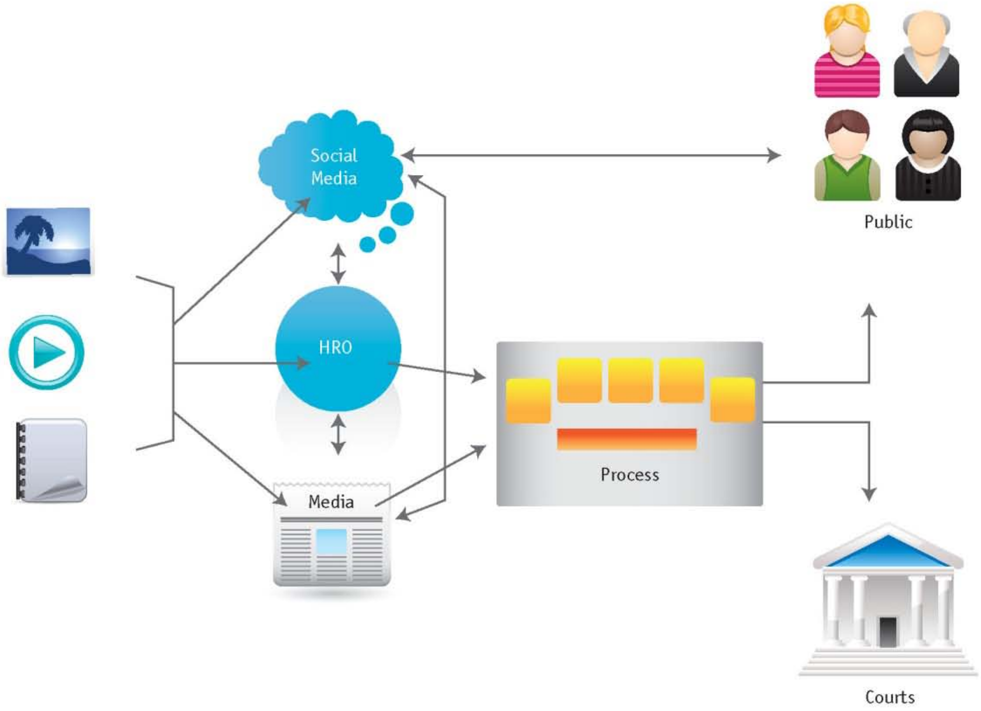
III.A. Producers of Electronic Evidence

The major producers of electronic documentation of human rights violations include:

- Victims
- Eyewitnesses
- Perpetrators
- Human rights organizations
- Government officials and investigators
- Non-state actors (companies, organizations, individuals)
- Courts
- Media
- Citizen media

These producers tend to have different motivations and goals in producing documentary evidence. Some evidence is produced in a deliberate attempt to create a record of an event or condition. Such is the case with recorded testimonies, news photographs, and cell phone photographs. Other forms of documentation are created for different, immediate practical purposes. Security videos, satellite photographs, and administrative records are commonplace outputs of everyday life, but can eventually prove useful as documentary evidence of events.

The basic supply chain of electronic evidence



Victims are those individuals and groups to whom a human rights abuse has occurred. Generally it is not possible for these people to record the event as it is happening. Usually a victim will record their story after the event has occurred. If these stories or testimonials are captured electronically, they are usually told to someone else (a lawyer, a human rights worker or a friend/family member). The purpose for which the testimony is captured varies—for purposes of advocacy, for healing and memory, or in the course of investigations or legal proceedings.

Eyewitnesses are those who observe an event as it is taking place. Their testimony is often gathered after the fact by police, lawyers or human rights workers in order to understand what happened at the time of a particular event. That testimony may be used to corroborate that of a victim in a court case, or it may be used as part of a memory project for a human rights campaign. Eyewitnesses include those capturing an event through a camera or small handheld device, and/or transmit a report of the event from the scene or shortly thereafter. (Cell phone videos were taken by eyewitnesses of the execution of Saddam Hussein and the killing of Muammar Qaddafi.)

Perpetrators of human rights abuse sometimes produce evidence. There have been instances when perpetrators themselves have recorded the human rights violations such as in the cases of the video and photographs taken by soldiers of Guantanamo prisoner abuse. This type of electronic evidence is being sought out more and more often as part of regular investigatory work.

Government officials and investigators are significant producers and collectors of documentation applicable to human rights matters. The human rights system is based on the responsibility of states to ensure respect for human rights and protect individuals from those that might violate those rights. Thus, government bodies and their representatives may generate evidence through the willful violation or neglect of basic principles stated in the International Bill of Human Rights and subsequent instruments. However, as human rights offences increasingly are perpetrated by entities other than the state (see below), government agencies also play a significant role in the protection of rights of the individual. As such, police and other government investigators produce information and records in the course of their work to determine whether human rights violations have taken place and, if so, the facts surrounding those events. Police and investigators are often aided by information forensics specialists, who provide technology and services for the proper handling of electronic evidence.

Non-state actors also play a role in human rights evidence creation. Broadly speaking, non-state actors are individuals or groups that are not part of the state but that operate with state-like authority. These include organizations such as the United Nations and the International Monetary Fund, the media, and even private corporations. A recent report from WITNESS, “Cameras Everywhere,” discusses the roles technology companies increasingly play in facilitating (or hindering) human rights.[6] For example, surveillance technologies provided by Nokia, Siemens, and Ericsson for legitimate law enforcement uses may also be used to censor human rights content or to monitor activists.

Human rights organizations monitor human rights situations. Their monitoring work involves observing and creating and collecting records of events in societies, sometimes over long periods of time to determine whether human rights standards are met in reality. They use the information they collect for advocacy, lobbying, education and campaigns, and policy change.

Courts collect and even produce evidence, including electronic evidence, in the course of indictments, hearings, trials, and other means of justice. Cases related to human rights are tried in local and national courts under the jurisdiction of individual countries; and in international courts and tribunals, which operate under the auspices of the International Criminal Court, UN and other bodies. Courts generate their own types of evidence, for example in the form of recorded testimony (audio, video, transcripts), and collect as evidence documentation produced by others. Trudy Peterson, former archivist of the United States described the types of electronic evidence produced by temporary international criminal courts–court pleadings, scanned records, exhibits, transcripts, digitized and born-digital recordings, and tracking and logging systems–and the challenges of their ultimate disposition.[7]

[6] WITNESS, *Cameras Everywhere Report 2011*, http://www.witness.org/cameras-everywhere/report-2011

[7] Huskamp-Peterson, Trudy, “Temporary Courts, Permanent Records,” Woodrow Wilson Center for Scholars, 2008. http://www.wilsoncenter.org/sites/default/files/TCPR_Peterson_HAPPOP02.pdf

The print, broadcast, cable, satellite, and Web **media** document and report on human rights events as they take place and after the fact. News reports and documentation are produced by professional journalists and photojournalists employed, or engaged on a freelance basis, by news organizations, and by wire services, syndicates, journalist collectives, and agencies serving those organizations. The media also play a significant part in collecting, maintaining and distributing documentary evidence produced by private citizens and other non-journalists (such as smuggled videos, documents, and other information).

Citizen media are a relatively new category of documentation producers. These are individuals outside the mainstream media profession who regularly post information and documentation on web distribution platforms, such as blogs, Twitter, and social media sites like Facebook.

III.B. Types of Electronic Evidence

Types of electronic documentation considered in this section include:

- Audio and video-recorded testimony
- Digital photographs
- Video documentation
- Email and other networked communications
- Text messages and SMS communications
- Database records, indices, and supporting information (metadata)
- Digitally converted evidence from content previously contained in analog formats (scanned images of a physical document, digitized audio or video, etc.).

Each form of electronic documentation has its own distinctive technical characteristics, which give rise to particular issues and challenges.

These forms of electronic documentation are maintained and distributed through a variety of technical platforms, which employ the Web and related public and private telecommunications channels:

- Blogs and Web-based communications
- Social media platforms, such as Facebook, Ushahidi, WITNESS's The Hub, and Twitter
- Mainstream news and broadcast media, such as Al Jazeera, New York Times, BBC, NPR
- Cloud computing services, such as Google Earth and Amazon S3.

The following survey of how these types of evidence are collected, communicated, and stored highlights some of the characteristics and challenges of electronic evidence used in human rights settings.

III.B.i. Audio and Video-recorded Testimony

Testimonies are first person accounts of particular human rights events recounted by witnesses and victims. Testimony is usually collected after the subject event has taken place, through personal interviews and recorded, with appropriate consent, using digital audio or video. (For technical information on digital moving image formats, see *Section III.C.ii*, below.). Testimony is increasingly collected through computer input or by mobile phone applications. In many instances, they are still collected on paper (handwritten by interviewers, witnesses, victims and others), but enter the electronic evidence "lifecycle" as they are transcribed or scanned into electronic form.

Video testimony was recently employed by the **International Campaign for Human Rights in Iran**. In 2011, the organization released video testimony by a young female detainee describing in detail her brutal torture and repeated rape in 2009 after her arbitrary arrest by Iranian police for supporting the election campaign of Mir Hossein Mousavi, an unsanctioned political candidate.[8] The video content was originally created by the **Center for Investigative Reporting** and PBS in the United States. The video footage has been distributed widely via the Web.

The **Karen Human Rights Group** collected more than 1,270 oral testimonies, sets of images and pieces of written human rights documentation between November 2010 and November 2011. Research for the group's report was conducted by a network of villagers trained by KHRG, conducting audio-recorded interviews with other villagers living in eastern Burma. Recorders also documented individual incidents of abuse using a standardized reporting format. When safe to do so, villagers gathered photographs and video footage of incidents as they happened. Transcripts of 56 audio-recorded interviews accompany the final report, available via the group's website.[9]

The **Kigali Memorial Centre (KMC)** is building a documentation Centre, the Genocide Archive Rwanda that will house video testimonies from survivors of the genocide. Inexpensive, portable digital cameras and computer editing software are provided to KMC through donations from the Aegis Foundation and others. The oral testimony project began in 2004, with the goal of recording and cataloguing the survivor experiences of the 1994 Rwanda Genocide. KMC staff collects oral testimony from eyewitnesses, perpetrators, rescuers and survivors. Some of the testimony is incorporated in short narrative dramas, documentaries and recorded performances for local and international distribution (on DVD and online).[10] The archive currently houses more than 1,500 audiovisual recordings.[11]

In Mexico, **Centro de Derechos Humanos Fray Bartolomé de Las Casas (Frayba)** works for the defense and promotion of human rights for the indigenous peoples and communities in the state of Chiapas, Mexico. Frayba records testimonies, collects documentation, and organizes information as a means to assessing patterns of abuse. Frayba employs digital field audio and video recording devices on a selective basis in its witnessing and data collection efforts. Frayba's center houses documentary evidence to support the cases they present. They are in the process of designing a dedicated and controlled archive space for preserving these materials and making them available for research.

In many courts of law, however, testimony recorded by video or audio is normally given significantly less weight than in-person witness testimony. The latter has the additional value of the witness being under oath and available for cross-examination. (For supporting discussion of this and other legal issues surrounding electronic evidence in the international criminal courts and human rights investigations, see the report in *Appendix IX.B.2* prepared by the Bernard and Audre Rapoport Center for Human Rights and Justice, *New Wine in Old Wineskins? New Problems in the Use of Electronic Evidence in Human Rights Investigations and Prosecutions.*)

III.B.ii. Digital Photographs

Photographs have been used to document human rights abuses since the nineteenth century. Photographers documented the atrocities of the Opium Wars in China, and the famous photograph of Kim Phúc, the Vietnamese child running, naked and terrified, from the village of Trang Bang has come to stand for the "collateral" toll on civilians of war in general. Today, small handheld digital cameras provide

[8] International Campaign for Human Rights in Iran, "Rape and Torture: Legacy of the Post-Election Crackdown," posted 10th June, 2011. http://www.iranhumanrights.org/2011/06/rape-and-torture-video-testimony/

[9] Karen Human Rights Group, "'All the information I've given you, I faced it myself': Rural testimony on abuse in eastern Burma since November 2010" Posted December 15, 2011. http://www.khrg.org/khrg2011/khrg1106.html

[10] Sarkar, Bhaskar, Janet Walker, "Documentary testimonies : global archives of suffering," New York, Routledge:2010. p. 217.

[11] CNN World, "New Rwandan genocide archive opens," posted December 10, 2010. http://articles.cnn.com/2010-12-10/world/rwanda.genocide.archives_1_yves-kamuronsi-aegis-trust-new-rwandan?_s=PM:WORLD

sharp, clear pictures with a high level of detail, which are easily and quickly uploaded to the Internet for wide distribution and viewing.[12]

Several decades of practice has resulted in a great deal of uniformity in the file formats for still photographs. The most commonly used is the format specified by the Joint Photographic Experts Group (JPEG). JPEG is currently the default format in which most digital cameras save and store images, and every photo editing or viewing program can read it. The major drawback with JPEG images is that compression techniques for encoding and storage may degrade the image, making it less detailed.

Digital cameras routinely embed a considerable amount of information in photographs taken by the devices. This information can be used to provide context and authentication of the image. Embedded information often includes date and time of exposure, type of camera, setting, and even location. (For technical information on metadata for digital still image formats, see *Section III.C.i*, below.)

On the other hand, digital photographs are frequently challenged as authentic evidence because the images are far more easily altered than film-based photographs, and embedded metadata can readily be removed. Although software and forensic techniques for authenticating digital photographs have been created and work with popular brands of digital cameras, there is still a great deal of skepticism regarding photos.

In 2007, the Honorable Paul W. Grimm (Chief United States Magistrate Judge for the United States, District Court for the District of Maryland) published a definitive opinion regarding the admissibility of electronic evidence in U.S. courts. In the case *Lorraine v. Markel American Insurance Co.* Grimm cites an eight-step foundation process for establishing the authenticity of the digitized version of a photograph. The process recommends the participation of an expert witness who:

1. is an expert on digital photography
2. can testify to the process for creating a digital photograph and explain how visual information is presented (e.g. density of pixels) as well has how a computer can manipulate this information
3. testifies to the validity of the process
4. can state that research into enhancement technology is adequate to support claims about the image
5. can testify that the software used to manipulate the photo was developed from sound research
6. has received a film photograph
7. digitized the film photograph using the proper process and then enhanced the digital copy using the correct procedure
8. can identify the trial exhibit as the product of the conversion and/or enhancement work s/he conducted
   (*Lorraine v. Markel*, pp 55) [13]

Uses of Satellite Imagery for Human Rights

In her report for this study, *Admissibility of Electronic Documentation as Evidence in U.S. Courts* (*Appendix IX.B.1*), Lucy L. Thomson notes that “Geospatial images are being used by human rights organizations to rapidly gather, analyze, and disseminate authoritative satellite imagery, especially during times of crisis. They also provide compelling, visual proof to corroborate on-the-ground reporting of

[12] However, Noel Whitty (University of Nottingham) notes that an increasing visualization of witnessing, aided by ongoing technological advances, brings dangers as well as possibilities for human rights practitioners. In his study of "atrocity photographs" Whitty notes that the ability to instantaneously view and share such records with colleagues and, more particularly, with a potential global virtual audience has increased the impact and damage caused by the act of photographing war dead, torture suspects, and conflict conditions. "Soldier Photography of Detainee Abuse in Iraq: Digital Technology, Human Rights and the Death of Baha Mousa," Human Rights Law Review (2010) http://hrlr.oxfordjournals.org/content/10/4/689.full

[13] *Lorraine v. Markel American Insurance Co.*, 241 F.R.D. 534 (D. Md. 2007). Accessible at: http://www.mdd.uscourts.gov/opinions/opinions/lorraine%20v.%20markel%20-%20esiadmissibility%20opinion.pdf

conflicts and natural disasters affecting human rights." Satellites have been used in Iraq and Bosnia to identify newly tilled soil revealing the existence of mass grave sites.[14] They have also been used to, track deforestation on land belonging to indigenous populations[15] and to record transport vehicles dumping toxic waste.

In some cases satellite imagery is available for free on the Internet. This is the case with weather satellites and projects such as Google Earth. On the project *Crisis in Darfur*, the **United States Holocaust Memorial Museum**, worked with Google to create an online mapping initiative whereby users of Google Earth could view evidence of the genocide and physical devastation unfolding in Darfur, Sudan. The Museum gathered and added photographs, data, and eyewitness account to the satellite images on Google Earth.

However, most free services do not offer real-time imagery, and the quality of the image in itself is frequently insufficient to permit detailed assessment.[16] Human rights organizations often make use of more detailed satellite imagery provided by government and/or commercial services. Major commercial imaging satellite operators like GeoEye and DigitalGlobe offer custom access to high-resolution, modern sensing capabilities that can show objects or geographical features as small as two feet across—sufficient to reveal the destruction of small huts, or other makeshift structures. The Israeli human rights group **B'Tselem** makes extensive use of detailed maps generated from satellite photographs, to illustrate the progress of settlements and incursions in the West Bank territories.[17] The 2009 Human Rights Watch report, *Precisely Wrong: Gaza Civilians Killed by Israeli Drone-launched Missiles,* incorporates satellite photographs of devastation in the Gaza Strip, supplied by DigitalGlobe. Similar projects have been undertaken by Amnesty International (*Eyes on Darfur* and others), the Science and Human Rights Project of the American Association for the Advancement of Science, and, most recently, the Satellite Sentinel Project.

In addition to high costs, there are additional limitations on the use of satellite data as documentary evidence. Getting the coordinates for image capture by satellites correct without on-the-ground confirmation is often impossible, making the pinpointing of locations for "before and after" satellite images difficult. Moreover, specialized expertise is required to interpret the information in satellite images, which sometimes make use of "symbolic" encoding to indicate thermal patterns and other features that are not optically readable.

The use of satellite imagery in a court of law requires that the data be authenticated in some manner (some, but not all, commercial services offer certification of data). The degree to which the image has been manipulated or enhanced may transform the evidentiary value of satellite imagery, requiring additional documentation and testimony to represent the images as reliable and authenticated evidence.

III.B.iii. Video Documentation

Cheap, small handheld cameras have made the option of capturing human rights events possible for many more people. The human rights organization **WITNESS** conducts video training and has in the past distributed hundreds of Flip and Kodak Zi8 cameras to activists around the world.

[14] "New way to find mass graves in Bosnia," New York Times, August 17, 2005. http://www.nytimes.com/2005/08/16/world/europe/16iht-Bosnia.html

[15] "Satellites Spot Illegal Logging of Uncontacted Tribes' Home," Wired Science, May 20, 2011. http://www.wired.com/wiredscience/2011/05/ayoreo-satellite-pics/

[16] In fact, for the *Crisis in Darfur* project, it was recognized that the standard imagery in Google Earth was not sufficient for detailed analysis. Google agreed to prioritize imagery acquisition for Darfur, and updated large swaths of Darfur with high-resolution imagery in Google Earth. See: http://earth.google.com/outreach/cs_darfur.html

[17] See for example *The West Bank: Settlements and Separation Barrier, June 2011*, at http://www.btselem.org/sites/default/files2/20110612_btselem_map_of_wb_eng.pdf

In Syria, video footage of human rights abuses has been used as a tool to publicize illegal acts carried out by the government. In June 2011, The New York Times reported on efforts by Syrian activists to document human rights violations committed by security forces in the rural northwest.[18] In response to community uprisings against the Assad regime, security forces moved into the region, setting fires and killing civilians. Due to rolling Internet blackouts and foreign press restrictions, mainstream media coverage was largely unavailable. Syrian "cyberactivists" filled in the gap, uploading videos to YouTube and information to Facebook using a variety of techniques to bypass government restrictions. Sites such as Storyful were employed to monitor and post information from popular social media sites and bring items not carried by the mainstream press to a wider audience.

Amnesty International was able to use video evidence gathered in Turkey to expose criminal activity by Turkish police. Amnesty reported that in January of 2010 Murat Konuş died after being held in police custody in Istanbul on suspicion of aggravated theft. The evidence was provided by video footage taken outside the police station. The footage showed Mr. Konuş entering the police station in good health and then being carried out three hours later. Later, an official autopsy determined that his death was due to cerebral bleeding. In May seven police officers were charged with causing his death through torture.[19]

Conversely, police and other government agencies often use video cameras to document and defend their own actions. In November 2011 NPR reported that, "Companies such as Taser and Vievu are making small, durable cameras designed to be worn on police officer's uniforms. The idea is to capture video from the officer's point of view, for use as evidence against suspects, as well as to help monitor officers' behavior toward the public."[20]

Video from Phones

Video capability is now common on most new mobile devices. Cell phone videos of state and ethnic violence are frequently recorded by witnesses and "citizen journalists." However, "user generated content" such as video is not yet considered as reliable as professional documentation. Amateur-recorded video ranges from amateurish and difficult to follow to professional and well shot. Often the scene is chaotic and sometimes the person filming is also narrating the event.

Digital video is frequently posted to the Internet on sites such as YouTube, Vimeo, DailyMotion, and regional equivalents. If enough interest develops it may be picked up by global news sites, television and other media outlets. Content rarely comes with appropriate metadata or describing factors ("descriptive metadata"), making this material difficult to authenticate.

The power of ubiquitous cell phones is also leading to some unusual producers of electronic evidence. In particular, perpetrators of human rights abuses are capturing their own work. This interest in capturing abusive events is a whole new area of evidence gathering. Incriminating videos have been made using cell phones, for example, by Sri Lankan soldiers[21] and Chechen security forces.[22]

Rapidly changing technology threatens the life-span of cell phone generated video. Most cell phone videos today are generated in 3GP format, a widely accepted format developed for high compression. As a result, the images are frequently of low quality. Video formats, moreover, (see *Section III.C.ii.*, below), change rapidly and are often determined by the device makers. The 3GP format cannot be played on

[18] "Activists using video to bear witness in Syria," New York Times , 18 June 2011. http://www.nytimes.com/2011/06/19/world/middleeast/19syria.html?_r=3&pagewanted=1&nl=todaysheadlines&emc=tha22
[19] Amnesty International, *Annual Report 2011* – Turkey. http://www.amnesty.org/en/annual-report/2011
[20] Kaste, Martin, "As more police wear cameras, policy questions arise," National Public Radio, November 7, 2011. http://www.npr.org/2011/11/07/142016109/smile-youre-on-cop-camera
[21] "Sri Lankas Killing Fields," intentious, July 5, 2011. http://intentious.com/2011/07/05/sri-lankas-killing-fields-warning-graphic-content/
[22] "Chechnya: Cell-Phone Videos Reveal Abuses," Radio Free Europe / Radio Liberty. September 5, 2006. http://www.rferl.org/content/article/1071107.html

some 4G cell phones, for example. Continued usability of some videos in proprietary formats then may require costly software and processing. This raises questions about the long-term ability to store and use files that are only maintained locally.

Social media sites and platforms like YouTube often enable the conversion of almost any video type to a standard format in the process of upload.[23] However, these formats often use "lossy" compression techniques and may pose problems in providing detail, and in authenticating the videos for police investigations, legal proceedings and other downstream uses.

III.B.iv. Email and Networked Communication

Email has radically accelerated the speed at which documentation of human rights violations can be collected, transmitted and shared. Email has long been a preferred form of electronic communication and document transfer for most human rights organizations, due to its speed, ubiquity and the availability of free hosting services such as Yahoo! mail or Google's Gmail. However, many groups now seek more secure transfer mechanisms, file sharing systems (DropBox, Box.net), and Web-based content management applications to upload and store data.

E-mail may convey evidence (text, attachments) or in some cases constitute evidence in itself, demonstrating policies undertaken by government officials or by non-state actors. In 2002, Chinese dissident Wang Xiaoning was arrested on suspicion of "incitement to subvert state power." Wang distributed articles written by him and others via email advocating democratic reform and a multi-party system. His emails were used as evidence against him, for which he received a ten-year prison sentence.[24]

Security

Emails store information about their senders, including computer IP address, geographic location, time zone, language preferences, computer LAN name, email software used, and more. E-mails come in two parts: the body and the header. Email headers are lines of metadata attached to each email. Normal header information gives the recipient details of time, date, sender and subject. All e-mails come with additional extended headers that are often hidden. The extended header information is added by the email program and transmitting device used and provides additional information about the sender's account or device. Additional personal identifying information is held by the internet service provider (ISP) in a separate database.

Email is subject to monitoring and interception by governments, often with the cooperation of ISPs. Mail servers (both the sending and receiving) are also susceptible to unauthorized access or monitoring by hackers where physical access security and network security are weak.

Encryption is available for email to secure content, although many HROs have not adopted such solutions. "Onion routing" is one technique for anonymous communication over a computer network. Onion routing allows email to be sent as an encrypted message through a series of routing points or nodes, rather than directly. The indirect route hides identifying information (such as an IP address) that

[23] YouTube accepts videos uploaded in most standard container formats, including.AVI,.MKV,.MOV,.MP4, DivX, .FLV, and.ogg and.ogv. It also supports 3GP, allowing videos to be uploaded from mobile phones. YouTube converts most formats to adobe flash files, and plays back.flv (flash) files. YouTube offers video playback at many quality levels, to suit the requirements of a variety of devices. These include everything from 320x240 with mono MP3 audio, "HD" video starting at 480x360, to 1080p HD, and more recently, 4096x3072 or "4K" (digital IMAX movies are projected using two 2K projectors).

[24] "Yahoo! Cited in Decision Sentencing Internet Dissident Wang Xiaoning to 10 Years," Human Rights in China http://hrichina.org/content/1208

may be visible to third parties.[25] The **Tor Project** offers this service on a pro bono basis. Tor members volunteer to make their PCs available as network nodes. Users download free Tor software that allows them to send and receive messages anonymously. There are no limitations on who can use the service, and users aren't required to volunteer their own PCs to the network.

Email is a complex form of electronic evidence and the courts have struggled for some time with whether this type of evidence is admissible. Email messages may be authenticated by direct or circumstantial evidence. An e-mail message's distinctive inherent traits, including its "contents, substance, internal patterns, or other distinctive characteristics, taken in conjunction with circumstances" may be sufficient for authentication. However, as the paper by Lucy Thomson suggests, under the U.S. Federal Rules of Evidence, laying a foundation for establishing authenticity of emails may require that the submitting party demonstrate:

- That the emails bear indicia of the sender's identity (email header, digital signature, chain of correspondence included signifying receipt or acknowledgement)
- Contains information revealing the identity of the sender, his/her company (if relevant) and other details regarding the transmission period
    - In some cases, emails with business identification markers (signature, logo, etc.) alone may be sufficient to authenticate an e-mail.
- That the email was sent using a secure connection such as SSL, or was sent using encryption software to protect its security[26]

There are numerous other considerations, but in general the most common ways to authenticate e-mail evidence are through circumstantial evidence such as corroboration by an individual with personal knowledge of the communication or source; expert testimony or comparison with authenticated exemplar; and certified copies of business records.

III.B.v. Text Messages and SMS Communication

Text messaging

Text messages can be sent and received on a variety of devices via the communications protocol Short Message Service (SMS). SMS allows for the exchange of short messages between fixed line or mobile phone devices. Messages are limited to 160 characters. Text messaging also allows users to send information instantly and is significantly cheaper than a standard phone call. In many low-income countries, text messaging has become a ubiquitous form of communication. Within the human rights realm they are often used as a tool for organizers of protests and to gather evidence of events as they are happening.

Text messages are frequently unmonitored and so provide a relatively secure channel for uncensored speech. In 2001, street protests organized using text messaging contributed to the ouster of Philippines president Joseph Estrada.[27] Conversely, text messaging was also allegedly used to incite riots in Nigeria in January 2010. The **Nigerian Civil Rights Congress** collected at least 145 text messages from individuals urging Christians and Muslims to violence. According to a spokesperson for the Civil Rights Congress, the texts messages showed who were responsible for "spreading rumors and inflaming tensions."[28]

[25] "Masking on-line activity to protect human rights workers," Documentalist blog, September 24, 2009. http://crlgrn.wordpress.com/2009/09/24/masking-on-line-activity-to-protect-human-rights-workers/

[26] Thomson, Lucy, *Admissibility of Electronic Documentation as Evidence in U.S. Courts*, 2011, pp. 10-11 (See *Appendix IX.B.1* of this report).

[27] "New political tool: text messaging," USA Today, June 30, 2005. http://www.usatoday.com/tech/news/2005-06-30-politics-text-tool_x.htm

[28] "Violence and Death in Africa, 160 Characters at a Time," Fastcompany, October 5, 2010. http://www.fastcompany.com/1693190/nigeria-sms-text-message-riot

In July 2010, **PeaceNet**, an umbrella group for Kenyan NGOs, in collaboration with Oxfam, established a system of collecting information via text messaging on potential crises during the constitutional referendum in Kenya. Anticipating renewed violence similar to that which occurred following the 2007 Kenyan presidential elections, a team of data analysts tracked and responded to the information coming in through an SMS nerve centre, which verified reports and sent information to local groups to intervene and avert violence.[29]

As with other telecommunication technologies, text messages are subject to surveillance and interception by monitoring centers established by governments.[30] Text messages are also inherently fugitive, and critical evidentiary features may be lost if not saved by the receiver. Usually backing up and redisplay of SMS texts are only possible through the device on which they were sent or received.

As evidence, text messages have significant limitations. Text messages (as with most other forms of electronic communication) are considered hearsay and are subject to intense scrutiny for admissibility. It is often difficult to verify the source of a text message, and to authenticate the electronic communication as being authored or sent by the original sender. Information about the source location may be lost when the message is forwarded. In addition, text messages sent to large groups of people make it difficult to establish the identity of the original sender. For these reasons, chain of custody can be unclear, undermining their usefulness in court cases and other uses.

It is also a challenge to authenticate the content by showing its electronic handling: data retention policies vary from one mobile provider to the next, and transactional data may be deleted after a short period of time (generally, one to two years). Text message content is not commonly archived by the carrier (although some cell phone companies are starting to provide archiving services for customers, and mobile apps increasingly offer secure Web-based storage of transmitted content).

III.B.vi. Technical Platforms for Distribution of Electronic Documentation

The most common platforms used to host and/or distribute electronic evidence are the major commercial social media service providers. These platforms employ the Web and related public and private telecommunications channels. In many instances these platforms offer analysis and social networking capabilities as well as content management.

The types of platforms include:

- Blogs and microblog services (such as WordPress, Blogger, and Twitter).
- Social media platforms (Facebook, Ushahidi, and WITNESS's The Hub).
- Mainstream news and broadcast media (Al Jazeera, New York Times, BBC, and NPR)
- Cloud services (YouTube, Google Earth, WikiLeaks).

Blogs

Blogs are online communications platforms that enable the direct posting of text, video, audio, still images, and other types of digital content, and submission of comments on that content, in a chronological framework. Blogs are produced using one of a number of available content management systems, such as WordPress, which format content and determine functionality. In December 2011

[29] "Launch of UWIANO Platform for Peace judicious," Peace and Development Network Trust, 2010. http://www.peacenetkenya.or.ke/component/content/article/3-newsflash/144-launch-of-uwiano-platform-for-peace-judicious

[30] "Torture in Bahrain Becomes Routine With Help From Nokia Siemens," Bloomberg Markets Magazine, August 22, 2011. http://www.bloomberg.com/news/2011-08-22/torture-in-bahrain-becomes-routine-with-help-from-nokia-siemens-networking.html

Blogpulse (a trend discovery service for blogs) estimated the total number of extant blogs as 182 million.[31]

Blogging is one way for individuals who witness events to call attention to abuses and violence against people seeking to defend or gain their human rights. The case study of the 2009 Iranian protests demonstrates the potential impact of blogging as a medium for information sharing.

Of the top 50 human rights blogs identified by the Criminal Justice USA blog in 2009, most provided links, comments, or analysis of news stories, rather than providing new information about human rights events. The majority of these sites are maintained by human rights organizations.[32] It is notable also that two years after the list was published thirteen of the blogs are no longer being updated or no longer accessible through the link provided. This suggests the impermanence of blogs as information sources over time.

Microblog services

Microblogging is the general term for services such as Twitter that distribute short messages (usually less than 200 characters) via the Web, either to be viewed by anyone or by a restricted group which can be chosen by the user. As the Iran case study showed, the use of microblogging has gained traction in recent years as a tool for communicating and social organization.

One of the most significant instances of the use of social media communication was the 2010-2011 Tunisian Revolution which sparked the larger “Arab Spring.” While Twitter’s true role and impact (as in the Iran case) is debatable, many agree that social media such as Twitter were crucial to the flow of information and helped protesters gather and plan their demonstrations.[33]

The past several years have seen an increase in the use of social media content as evidence in courts. Blog posts, comments, and status updates have been admitted into evidence to demonstrate statements made by defendants, the defendant’s state of mind following an alleged crime, or even the level of intent prior to the event.[34] However, from the standpoint of the courts, blogs and microblogs (as with text messages, above) are for the most part considered "hearsay," and thus may be challenged as admissible evidence.[35]

Social media platforms

Social media platforms allow individuals, groups, and organizations, to communicate, interact and share digital content through the Internet. Facebook and Twitter are widely used worldwide, but there are hundreds of others offering similar services, including LinkedIn, Google+, MySpace, Bebo, hi5, Orkut (Brazil, India), Badoo (Europe), iWiW (Hungary), Qzone (China), and VKontakte (Russia).

Information sharing tools provided by social networking services enable individuals and groups to distribute timely information and digital content to an audience largely unbounded by national borders—although they can be and are often blocked by repressive regimes in places like China and Iran. Social media sites like Facebook accommodate posting of a wide variety of digital materials, including

[31] Source: http://www.blogpulse.com/. The numbers are suspect, as China alone recently reported that by late June 2009, the number of Chinese Internet users with personal blogs/spaces had hit 182 million.

[32] Criminal Justice USA, “World Watchdogs: Top 50 Human Rights Blogs.” http://www.criminaljusticeusa.com/blog/2009/world-watchdogs-top-50-human-rights-blogs/

[33] “Was What Happened in Tunisia a Twitter Revolution?” GigaOm, January 14, 2011. http://gigaom.com/2011/01/14/was-what-happened-in-tunisia-a-twitter-revolution/

[34] “In Social Media Postings, a Trove for Investigators,” New York Times, March 2, 2011. http://www.nytimes.com/2011/03/03/nyregion/03facebook.html?_r=1

[35] “Text Messages Inadmissible Hearsay, Penn. Appeals Court Rules,” FindLaw, September 30, 2011. http://blogs.findlaw.com/decided/2011/09/text-messages-inadmissible-hearsay-penn-appeals-court-rules.html

photographs and text documents, real time messaging, and links to other sites and Web-based resources. They enable online polling and opinion-gathering from a network of selected or self-selected users.

Social media also routinely aggregate masses of personal information. Since there are no verification requirements for individuals wishing to launch a Facebook application, sites can potentially be vulnerable to malicious software. All content, information and applications on Facebook, moreover, are hosted and maintained by the commercial corporation. Thus the continuity and integrity of content posted are not under the control of providers or users: they cannot be completely removed except with the cooperation of Facebook.

There are a number of social media platforms developed specifically for aggregating and distributing human rights-related electronic documentation. The **Ushahidi** platform, launched in January 2008 in response to the post-election violence in Kenya, allows users with mobile phones to send SMS text message reports to a local number. The message is then passed through an SMS gateway (in this case, the open source FrontlineSMS) to an instance of the Ushahidi software installed on an Internet server. The Ushahidi web interface maps the reported incidents of violence through a Google Map application. The Ushahidi tool has been used in places such as India, Palestine, Haiti and the US.[36]

In Burma the organization **Handheld Human Rights** (HHR) provides a similar platform to enable mobile phones to connect human rights field workers and observers. Workers use text messages to report critical information about violent incidents in conflict zones around Burma's borders. Through a secure hub provided by HHR, the system collects and processes SMS data that is then quickly mapped on an international website, disseminating news of human rights violations to the international community and advocacy groups.[37]

Mass media platforms

News media play an important role in the field of human rights: collecting, interpreting, and distributing information on violence and injustices and documentation of abuses. News media like the BBC, CNN, New York Times, and others have been indispensable to the public exposure of genocides and atrocities. They also serve an additional function as repositories of information pertinent to judicial proceedings and tribunals. Newspaper reports and television and radio recordings and transcripts describing past events are frequently accepted forms of documentary evidence in courts of law.

News broadcasts and websites are repositories of documentary evidence produced by professional journalists and others working directly for the media organizations or for wire services, syndicates, photo agencies, journalists' collectives, and other service providers to the industry. Increasingly, this type of evidence is produced and distributed in electronic form. The basic "units" of electronic documentation distributed through news outlets include:

- articles
- wire service reports
- photographs
- audio recordings
- video recordings
- radio program broadcasts
- television program broadcasts
- collected data and databases

News media distribution depends upon both public and private infrastructure. For example, television and radio broadcasters like NBC and NPR make use of the public airwave spectrum to carry their signals.

[36] http://legacy.ushahidi.com/
[37] http://www.handheldhumanrights.org/page/index/4

Satellite broadcasters like Al Jazeera and Web media organizations like the New York Times, on the other hand, rely upon commercial satellite and telecommunications networks for transmission of their programming and content.

Since the 1990s, digital media and the Web have fundamentally transformed how news organizations source, report, verify, publish, and disseminate news information. The introduction of satellite and cable news broadcasting in the 1970s enabled news organizations to transcend national borders and circumvent government control. And while workflow for print newspapers was organized around a 24-hour news cycle, the Web is served a continuous stream of content. Locally produced news content is revised and uploaded by publishers to the Web not daily or weekly but throughout any given 24-hour period. Traditional print media organizations now incorporate multimedia video, audio and other dynamic content in their output to the Web.

Today, the media increasingly make use of information and "user-generated content" provided by non-journalists (i.e., readers, "citizen journalists," or other producers). Content is obtained either directly through web platforms like blogs, polls, and other forums controlled by the news organization, or indirectly through third-party social media sites like YouTube, Twitter, and Facebook. User-generated content is often mediated by social media developers like Pluck, which screens and filters reader comments submitted to many newspaper Web sites. (Pluck checks for abusive comments made in discussion forums, story chats and blogs on a 24/7 basis.)

Specialized media platforms

According to a recent report by **Human Rights Watch**, changes in mass media economics have had an impact on the role of professional media in reporting human rights activity. In particular the number of foreign journalists and foreign news stories in the mass media are in decline. In response to this trend smaller, specialized non-profit organizations have begun to produce, aggregate and distribute news stories as well.[38] These specialized organizations have emerged as digital technology has caused the cost barriers to entry for electronic publishing to plummet.

In the United States, the **Center for Investigative Reporting** (CIR) is the oldest nonprofit investigative news organization in the United States. They publish material produced by a nationwide network of freelance reporters, their staff; and others. CIR was established to focus on "the most promising investigations," looking for stories that reflect CIR's core mission of "revealing injustice or abuse of power." CIR produces stories for TV, documentaries, radio, print, and the web (podcast, report, slideshow, and video). Not all stories relate to human rights events, but there are many news stories that bear relevance to the subject.

Internationally, the **Institute for War & Peace Reporting** works with local media and community groups, local and international NGOs, the UN, and government officials. IWRP trains journalists in reporting on human rights and justice issues. IWPR journalists, in turn, provide reporting on "tough issues" to inform local citizens and advance global news. IWPR offers cost-free republication of its articles.

Global Voices is one of many sites that seek to provide a space for independent reporters and bloggers to share news and information from around the world. Global Voices has an advocacy website and network "to help people speak out online in places where their voices are censored."

Cloud services

Commercial providers of Web platforms for content storage and sharing have become essential to human rights advocacy in the last decade. YouTube is a major feature of the Internet infrastructure and is the website of choice for videos posted by activists in all regions of the world. It was on YouTube that the cell phone videos of the execution of Saddam Hussein and the death of Muammar Qaddafi first surfaced. The

[38] Human Rights Watch, "World Report 2011 : Whose News? The Changing Media Landscape and NGOs," http://www.hrw.org/world-report-2011/whose-news

Mexican human rights group **Centro de Investigaciones Económicas y Políticas Acción Comunitaria (CIEPAC)** uses YouTube to distribute its information and analysis about the conditions of rural indigenous populations in Chiapas and Guatemala, and the Zapatistas support for their resistance. The enhanced impact of dissemination over the Web reinforces the importance of electronic video documentation in the work of human rights organizations.[39]

It is not clear how much metadata YouTube preserves from the source files. YouTube considers itself to be primarily a "user service," so their technology is designed primarily to host and expose content, rather than to enrich or preserve its original technical and descriptive metadata. YouTube offers producers and sources only limited options for annotating uploaded video, and certain information embedded in the original video file seems to be lost in the process.

Therefore, as a platform, "cloud" video services like YouTube offer both benefits and risks with respect to human rights-related video documentation. They provide robust, widely used platforms for global dissemination of evidence of violent and illegal events. But in collecting information about video content uploaded and its producers, and tracking the online activities and other identifying information of viewers of that content, such services can potentially be turned to for surveillance purposes.

Flickr and GoogleDocs also provide storage and editing capabilities to local human rights groups from Russia to Afghanistan. These services maintain vast data centers and server farms that store content from all sources, and also offer basic tools for content management, enabling individuals and groups to expose and store digital documentation in a robust central system.

A few organizations provide specialized cloud services, designed specifically for managing sensitive human rights documentation. These providers include **Benetech**, which provides secure cloud-based storage of data from groups wishing to elude the scrutiny of repressive governments. The data is replicated and maintained in multiple closed servers, retrievable only by the depositor.

Unlike Benetech, **WikiLeaks** exists to expose documentation as widely as possible. They provide a drop box for video, text and audio materials from anonymous depositors, and annotate and upload that content to the WikiLeaks platform on the open Web. Their system is designed to conceal information about the source of the posted materials.

It is important to note that cloud services in most cases provide not only data storage but enabling tools and software that are critical to the retrieval and use of the digital content. Google Maps and Google Earth, for example, provide a real time geospatial framework upon which specialized human rights media groups like Ushahidi and Handheld Human Rights "hang" incident reports, and through which users can locate key information. Thus these services play a key role in the maintenance, discoverability and understanding of much human rights evidence.

III.B.vii. Metadata

While not commonly thought of as independent "evidence," **metadata** (commonly defined as "data about data") that is attached to a given piece of digital documentation is critical to the evidentiary value of that documentation. Metadata can be information about a number of things: the parts of a digital object, its file format and technical characteristics, its authorship and other circumstances of its creation, provenance, and even subject matter. It can be produced and applied manually or generated automatically by computer software and digital devices like cell phones and cameras. Examples of metadata important in the human rights context include:

- Descriptive information about the content or origin of a given video, such as caption, location information, author name, etc.

[39] There are currently 21 videos from CIEPAC on YouTube with more than 13,000 views of their videos (many of which have been up for a year or less).

- Index terms applied to postings on blogs (“tags”) or Twitter posts (“hashtags”)
- Transcripts or translations of the content of audio recordings of eyewitness testimonies
- Technical information about a given electronic document, such as native file format, the device and software used to create the document digital photographs, videos, emails, and other files.

Metadata are arranged in a set of structured data or content types, called a “metadata schema.” Metadata schema are used to standardize the types of information collected, to facilitate storage, organization, and use. Schema can be used to create structured interview forms for interviewing victims, for example, or organized spreadsheets tracking victims’ cases in court.

The presence of well-structured metadata can support authentication of a piece of electronic evidence by providing information about its authorship and creation, and about changes it may have undergone since being created. It can also facilitate the exchange of information and the accurate transmission of documentation from one device to another.

Metadata itself can also facilitate the creation of documentary evidence. The **Web Ecology Project** **(WEP)**, an interdisciplinary research group based in Boston, Massachusetts, collects metadata from Twitter as part of its analyses of online social interactions (such as the protests in Iran and the Middle East). WEP uses an API to harvest metadata and text from Twitter’s server that meet specific search criteria contained in the code request—typically key words or phrases that appear in tweets about the event or topic of interest, time and date the tweets were created, Twitter user name, and location, if available. Once harvested, the tweets pour into a massive WEP database as individual text files accompanied by the relevant metadata. WEP then generates from the aggregated information a generalized record of the activities of bloggers in a particular geographical locale and the movement of information and influence through that sector of the blogosphere.[40]

Metadata standards for human rights

Metadata is also useful to human rights organizations in organizing and managing documentation they collect. Unfortunately, there are currently few common standards for human rights metadata. As electronic documentation is highly variable and used in a wide variety of contexts, many approaches to organizing data have been adopted for different constituencies. In the human rights field, many have recommended implementing the **Dublin Core metadata standard**, which specifies a core set of metadata for simple and generic resource descriptions. Dublin Core also supports community-specific flexibility, allowing for modification and incorporation of specialized vocabularies to meet particular implementation requirements. Various human rights organizations have incorporated **HURIDOCS** micro-thesauri to describe the content of records and objects.

The **WITNESS Media Archive** employs the metadata standard for audiovisual media developed by the public broadcasting community (PBCore), Metadata Object Description Schema (MODS) XML, and other tools such as the Getty Thesaurus. **PBCore** is based on Dublin Core and is intended for use in describing video, audio, text, images and interactive learning objects for television, radio and the Web activities.

III.C. Collection Devices

The types of evidence considered in *II.B* (above) are primarily collected using computers, cameras, audio recorders, and cell phones. However, it is also important to acknowledge that tools for documentation continue to emerge and evolve. There is growing use of digital, scientific equipment to collect and analyze forensic evidence, such as the DNA analysis done on the remains of Guatemalan genocide by The **Guatemalan Forensic Anthropology Foundation** (Fundación de Antropología Forense de Guatemala, FAFG). This type of evidence is likely to be increasingly deployed as these types of technologies are perfected.

Electronic evidence may also be created through the transformation of analog content after the fact. Paper documents and files are often scanned into databases and film footage is often converted to digital video. The massive **Guatemalan National Police archive**, for example, is being digitized by an

[40] See “Human Rights Resources Profile : Web Ecology Project,” 16 Apr. 2011. Chicago: Center for Research Libraries Online http://www.crl.edu/sites/default/files/attachments/pages/WEP_Report_5.7.pdf

international team of conservation and technology experts; and the extensive archive of filmed testimonies of Holocaust survivors at the **USC Shoah Foundation Institute for Visual History and Education** (formerly the Shoah Visual History Foundation) is being converted to digital MP3 format, which can be viewed on digital devices. The careful management and quality control of such transformations is paramount, as information connected to the original physical object (e.g., annotations; color; detail, etc.) can be lost in the process.

III.C.i. Cameras

Digital cameras have several advantages over analog film cameras. In the often dangerous and complex situations in which human rights events occur, digital cameras removes some of the obstacles of the analog device because they do not require the handling, reloading and supply of photographic film.

When a digital camera saves a photo, it embeds in it some additional information, usually in **exchangeable image file (EXIF)** format. The metadata tags defined in the Exif standard cover a broad spectrum, such as camera settings (including camera model and make), date and time, shutter speed, or scene information. Additional data, such as description or copyright information may be embedded at a later date through software tools which allow both viewing and editing of Exif data.

The Exif format has standard tags for location information. Some cameras and many mobile phones (such as the iPhone 3G and later models, Blackberry, and phones using the Android operating systems) have a built-in GPS receiver that stores the location information in the Exif header when a picture is taken. This data is commonly used by photosharing communities (Panoramio, Flickr) to automatically locate pictures on geographic maps (many users geo-code their pictures manually as well).

III.C.ii. Video Devices

There are many types of consumer-level digital camcorders, which are increasingly cheap and easy to use. Camcorders are often classified by their storage device (VHS, DV, etc.), so format and device are often interchangeable.

The predominance of digital video recorders has eclipsed analog-format recorders popular in the late 20th century. Many digital recorders still record to video cassettes, though the analog audio and video signals are encoded digitally. The most common recording format is DV, a codec launched in 1995.

Additional tape-based formats include MiniDV, Digital8, and HDV (all using the DV codec). **MiniDV** video cameras are compact, have broad software & hardware support, and can record up to several hours of video. They are the most popular video cameras. **Digital8** video cameras are lower priced and also play older analog 8mm and Hi8 video cassettes. While slightly larger than MiniDV camcorders, they have wide compatibility with editing software and hardware devices. Some provide analog to digital conversion features for older videos. **HDV**, a format for recording high-definition video, caught on with many professional users due to its low cost, portability and image quality acceptable for many professional productions. **MicroMV** are ultra compact video

Common video compression formats

- DV
- H.262/MPEG-2 Part 2 (MPEG-2 Video)
- H.263/MPEG-4 Part 2
- H.264/MPEG-4 AVC (MPEG-4 Advanced Video Coding), or MPEG-4 Part 10
- On2 TrueMotion VP6 - proprietary video compression format commonly used by Adobe Flash, Flash Video, and JavaFX media files.
- RealVideo - a suite of proprietary video compression formats developed by RealNetworks
- Sorenson--compression format used by Apple's QuickTime (Sorenson Video) and Adobe Flash (Sorenson Spark)
- Windows Media Video (WMV) - proprietary codec developed by Microsoft
- Motion JPEG 2000 – a potential format for long-term video preservation

cameras using the smallest video cassettes. These cameras do not use the DV format, but record in high quality MPEG-2 video format. Software/hardware compatibility is limited and cassettes are more expensive.

Increasingly, devices record directly to digital storage devices, such as an internal hard drive, flash memory card, SD card or optical disc (DVD, MiniDVD, etc). These “tapeless recorders” record video as digital computer files, traditionally as MPEG-2 files (though newer devices and small “pocket cameras” have moved to the MPEG-4 format for high compression and streaming over the web).

Mini-DVD camcorders record directly to mini DVD-R or DVD-RAM discs. DVD-R's can be played on most DVD players, while DVD-RAM discs require a DVD-RAM drive. Mini discs provide easy storage, but video recording time and editing capability are limited. The **hard disk camera** can store large amounts of video data using compression. Some hard disk cameras have large hard drives that can store many hours of high quality video footage. **Micro-Drive** and **Memory Card video** cameras offer ultra compact designs and like Mini-DVD cameras, easy search/access. The unique features of these cameras make them better suited for quick uploading of videos to the Web.

Common video container formats

- 3GP - multimedia container format used on 3G mobile phones.
- AVCHD (Advanced Video Coding High Definition) - file-based format for high-definition video.
- Audio Video Interleave (AVI) - older multimedia container format introduced by Microsoft
- Flash Video (.flv) – one of the most common online video file formats, supported by Adobe.
- MP4 - standard audio and video container for the MPEG-4 multimedia portfolio. Can contain metadata as defined by the format standard
- QuickTime File Format (standard QuickTime video container from Apple Inc.)
- RealMedia (standard container for RealVideo and RealAudio)

Professional video camera formats, such as those used by film-makers and news agencies, are more diverse, and were not covered as part of this assessment.

Mobile devices (discussed below) are rapidly outpacing stand-alone video recorders as quality of imaging and recording improves. The most common multimedia container formats used by mobile phones are.3gp and.3g2. 3GP is a simplified version of the MP4 format and was designed to make file sizes smaller so mobile phones could support video. Increasingly, mobile devices (particularly smartphones) are moving to more recent codecs such as H.264 and MPEG-4 that support more efficient compression and transmission.

The proliferation of digital video compression and container formats, created to facilitate transmission and exchange of large digital files, complicates the task of maintaining and analyzing digital video evidence.

III.C.iii Mobile Devices

Cell phones are becoming commonplace around the world, even in less affluent countries such as Afghanistan, where 85 percent of the population lives within the combined network coverage of the four major telecommunications companies. In fact, it has been predicted that the “smartphone” (any phone with built-in applications and internet connectivity), rather than the laptop may become the technical device of choice for the developing world. Seymour Goodman of the Georgia Institute of Technology stated at a Marconi symposium in 2009, “The people of Africa will appreciate that a $300 iPhone will do a lot more for their family than a $100 laptop.”[41] A smart phone is attractive because it serves as a computer, a communication device, Internet browser, and a recording device. Goodman predicts they will be the top tech platform for the majority of the world.

[41] “Cell phones will thrive in Africa, but security will be a problem,” *Scientific American*, 17 April 2009. http://www.scientificamerican.com/blog/post.cfm?id=cell-phones-will-thrive-in-africa-b-2009-04-17

Mobile devices offer recording and communication tools that may be utilized at the time of a human rights violation or after the fact. Mobile phones and the telecommunications networks that support them capture and store a great deal of information. The devices and service providers generate a number of types of indirect evidence. A good forensic examiner, for example, can recover even deleted content from a cell phone (call records, text and multimedia messages, photos and music).

Moreover the service provider's network automatically tracks the location of a mobile phone when it is switched on. Images taken on mobile devices automatically include details of the location, date, time and type of camera or phone used. This information may be useful in documenting an occurrence, but also may be incriminating for the user. (Tools exist to strip such metadata from images, if security is a particular concern.[42])

Common image formats supported by cell phones

- JPEG
- GIF
- GIF89a (animated images)
- BMP
- PNG

Common video formats supported by cell phones

- 3GP
- 3G2
- MPEG4

Transmission formats supported by cell phones

- Short Message Service (SMS) - supports text messaging, via an SMS Gateway
- Multimedia Message Service (MMS) - supports exchange of picture, video or audio messages (limited size and format availability)
- Bluetooth - open wireless technology standard for exchanging data over short distances. Requires two devices with Bluetooth devices enabled
- WiFi – increasingly used by smartphones to connect to available networks.
- Data cable – supports direct transfer to a computer.
- Syncing applications – support automatic syncing of data between mobile phone and online application (Google Sync, etc).

[42] Common tools include *JPEG & PNG Stripper*, *Exifer*, or photo editing software such as Photoshop.

IV. Overview of the Lifecycle of Documentary Evidence

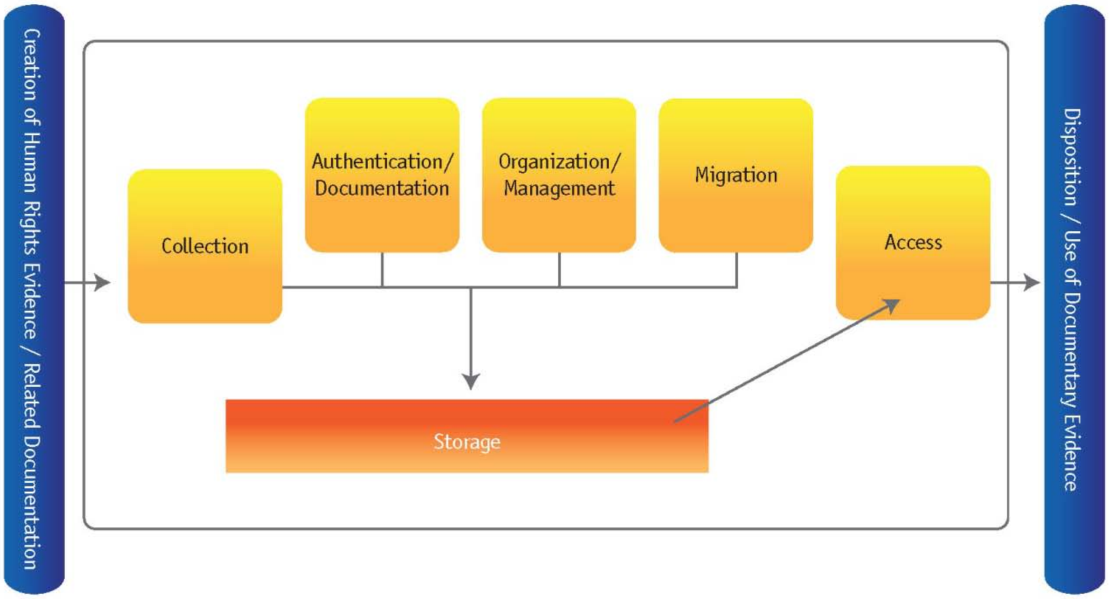
The “lifecycle” of electronic human rights documentation presented here describes the multiple (and often overlapping) stages in the useful life of a digital photograph, cell phone video, or text message; from its creation and use for immediate purposes such as exposing and investigating violence and abuse, through its later admission as evidence in legal proceedings and reparations; the paths that it follows and the hands through which it passes in the course of these uses. This lifecycle involves many stages and a variety of organizations and actors. An important, but rarely considered stage in this lifecycle is the secondary use of the material for purposes such as historical scholarship.

The 2009 report of the Interagency Working Group on Digital Data (IWG) of the National Science and Technology Council, "Harnessing the Power of Digital Data for Science and Society," identified eight basic stages in the full lifecycle of digital data and content. While the IWG model was devised to illustrate the stages in the life of scientific data, it provides a useful way of organizing the various processes to which digital data and content in the human rights context is subjected. In this section, we will focus on the following stages of the human rights documentation lifecycle:

- Creation of Documentary Evidence
- Collecting and Acquiring Evidence
- Authentication and Documentation
- Organization and Management
- Migration
- Storage and Protection
- Access
- Disposition and Use

The following graphic represents the major stages of electronic documentation collection, processing, assessment, and use in the human rights arena.

Lifecycle of human rights documentation


Creation of Human Rights Evidence / Related Documentation
Collection
Authentication/ Documentation
Organization/ Management
Migration
Access
Storage
Disposition / Use of Documentary Evidence

While the lifecycle of electronic documentation of human rights violations as described above suggests a linear progression, the stages in the lifecycle do not necessarily occur in sequence, as CRL's assessment of the landscape makes clear. Nor is the lifecycle truly a closed circuit. Sometimes a piece of evidence is produced for a specific use; at other times the evidence is first captured and then used later within unanticipated contexts. Materials collected for advocacy purposes may be reused in legal processes, and then stored, rediscovered, and analyzed later for scholarly purposes. Moreover, any given electronic document might only pass through a few of the stages in the lifecycle. Cell phone video uploaded to YouTube, for example, and then abandoned, is never "protected" or archived.

CRL's Human Rights Electronic Evidence Study report documents in more detail some of the conditions in which evidence is used for "downstream" purposes. The regenerative properties of evidence and its diverse uses underscore the importance of maintaining and protecting the resources for the long term. A number of types of organizations must work in tandem to ensure that this data is maintained for future uses.

IV.A. Creation of Documentary Evidence

Primary documentary evidence is often first generated at the time of the particular incident or event. Where an act has occurred by a perpetrator (a government or non-state entity) against a victim, the event or its aftermath may be recorded through a video, still image, or audio recording; or reported verbally using a phone or other digital device. The Audiovisual Resources Team of **Amnesty International** equips field workers with tools to collect data, such as audio recorders, digital cameras, and, increasingly, small video cameras. And the **Chiapas Media Project** provides video and computer equipment and training to indigenous and *campesino* communities in Chiapas and Guerrero, Mexico, to document government abuses occurring in those remote regions.

"Citizen journalists" (contributors to blogs, podcasts, wikis, and a variety of social media sites such as Global Voices Online) produce content that may not reach mainstream media outlets. They also provide individuated analysis that may provide context to particular events.

Testimonials and other supporting information may then be captured after the fact. The University of California, **Berkeley Human Rights Center**, employs handheld PDAs and smart phones (equipped with solar chargers) to collect survey data and record interviews on the human impact of violence in Central African Republic, among other areas. And **Voices of Rwanda** records testimonies of Rwandans related to their memories of the genocide and makes them accessible via the Web as a means of awareness-raising and healing.

Among the vast strata of primary documentation may be materials produced for other purposes, such as collections of statistical data on living conditions, corporate reports on initiatives impacting the ecology of lands inhabited by indigenous populations, and geological survey information detecting changes in the environment. Not all documentation may have obvious relevance to human rights events at the time of creation. As the concepts of human rights are increasingly defined (such as evolving concepts of discrimination or the recent declaration of the right to clean drinking water and sanitation), information previously created for other purposes may only later come to bear on human rights issues.

Often digital devices like cameras and recorders also generate technical metadata about the electronic record created, such as identifying information about the device, time and date stamps, file size and formats, color depth, image resolution, and other defining characteristics. However, many other fields of data are important to capture that may not be automatically generated. Those fields may include:

- Producer of the data
- Why the incident was recorded, its background and context
- What the record purports to capture
- Where it was it taken or posted

These elements can be critical for establishing the credibility of electronic documentation as evidence of human rights events.

IV.B. Collecting and Acquiring Evidence

Local human rights organizations (HROs) such as the **Centro de Derechos de Mujer de Chiapas (CDMCH)**, international advocacy organizations such as Human Rights Watch, and intergovernmental organizations such as the U.N. Office of the High Commissioner for Human Rights all play an important role in collecting documentation of human rights events in troubled areas. Human rights activists identify and gather information and documentation, verify and authenticate such material, and often use this information to expose and combat human rights offenses. While local HROs are often the first-responders to a human rights crisis, such monitoring of events usually occurs over a protracted period of time, aided by personal contacts, organized processes of information gathering, and, increasingly, technological tools.

Many HROs create "documentation strategies" that inform this phase of their work. Such strategies describe the purposes of monitoring and gathering of data, the types of events and trends to monitor, the parameters and methods used in data collection, and the kinds of documentation to prioritize and collect. The **Network for Human Rights Documentation-Burma** (ND-Burma), for example, has constructed a series of documentation manuals to assist its members in identifying human rights abuses and suggesting approaches documenting violations, conducting interviews, and analyzing data.[43] Similarly, the *Ukweli* handbook produced by Amnesty International and the Council for the Development of Social Science Research in Africa (CODESRIA) provides guidance on approaches to monitoring and potential sources of information (such as official reports, published statistics, media, texts of speeches, court documents, other human rights reports),[44] The **Institute for Policy Research and Advocacy (ELSAM)** in Indonesia provides training in documentation planning, including electronic monitoring (though the group cautions that Internet sources should be carefully considered for their credibility).[45]

Armed with a statement of purpose and a documentation strategy, organizations identify, prioritize, collect, and create electronic documentation. Collecting evidence of sudden and disruptive human rights abuses at the time of an actual event is difficult; the nature of these events makes them an accidental opportunity, rather than a deliberate plan of action. New technologies hold particular promise for this type of event.

Documentary evidence is often obtained by HROs from other types of organizations. Such evidence may include news reports and citizen-reported occurrences; government-issued reports and statistics; images and videos posted to Flickr, YouTube, or other file-sharing sites; emails, SMS, or other transactions from individuals or institutions; and a variety of other information. **WITNESS**, for example partners with human rights groups in over 80 countries to incorporate video in human rights monitoring and campaigns, increasing their visibility and impact.

Collecting such information is a sometimes haphazard affair. In many cases information about the authorship or provenance of the evidence is not preserved; files are often transferred to another format (in the cases of cell phone videos which are uploaded to YouTube, and compressed for easier transmission in the process); or have been edited or modified to suit a particular agenda. HRO acquisition of such materials is a critical point in the chain of custody and a stage in the lifecyle where information that could prove important later on is often lost.

[43] ND-Burma, *Human Rights Documentation Manual*, http://nd-burma.org/documentation/resources.html

[44] *UKWELI: Monitoring and Documenting Human Rights Violations in Africa (a Handbook)*, Amnesty International, 2000. http://www.hrea.org/erc/Library/Ukweli/ukweli-en.pdf

[45] *Pencarian Fakta Pelanggaran HAM*, Lembaga Studi dan Advokasi Masyarakat (ELSAM), 2011, http://www.elsam.or.id/downloads/1311655573_pencarian_fakta.pdf

Media monitoring

Many institutions employ media monitoring as part of their formal human rights documentation process.

- **SOVA Center for Information and Analysis** in Russia collects daily reports from media monitors throughout Russia, who transmit via email articles (links or full-text), scanned documents, photos, and written reports from trusted sources (which include journalists and activists). SOVA publishes news articles of interest on its Web site and disseminates monthly summaries of acts of racism and xenophobia it has encountered, generated from media reports and other information.
- **Freedom of Information Foundation** (Russia) monitors official websites of federal executive to determine the quantitative and qualitative characteristics of the current level of transparency in accordance with the requirements of Russian legislation on access to information about the activities of state bodies and local authorities. A detailed methodology (in Russian) is available on their site.[46]
- The **Montreal Institute for Genocide and Human Rights Studies** Media Monitoring Project seeks to provide early warning of genocide, crimes against humanity, ethnic cleansing, and serious war crimes by monitoring and aggregating the domestic news media (newspapers, radio, television and online sources) in at-risk countries.[47] Desk officers produce weekly reports summarizing relevant content from domestic media (including government-owned, privately-owned, and independent media), providing a weekly "snapshot" of the information available to citizens in that country.

The emergence of Web-based dissemination of news has afforded organizations the ability to monitor and mine the regional press in ways previously impractical. **HURIDOCS** training manuals include tactics for monitoring news media through Web Alerts, RSS feeds, online newsletters, and text mining.

Remote acquisition of evidence

Increasingly, activist organizations rely on citizen journalists and other volunteers to provide documentation and data related to crises and human rights events. Often this documentation is "delivered" through social media technologies developed by third parties. **Ushahidi**, a nonprofit technology organization that specializes in developing free and open source software, developed a platform for collection, visualization, and interactive mapping of "crowd-sourced data" submitted through SMS text messages. **Handheld Human Rights** (sponsored by **Digital Democracy** and powered by Ushahidi) uses mobile phones to connect human rights workers around Burma's borders. Volunteers submit information about incidents connected to a variety of types of human rights violations (abuse, displacement, torture, deaths, etc.) to its online visual interface. The **Satellite Sentinel Project** monitors potential hotspots in Sudan through satellite imagery analysis combined with field reports.

The significance of the electronic dimensions of this stage of the lifecycle is clearly evident. The dissemination of media information and advocacy material via the Internet has fundamentally transformed how HROs conduct campaigns. Online tools such as YouTube and Flickr, as well as social media sites such as Twitter and Facebook have radically altered the process of collecting evidence. "Citizen journalists" (contributors to blogs, podcasts, wikis, and a variety of social media sites such as Global Voices Online) provide a ready supply of digital content and information that challenges the capabilities of human rights groups to absorb and ingest.

[46] "Методика мониторинга сайтов ФОИВ РФ – 2010," http://www.svobodainfo.org/ru/node/529
[47] The Early Warning Media Monitoring Project, Montreal Institute For Genocide and Human Rights Studies, http://migs.concordia.ca/Media_Monitoring/Media_Monitoring_Reports.html

IV.C. Authentication and Documentation

In this documentation stage, evidence undergoes a process of evaluation, refinement and authentication. HROs and inter-governmental organizations responsible for collecting information may pursue additional related information and documentation to corroborate evidence in hand. HROs with a legal focus may conduct further documentation to prepare a case for litigation, defense, or other means of transitional justice. This process of authentication, or "fact-finding" is often iterative and rarely straightforward, but still an important part of transforming “documentation” into “evidence.”

Major news organizations have their own processes and protocols, developed over the industry’s long history, for authenticating documentation before passing judgment on its “newsworthiness.” News organizations like the New York Times and the Associated Press have put in place mechanisms and protocols for evaluating user-generated content. The "Social media guidelines for [Associated Press] employees," for example, promotes a conservative approach to user-generated content, described as follows:

> *When you vet a source found using social media, you must apply the same principles used in vetting a source found any other way. But there can be additional challenges with social media sources, since it can be difficult to verify the identity of sources found online. For those reasons, you must never simply lift quotes, photos or video from social networking sites and attribute them to the name on the profile or feed where you found the material. … If you come across photos, videos or other multimedia content that you would like to use in your news report, you must verify its authenticity. You must also determine who controls the copyright of the material and get permission from that person/organization to use it. Use particular caution if you find a social networking page or feed that appears to belong to a person who is central to a story, especially if you can't get confirmation from that person.*[48]

The BBC “User-generated Content (UGC) Hub” recently shared information on how the BBC newsroom attempts to verify citizen-generated content.[49] The Washington Post,[50] Reuters,[51] and National Public Radio[52] have all published criteria for assessing user-generated content.

Case Study: Extrajudicial Killings in Sri Lanka

In the case study of the investigation of extrajudicial killings in Sri Lanka (See Appendix IX.B.2., *New Problems in the Use of Electronic Evidence in Human Rights Investigations and Prosecutions*, pp. 41-47), a video apparently taken by a Sri Lankan soldier in January 2009 was acquired by the activist group Journalists for Democracy in Sri Lanka (JDS) and smuggled out of the country.

Channel 4 News in Britain received footage in August 2009 and attempted to verify the authenticity of the footage. Channel 4 sought comment from military and government officials, and sought independent verification from "a senior Sri Lankan rights investigator." While acknowledging that there was no way to independently authenticate the pictures, Channel 4 decided to air the footage (available on Channel 4's Web site).

Following the broadcast, many other international media outlets carried the story and rebroadcast the video. The Sri Lankan government and military conducted an immediate investigation of the footage and declared it a fake (see details). However, concerns from high-level advocates (including the U.S. State Department and the United Nations Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions) provoked a call for an independent investigation. Philip Alston (the UN Special Rapporteur) undertook the investigation, and in January 2010 reported that the video appeared to be authentic.

The Rapoport case study details some of the steps taken to assess the footage, including physical and video forensic investigations by UN-appointed experts.

[48] Associated Press, *Social media guidelines for AP employees*, http://www.ap.org/pages/about/pressreleases/documents/socialmediaguidelinesforapstaff2011.pdf

[49] “BBC processes for verifying social media content” http://www.bbc.co.uk/journalism/blog/2011/05/bbcsms-bbc-procedures-for-veri.shtml

[50] Washington Post, “Digital Publishing Guidelines,” http://www.washingtonpost.com/wp-srv/guidelines/index.html

[51] Reuters, “Reporting from the Internet,” http://handbook.reuters.com/index.php/Reporting_from_the_internet

While crowdsourced information can provide rapid situational awareness, information in the social media space is often not reliable or immediately verifiable as such. Crowdsourcing platforms, however, are beginning to develop new ways to filter out unreliable content. **SwiftRiver** (an Ushahidi initiative) evaluates the first flood of data from a crisis area through semantic analysis and verification of posts. Patrick Meier (iRevolution blog) has posted a series of messages relating to "Information Forensics" and means of verifying social media reports (see, for example this post). Meier's study, Verifying Crowdsourced Social Media Reports for Live Crisis Mapping: An Introduction to Information Forensics, gives several case studies illustrating practices for verifying social media and crowdsourced documentation.

Networking and Information Sharing

In many cases, documentation projects engage in collaborative networking among similar organizations to provide substantiation to cases, produce a richer story about the past, and further the purposes of each organization's efforts. Networking and reciprocal exchange of documentation occurs in a variety of formal or informal settings, dependent on the landscape and conditions in which the organizations work. HROs such as **Memorial** in Russia and **IBUKA** in Rwanda have constructed networks of organizations to collect and share information. Less-formal networks (such as grassroots organizations in Chiapas, Mexico) exist in regions without robust support for civil society structures. While local organizations may pursue their individual agendas, the process of centralizing and sharing information provides a broader venue for awareness and promotes more rigorous documentation practices. See *Appendices IX.C.3-5* for more detailed discussion of networking among human rights organizations in Mexico, Russia, and Rwanda.

IV.D. Organization and Management

The types and sophistication of the systems used by HROs to organize, store and manage digital documentation vary widely, depending upon the capacity and resources of the organization. Small, local organizations in many regions often have little technical capacity. This was found to be the case in September 2009, when the **Red Nacional de Organismos Civiles de Derechos Humanos "Todos los derechos para todas y todos"** **(Red TDT)** undertook intense community and organizational outreach to engage its community of HROs in the use of its human rights documentation database (see "Migration," below).

Aside from HROs and activist organizations, major media companies like the New York Times and the BBC play an important role in collecting and managing evidence that may be used in criminal investigations and judicial proceedings. These organizations use more robust, enterprise-scale systems for managing their large archives of digital content. These systems, while designed for the news industry, have features that offer significant benefits for the protection and preservation of human rights evidence.

In general, because of the sensitivity and confidentiality of documentary evidence of human rights abuses, the ability of both specialized and enterprise systems to handle, properly describe, and preserve such evidence is critical. In addition, the ability to aggregate or "crawl" digital content and data from multiple systems is becoming increasingly important, as computer-assisted analysis becomes more common. The challenge for the future will be to build, or adapt existing, systems that can support such analysis.

Documentation & Content Management Systems

Documentation at this stage in the lifecycle may undergo normalization and structured organization, depending on the intended use of the content. HROs seeking to maintain large amounts of electronic

[52] National Public Radio, "Social Media Guidelines," http://www.npr.org/about/aboutnpr/ethics/social_media_guidelines.html

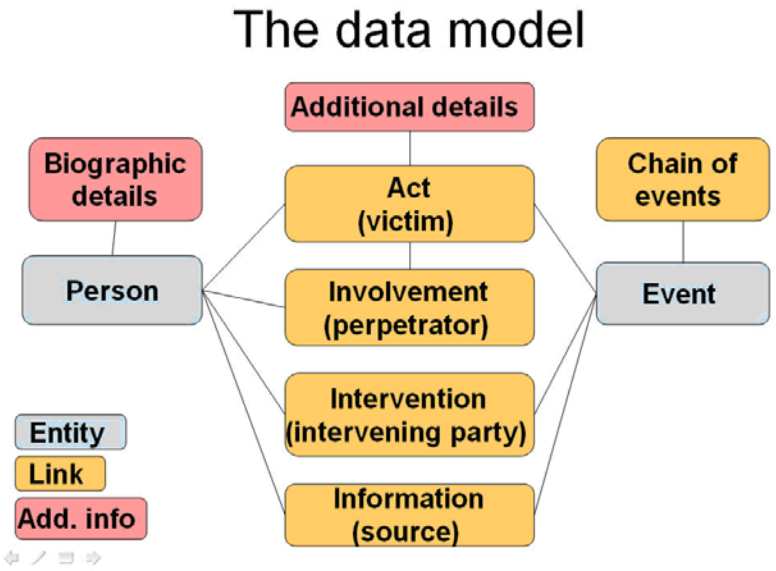
documentation of human rights violations may turn to specialized content management systems to organize and preserve these materials. Two producers of such systems are HURIDOCS and Benetech.

HURIDOCS

Human Rights Information and Documentation Systems, International (HURIDOCS) is an international organization that helps HROs use information technologies to maximize the impact of their advocacy work. For almost two decades HURIDOCS has been actively involved in developing and promoting the use of documentation techniques, monitoring methods, information management systems and technologies in the defense of human rights. In that time it has developed standards and thesauri for human rights reporting, guidebooks for the human rights community, computer based tools for the documentation of human rights violations and the classification of library documents, and search technology to provide speedy access to human rights information.

HURIDOC's OpenEvsys project provides HROs with software that manages information about human rights violations, replete with controlled vocabularies to codify types of events, victims, perpetrator, and sources. OpenEvsys is a complex tool designed for organizations with some technical capabilities and experience, as it offers over 200 fields and 48 controlled vocabularies that can be used to store information about an event, its acts, the victim of each act, the perpetrators of each act, the sources and the interventions made for a victim or about the event.

The OpenEvSys User Manual[53] describes the system and features, including the conceptual data model employed:



OpenEvSys data model figure[54]

The HURIDOCS data model is constructed around the concept of "events," in that individual violations ("acts") may be linked to other acts and can only be understood in conjunction with each other. "Events" can encompass an unlimited number of acts, victims, and perpetrators into a single entity. Thus the relational system represented in OpenEvSys employs Events Standard Formats to cover the various aspects of documenting human rights events.

[53] http://en.flossmanuals.net/openevsys/
[54] OPENEVSYS:"Who Did What to Whom?" http://en.flossmanuals.net/openevsys/ch012_who-did-what-to-whom/

The Events Standard Formats include four kinds of formats:

- Entity Formats – for representing the entities (Event and Person).
    - Event Format – for recording information on events.
    - Person Format – for recording information on persons (individuals or groups).

- Role Formats – for representing the various roles which Persons can have
    - Victim Format – for recording information on victims (persons who were the objects of acts that caused or led to violations.
    - Perpetrator Format – for recording information on perpetrators (persons who committed the acts).
    - Source Format – for recording information on sources (persons who provided information).
    - Intervening Party Format – for recording information on intervening parties (persons who intervened in an event).

- Link Formats – for representing the relationships or links among entities
    - Act Format – for recording information on acts committed against victims.
    - Involvement Format – for recording information on the involvement of perpetrators in specific acts. Information Format – for recording information on the information provided by sources.
    - Intervention Format – for recording information on acts of intervention.
    - Chain of Events Format – for recording information on the relationships between events.
    - Biographic Data Format – for recording information on relationships among and updates about Persons.

- Attachment Formats – for representing additional information
    - Additional Details Format – for recording additional information on specific types of acts.
    - Biographic Data Format - for recording information on relationships among and updates about Persons.

In addition to storing textual data, OpenEvSys also allows organizations to upload and link documents to particular events. Any file type may be uploaded (PDFs, JPEGs, GIFs, Word documents, etc.), and HURIDOCS offers a set of fields to accompany uploaded documents:

- Document Title
- Creator
- Description
- Date Created
- Sate Submitted
- Type
- Language

As this glossary suggests, EvSys accommodates a great deal of detailed information about the events documented, but relatively little information about the provenance, characteristics, authorship, and restrictions of the documentary evidence itself.

The **Cambodian Center for Human Rights** and SOVA use OpenEvSys software to document violations and display statistical information over the web on particular types of abuses. The Mexican group Red TDT uses a modified version of the software and thesaurus to record violations and establish relationships between cases and registrants.

Benetech

The **Benetech Human Rights Program** also provides software for documenting human rights. Martus (Greek for 'witness') is a free and open source secure information management tool that is designed for easy use and secure encryption of human rights information. Like OpenEvSys, it is constructed on the "who did what to whom" data model. However, Martus was not primarily designed for in-depth analysis of the data gathered, and as such is less structured as OpenEvSys. The "Martus User Guide"[55] lists the following fields as main entries for bulletins (i.e., individual reports):

- Language
- Author
- Organization
- Title
- Location- country, region, city, or other location.
- Keywords
- Date of Event
- Date Created
- Summary of Event.
- Details - Details fields may be customized, based on local needs.
- Attachments – Photos or other digital files related to the event
- Private - any additional information that you want to include in the report, but which should never be public.
- Headquarters --any "Headquarters account(s)" that will be able to access this bulletin's private (and public) information (in IT security terms, an institution with a public key to read encrypted data).

Benetech reports that "most Martus users find that the standard bulletin fields meet their needs. However, if a user needs to create fields beyond the standard Martus fields, they can also create custom fields of various types."[56]

As these headings suggest, the system accommodates relatively little information about the provenance, authorship, and source of the documentary evidence, such as photographs, third-party produced documents, etc., which are confined to the "Attachments" field or the free text "Private" field.

One strength of Martus is that it is designed to be secure, with multiple layers of encryption. Data is encrypted at the point of input, ensuring that information is stored securely on the user's computer in the event of confiscation.[57] Web transmission is also encrypted so that information may safely be exchanged among participating users as well as a central coordinating office (Headquarters). Martus also backs up information, if desired, to remote, dedicated secure servers around the world. There are currently three Martus servers located externally, at trusted partner institutions in Hungary (Open Society Archives), Canada (Alternatives), and the Philippines (The Asia Foundation).

Infrastructural challenges (lack of Internet bandwidth, consistent connectivity) may pose challenges for organizations in developing or repressive countries using Martus. However, Benetech has designed the software so that users can create bulletins offline, for transmission at a later time when connection to the Internet can be made. Work is saved to the user's personal computer, and if an Internet connection is available, the draft bulletin will also be backed up to a Martus server.[58] Another challenge is ensuring that organizations with existing Martus implementations stay current with updates and security fixes.

[55] *Martus Software User Guide*, https://www.martus.org/downloads/3.6/martus_user_guide-v36.pdf

[56] "Martus Bulletin Demo, "Step 3: Creating a Bulletin," https://www.martus.org/martusdemo/3creating_bulletin.shtml

[57] Files attached to bulletins in Martus are similarly encrypted, but the Martus user manual cautions that opening an attached file on a user's computer creates a temporary version of the document on the computer's operating system, which may pose a security threat if the temporary files are not deleted afterwards.

[58] Tripathi, Vijaya, "Human Rights Trainings in Nigeria," https://www.martus.org/resources/blog_nigeria.shtml

Other Specialized Systems

Other organizations have designed their own systems, based on their local needs.

- WITNESS employs its own content management system, the WITNESS Media Archive, which employs a variety of tools and resources to manage its collection of human rights media created by partners all over the world. WITNESS has shared its Cataloging Manual as well as its media archive thesaurus as examples of ways to organize multimedia collections.
- Karapatan-Monitor, designed by the Computer Professionals Union (CPU) in the Philippines, is another open source human rights documentation system. The software was recently redesigned as a Drupal-based system under the name Bagani.

Amnesty International's International Secretariat has implemented an in-house digital archiving program called Amnesty Digital Asset Management (ADAM). ADAM allows Amnesty field workers to upload digitally created photos, videos, and audio recordings into a central repository that all Amnesty members can access from within the organization. The program creates a searchable, categorized repository of digital images, videos and other documents.

The system accommodates a great deal of information about the documents collected, which is provided by Amnesty staff and field workers. As users upload their digital materials, they fill in required fields for metadata and context information. Information about restrictions on use and access are also recorded in the record for each uploaded item. ADAM currently collects the following metadata:

Descriptive Metadata:

- Title of the video, image, or audio file;
- Description of the content;
- Keywords, or terms for searching and cataloging;
- Campaigns that the item contributes to or was created for;
- Tags;
- Copyright type;
- Copyright credit.
- Documents associated with the video or image submitted and stored within the AI
- intranet, thus outside users cannot access this information
- Date Created
- Place Created

Agreement Type & Notes: ADAM also collects information on the rights and restrictions granted or imposed by the creator of the piece or individuals represented within the piece. Some items are highly restricted to protect the safety or privacy of persons portrayed. Agreement Notes specify additional use restrictions not covered in the standard agreements preset in ADAM.

Finally, ADAM requires numerous categories of *Technical Metadata* (file size, duration, format, date modified, and embedded data, among other criteria). ADAM's back-end system, based on Alfresco Content Management, enables automatic extraction of embedded metadata (EXIF/IPTC/XMP) for many common file types

ADAM's users include paid staff of Amnesty International as well as its multiple grassroots organizations and volunteers. A strength of the system is that it allows users from around the globe to submit information that is then managed and stored by AI's International Secretariat.

Participation in ADAM is currently voluntary, but Amnesty hopes it will become standard practice for field workers to automatically submit all materials to ADAM as part of their daily activities. Amnesty reported that field response to the system has been "enthusiastic." However, a challenge is that in a volunteer-based system, encouraging field workers to take the extra time to upload information, detailed metadata, and contextual information for each object is a barrier to wide adoption.

The **Kigali Memorial Center** is collaborating with the University of Texas at Austin's Human Rights Documentation Initiative (HRDI) to develop a database to house the digital archive of documents, photo, and video as part of the "Genocide Archive of Rwanda." The project uses GLIFOS, a digital media archive that allows for cataloging, indexing, and syncing audiovisual materials with transcripts and other materials for enhanced access. For the publicly accessible files contained in KMC's GLIFOS database, the following metadata fields are displayed

- Id:
- Title:
- Sequence:
- Abstract:
- Contributors:
- Publisher:
- Interview Date:
- Language:
- Rights:
- Subject Headings:
- Creator:
- Format:

Based in part on its work in Rwanda, the **University of Texas HRDI** recently published its Metadata Guidelines for Video.[59] The HRDI-MGV was developed to promote:

- a basic level of consistency in the structure and encoding of digital content managed by the HRDI;
- interoperability among content from diverse partner organizations
- Management and preservation of digital content;
- Access to digital content by internal and external users; and
- A standardized framework for digital object packaging, ingest, and transport

The metadata guidelines are based on the Metadata Encoding & Transmission Standard (METS), a standard for encoding descriptive, administrative, and structural metadata regarding objects within a digital library. The profile describes the rules and requirements for using METS as an Archival Information Package for digital video objects. HRDI is now working on similar metadata guidelines for other formats collected by the HRDI, such as web sites and audio.

Digital data collection is changing how research is undertaken in many different fields. HROs may also use these specialized data collection and display for their information. Ushahidi is a popular mapping product that many organizations use to graphically display the location of particular human rights events. **KoBoToolbox** is a set of tools that allows android phone users to collect survey data through their android cell phone. KoBo has been used mostly for large scale population surveys in Africa, and the resulting reports have been used by aid organizations, government ministries, international justice bodies, and other groups concerned with human rights, vulnerable populations, and issues of transitional justice. There are many such tools being developed and they likely will be used by HROs as a method for providing quick, easy to understand data analysis on human rights issues.

[59] *Metadata Guidelines for Video* (Version 1.1), University of Texas Libraries, Human Rights Documentation Initiative, September 2011. http://www.lib.utexas.edu/schema/Video_Metadata_Guidelines_v1.pdf

News Media Systems

Much evidence important to human rights work is produced or collected by the traditional media. Newspaper publishers and broadcast and cable news organizations amass considerable documentary evidence of events and conditions in the course of investigating and reporting on those events. The newspaper “morgues” and broadcasters’ “archives footage” of the past have been important sources of documentation for police, investigators and the courts. Today, these organizations aggregate such documentation largely in digital form. And they employ robust, enterprise-scale asset management systems to store and manage this content.

These systems have capabilities far more robust than the specialized systems used by the HROs. Capabilities particularly important are the ability to heavily annotate digital photographs, videos, texts and database content with information about source, authorship, subjects, and rights and restrictions. Tracking such information is important to news organizations to minimize the organization’s exposure to claims of copyright infringement, libel, and defamation; and to preserve content for subsequent reuse.

There are only a few major producers of such systems. CCI Europe is the major producer, and its systems are widely implemented by the major US and foreign news organizations.

The proper organization and management of human rights information presents many challenges. Existing tools greatly facilitate the preservation and analysis of human rights abuses (see next section), but one must be cautious of the following:

- Every human rights project is unique and may have unique document management needs. Systems need to be flexible and adaptable to on-the-ground situations. On the other hand, a certain amount of uniformity of data structures is necessary to enable cross-system aggregation and analysis of data and content, to accurately detect trends and patterns in the events documented.
- Data quality may be affected by the availability of good source information, the training and expertise of the user, the ease of use of the system, and many other factors.[60]
- Even the best-designed system is limited by the types and amount of data collected. HROs collecting data may only have access to a small portion of the affected population, due to geographic or infrastructure limitations, available staff or resources with which to collect information, or willingness of participants to share information.
- Timing of data collection / data input: In many cases there is a significant gap in time between the collection of data (testimony, documentation) and when it is input into databases. This increases the risk that the right types of information may not have been gathered, that information may be lost, and that the chain-of-custody has not properly been protected.
- Witness testimony is collected in non-linear fashion, involving lengthy interviews that may not fit a standard data-collection form. As information is categorized and standardized, some of the details and context included in testimonies may be lost in the assessment.

In general, systems used to manage documentary evidence need to preserve certain information or metadata about that documentation that will be critical to downstream uses, in forensic investigations and legal proceedings. Information about authorship, source, provenance, original format and technical characteristics of videos, photographs, and electronic text documents will be important to establishing the authenticity and credibility of the evidence in courts of law or even “the court of public opinion.”

[60] Benetech’s Patrick Ball discussed the challenge of accurately representing the number of victims, types of violations, and the possibility that different organizations are collecting data from the same people, creating a problem of over-registration. Some additional challenges are listed on Benetech's "Core Concepts" page: https://www.hrdag.org/resources/core_concepts.shtml

IV.E. Migration

The processes described in *IV.D.* help HROs organize and manage documentation, key activities of monitoring agencies. Collection of evidence conducted in a consistent, organized manner can demonstrate whether trends or patterns of violations exist. Identifying patterns of serious violations will strengthen evidence and may signify that more serious human rights violations have occurred. As information produced by smaller HROs is passed on to mid-sized specialized groups and larger national and international organizations, the structured and processed data may be used to assess broader patterns of violations.

Red TDT coordinates the data collection of its 75 constituent organizations from 22 states of Mexico. Red TDT employs an open source software program—Sistema de Monitoreo de Derechos Humanos (SMDH)—modeled on the HURIDOCS WinEvSys system, to record, organize and process information concerning cases of human rights violation. The SMDH allows partners to register substantive information about a case of violation of human rights, establish relationships between cases and among those registered, and generate narratives, analytical and statistical reports.

In its work to bring data together from an extremely diverse network of organizations, Red TDT sought a solution that would serve both local organizations' particular needs as well as a national coordination of information to allow for produce collective outputs (national reports on human rights violations). To realize a unified a system, the SMDH implemented controlled vocabularies to normalize the local migration of data. The vocabularies were based on international human rights standard terms, while locally-relevant categories (ethnic groups) were based on standards from the national statistics office in Mexico. Red TDT faced numerous challenges from its partners on how to normalize and migrate the information to a standard format (naming conventions, differences in interpretation of definitions). Institutional incorporation and integration with local workflow remains an ongoing challenge.

As documentation moves down the supply chain, changes often occur. When documentary evidence in electronic form changes hands there are large implications. To travel from one device to another, digital files are sometimes converted or "migrated" to new formats that have different characteristics than the originals. In the process, digital objects are annotated with new metadata, and some existing metadata is often lost. Platforms such as YouTube "normalizes" video formats to accommodate its technology, and embedded metadata about the producers and circumstances of production are usually stripped out. These are significant changes that, while not preventable, must be taken into account by those managing this evidence.

Keeping the content of a digital file intact and usable requires sustained management throughout its lifecycle. This includes regular integrity checks, copying to different locations, format migration, metadata updates, and maintenance of an appropriate technological infrastructure.[61]

IV.F. Access

HROs often disseminate information about events through reports, press releases, and other formats to mobilize action or affect policy change. Collected electronic evidence may be made accessible through an institution's web site, digital content management system, or though third party sites (including other HROs, media outlets, or social media sites).

Canalseisdejulio, an audio-visual collective located in Mexico City, serves as a hub of information gathered primarily from other small and mid-sized human rights organizations in Mexico. Canal 6 collaborates with HROs to produce documentaries that it distributes in DVD and via the Internet (Canal 6 hosts a YouTube Channel at http://www.youtube.com/user/canalseisdejulio and links to videos on its web

[61]" University of Texas Libraries Partnership : Preservation Needs," WITNESS, 2011. http://witness.org/media-archive/ut-partnership

site). Canal 6 maintains an extensive archive of original and produced footage, which it catalogs and stores for long-term use.

Collected evidence used for awareness of "immediate action" may be accepted and distributed without significant verification requirements.

Information released to news agencies, on the other hand, may require stricter proof of authenticity. News media, as shown above, generally apply their own criteria for accepting and verifying information. Media outlets disseminate and broadcast documentation through their own platforms, to inform the public of occurring events. Other HROs may rebroadcast information and pursue similar evidence to bolster evidence of an occurrence.

Social media, like Facebook and YouTube entail a "direct" model for distribution, rather than a linear channel, where the platform permits immediate exposure of a photograph, video or other form of documentation to other users of the same media platform. Relatively few controls are placed on distribution in these venues.

Digital videos and other types of evidence collected for prosecutorial purposes, however, demand rigorous standards for establishing authenticity, reliability, integrity, and chain of custody. Part V. of this assessment describes in more detail the uses of electronic evidence for advocacy, legal, and scholarship purposes.

Common File Types Managed by HROs

Text Files

- .doc Microsoft Word Document
- .log Log File
- .msg Outlook Mail Message
- .rtf Rich Text Format File
- .txt Plain Text File

Data Files

- .csv Comma Separated Values File
- .dat Data File
- .ppt PowerPoint Presentation
- .sdf Standard Data File
- .xml XML File (Extensible Markup Language) data file that uses tags to define objects and object attributes

Database Files

- .accdb Access 2007 Database File
- .db Database File
- .dbf Database File
- .mdb Microsoft Access Database
- .pdb Program Database
- .sql Structured Query Language Data

Spreadsheet Files

- .xlr Works Spreadsheet
- .xls Excel Spreadsheet
- .xlsx Microsoft Excel Open XML Spreadsheet

IV.G. Storage and Protection of Evidence

Whatever means HROs use to define success of a particular advocacy strategy, once the appropriate outcome is achieved, organizations wishing to support further action in the future must determine the long-term utility and retention requirements of electronic documentation. Many large and established HROs such as WITNESS and Amnesty International have implemented data management systems and protocols to support the long-term protection and storage of evidence, supporting data (and applied metadata), field notes, and communications surrounding these items.

More commonly, however, smaller institutions lack basic digital capacity to store and maintain digital evidence on their own. In this event, collaboration with external trusted partners is sometimes a viable solution. Libraries in the United States, the UK and many developed nations enjoy certain legal protections not afforded other types of organizations. These include exemptions from certain copyright restrictions, protection from forced disclosure of information about content, and others.

The University of Texas at Austin's **Human Rights Documentation Initiative (HRDI)** has established digital preservation partnerships with organizations that create human rights documentation to preserve and make accessible the historical record of genocide and human rights violations. The HRDI works with activists, scholars, and organizations to identify electronic and analog resources that are particularly vulnerable to loss. Integrated into its mission is to promote the security and use of human rights archival materials, and further human rights research and advocacy around the world.

As has been discussed earlier in this document, HRDI collaborates directly with human rights organizations in Kigali, Rwanda, Burma, and other areas to assess their documentary needs; provide organization-specific training and infrastructure; and support the ongoing advocacy, outreach, and educational programs if the organizations. HRDI employs a "noncustodial" model of preservation, ensuring that the human rights organization retains complete ownership over its materials, while Texas produces and preserves digital copies of the materials and provides the technical and descriptive infrastructure for their long-term preservation and access.

Increasingly, HROs have turned to “cloud computing” and external Web-based services for their document storage and management. Numerous institutions (such as Amnesty International) utilize Flickr, YouTube, and similar platforms to host pictures, video, and other media for public awareness. The Russian **Lesbian, Gay, Bi-sexual and Transgender (LGBT) Network** uses the cloud-based application GoogleDocs to share online forms used to collect reports of discrimination across its broad network of institutions. **International Justice Mission**, an international NGO providing rescue to victims of modern-day slavery and other forms of violent oppression, recently turned to a secure cloud-based communications and storage solution to replace its aging server network and to reduce costs.[62]

Still, at this point, there does not seem to be widespread take-up by HROs on cloud computing for long-term management of evidence. Issues of trust, security of information, technical obsolescence, and even reliable Internet access can all prevent organizations from relying on electronic storage solutions.

Digitization of archives

HROs with legacy print collections, stacks of files in varying states of organization, or collections otherwise “at-risk” due to internal pressures (space, staffing changes, deteriorating material) or external threats (oppressive regimes, poor environmental conditions) have turned to digital solutions to preserve and make more accessible these resources. There are numerous examples of efforts to capture ephemeral documentation, organize and describe it, scan, process, and host the files in digital archives. In our assessment, we found repeated and strong interest in the "re-use" of human rights documentation through digital conversion.

In April 2011, the University of Texas Libraries took delivery of 12 million scanned documents from the **Archivo Histórico de la Policía Nacional de Guatemala (AHPN)**, the Guatemalan National Police Archives. This collection's history is by now well documented, from the discovery of the police archives in 2005 to the first prosecution in the Guatemalan judicial system based primarily on the Archive documents in 2010.

Due to the original condition of the archives, the scanning of the material was undertaken on a page-by-page basis, with materials being scanned and a sample of cases being entered as bulletins into a Martus database implementation to document what kind of policies and practices the police employed in relation to human rights abuses.[63]

This exceptionally challenging body of material demands a high degree of curatorial and technological sophistication to manage. The enormous digital collection requires sizable computer storage and security requirements. It includes a wide variety of document types: photographs, printed and bound materials, and handwritten texts. Although these materials have all been digitized, the descriptive metadata for the digital files is quite thin, with little indexing. The multitude of stakeholders in the future of the archives—

[62] “Cloud Communications Going Global for International Justice Mission,” TMCNet, 2010. http://it.tmcnet.com/channels/cloud-communications/articles/98735-cloud-communications-going-global-international-justice-mission.htm

[63] https://www.hrdag.org/about/guatemala-police_arch_project.shtml

including the Guatemalan courts, human rights groups, victims of violence and their survivors, advocacy groups, and historians—will require a variety of well-designed protocols for permitting and controlling access to sensitive materials in the archive.

In June 2011, the Center for Research Libraries and LAMP announced a major partnership effort with the Ministério Público Federal in Brazil to digitize nearly one million pages of the collection **Brasil: Nunca Mais**, which contains court documents (*processos*) from Brazil's Military Supreme Court. These proceedings document the cases of more than 7,000 persons arrested, convicted, and/or executed by the Court between 1964 and 1979.

In 1979, a group of religious officials and lawyers copied in secrecy the official records of the Superior Tribunal Militar (STM). After nearly six year, reproduction of the 707 lawsuits was completed, totaling about one million copies on paper and 543 rolls of microfilm, which were sent to the Latin American Microform Project (LAMP) at the Center for Research Libraries. In January 2011, the Federal Prosecutor's office in Brazil contacted CRL to explore a partnership to digitize the full collection of reels. Many of the original files had deteriorated, and even the photocopies from the paper archive in Campinas had suffered losses in the course of its use. Essential pages of historical significance were missing, including testimony of political prisoners that included the names of their torturers.

The collection of case files, indexes to the collection, supporting documentation from the *arquivo de material apreendido*, and other materials related to the project are currently being scanned at the Arquivo Público do Estado de São Paulo, after which the files will be accessible as open access material on the Internet.

In 2006, the University of Southern California (USC) received the recorded testimonies from the Shoah Visual History Foundation. The **USC Shoah Foundation Institute** promotes use of the archive among undergraduate and graduate students, post-doctoral fellows, faculty, and visiting scholars. It also is responsible for the preservation and long-term management of the testimonies. The 52,000 testimonies were originally recorded on Betacam SP master tapes (at the time in 1986, the industry standard). Given the limited lifespan of video tapes, the Institute is moving to replace the 235,000 original Betacam SP tapes with new digital formats to ensure continued access to the archive. The tapes will be converted to Motion JPEG 2000 files, today's emerging standard for distributing and preserving digital video. Files will be stored on two 4-Petabyte tape robot archives on the campus. In addition to a preservation copy of each testimony, additional copies are being made in a variety of formats for viewing on personal computers and other media. These formats are:

- MPEG-1 at 3mbps
- MPEG-2 at 5mbps
- QuickTime at 1mbps
- Flash at 1mbps
- Windows Media Player at 1mbps
  Source: http://dornsife.usc.edu/vhi/preservation/technical.php

IV.H. Disposition and Use of Documentary Evidence

The ultimate uses of a particular piece of documentation can be difficult to predict. The use of documentary evidence is highly dependent on the mission of the organization and purposes for which it was collected. The intended uses of documentation should always determine how the data is collected and managed, but not all possible uses can be anticipated at the point when the evidence is created or acquired.

The use and disposition of documentary evidence is discussed further in *Section V.* of this report.

V. Uses and Requirements of Electronic Human Rights Documentation

Human rights documentation travels a variety of paths during its lifecycle. Its different intended uses require different things of those who collect and manage documentary evidence.
We focus on three principal areas of use:

- Advocacy
- Justice: Use of electronic evidence in legal processes
- Societal Memory and History

Many organizations conduct activities that cut across these categories or cannot be so easily defined. Organizations such as HURIDOCS and WITNESS, for example, provide training and digital content management services that support both advocacy and justice activities. Memorial (Мемориал) is a network of organizations that engage in a wide variety of activities including monitoring, social and legal assistance, and the long-term preservation of memory. Thus, the terms applied herein may seem too limiting for specific organizations. It is not our intent to categorize institutions into one type to the exclusion of the others. Rather, the case examples provided should serve to highlight some of the described uses to better understand the distinctions and requirements of handling practices to serve "downstream" uses of human rights documentation.

V.A. Advocacy

“Advocacy” broadly refers to the process of working to shape public opinion and government policy on a particular subject. In the human rights context, advocacy involves publicly exposing abuses and the violations of the rights of individuals and groups and calling the attention of government bodies to such abuses, in an effort to promote action and/or policy change. Creating, collecting and managing documentary evidence of abuses is integral to the advocacy activity of many local and international human rights groups. For purposes of this report, we will focus specifically on their use and handling of electronic documentation.

Advocacy work is undertaken by local organizations like LIPRODHOR (Ligue Rwandaise pour la promotion et la défense des droits de l'homme) in Rwanda, the Centro de Derechos de la Mujer de Chiapas (CDMC) in Mexico; and the SOVA Center for Information and Analysis in Russia. International monitoring organizations like Amnesty International and Human Rights Watch employ human rights professionals, lawyers, journalists, and country experts, supplemented by volunteers and supporters. Such work is also undertaken by media organizations like the New York Times, BBC, and others. Increasingly these groups rely on documentation provided by individuals on the ground in places where abuses take place.

Human rights organizations monitor and document events in troubled regions, by collecting photographs, medical records, copies of police reports and other documentary evidence through their own staff, contractors, volunteers, and other agents. These organizations also solicit and record testimony and statements regarding events from eyewitnesses and victims. In addition to the documentary evidence collected directly by human rights organizations, aggregate reports and documentation produced and published by third parties, including news and social media, government agencies, private satellite and medical imaging services, partner cooperating organizations are also brought to bear on human rights advocacy activities. Photographs and reports by professional journalists, videos produced and posted on YouTube by “citizen journalists,” and messages produced by users of Twitter, are enlisted in the effort to expose human rights violations, influence policymakers and prompt government or international action.

Amnesty International (AI), for example, monitors human rights situations around the world and publishes independent reports based on its research. AI conducts fact-based research to support its campaigns.

This activity includes monitoring events and global media, interviewing victims, observing trials, interviewing officials, publishing detailed reports, informing the news media, and broadly publicizing its concerns through a variety of channels. AI relies on activists, volunteers, and affiliated organizations to monitor and report on abuses. AI employs both short-term campaigns and long-term casework in its efforts. AI's center for collecting documentary information is its International Secretariat in London, where its Research Department, Documentation Center and Legal Office maintain extensive files of documentary evidence gathered from its network of "over three million" grassroots volunteers and from the international news media and other third party sources. It acquires written, video, audio and photographic evidence from these sources.

To organize and harness its audiovisual resources and electronic reports, the Secretariat uses an in-house system called ADAM—Amnesty Digital Asset Management—which Amnesty field workers use to upload digitally created photos, videos, and audio recordings into a central repository that all Amnesty members can access from within the organization. An example of such documentation includes recent videos of street violence in Syria reportedly demonstrating a "shoot to kill" policy being used by the Syrian security forces to quell reform protests. A detailed description of the tools Amnesty International uses to collect electronic evidence (including metadata standards and guidelines) is available in CRL's profile of Amnesty (See *Appendix IX.D*).

Local organizations employ a variety of strategies to promote their advocacy aims, although the level of sophistication in the use of electronic documentation varies considerably. In Russia, the SOVA Center for Information and Analysis collects, organizes and publishes information relating to racism and xenophobia conducted by right-wing groups within the Russian Federation. SOVA monitors electronic information from media organizations, blogs, and Web sites to track instances of racism, violence, vandalism or other hate acts. SOVA also collects documents from courts about relevant cases, as well as information on activities of regional human rights groups. SOVA employs a content management system developed with the assistance of HURIDOCS to index and code articles relating to hatred and violence. The database, built with the AeroCMS content management system, also allows the organization to systematically organize information and show trends of violence to particular ethnic or religious groups in Russia.

In Rwanda, LIPRODHOR (Ligue Rwandaise pour la promotion et la défense des droits de l'homme) uses manual systems to manage its documentation, LIPRODHOR identifies and denounces human rights abuses and monitors gacaca courts processes and detention conditions of prisoners presumed guilty of genocide. LIPRODHOR conducts much of its work (information gathering, field surveys) in non-electronic form, though it uses a variety of methods to monitor and record events where the capacity exists. This may include monitoring news and other Web sites, information captured by mobile device. Such material is generally not stored in a central management system or shared publicly.

In Mexico, the Centro de Derechos de la Mujer de Chiapas (CDMC) is a confederation of 21 communities throughout Chiapas, all focused on improving women's understanding of and engagement with their constitutionally guaranteed rights. From the beginning, the organization's founder has stressed the need to document all of their activities for memory and for legal purposes. Community members record testimonies on topics including (but not limited to) gender issues and human rights. These testimonies are used in a variety of settings, primarily for documentary purposes.

Requirements of documentation to serve advocacy purposes

Common to these organizations is the use of documentary evidence, i.e., video and audio recorded testimonies, news photographs, text messages, and social media content, to arouse public opinion and governmental action to prevent or redress abuses. The key requirements for evidence to support that goal are **clarity, credibility, presentability, and persistence**. Obviously an image, video, or written report must be clear enough and sufficiently detailed to corroborate the argument advanced by the rights organization. Since the subjects and significance of such objects will not necessarily be evident on their own, additional contextualizing information or metadata must accompany them. The credibility of the digital object invoked must also be established. Today, with the speed at which social media can deliver information to worldwide audiences requires that the process used for establishing such credibility must be rapid. Before Human Rights Watch "points to" a YouTube video or Flickr photograph as compelling evidence of an act of violence, it must have reasonable confidence in its source and reliability. And before using a video or text message an HRO must be relatively confident that it will be "persistent" or stable enough to bear repeated presentation on a number of media and technical platforms in the future. YouTube videos and other Web objects come and go without advance notice, and many digital objects such as the texts and images generated on Facebook, are not transferrable to other presentation platforms.

Many institutions do not consider the long-term implications of poor documentation practices at the beginning of an advocacy campaign. Often, by the time documentation comes to the organization, it has traveled far from its original source. Institutions need to consider at the outset how evidence it will be used, and take measures to accommodate these needs up front, rather than later on. In the assessment of HROs for this study, we could find no standard practice of documentation to ensure the integrity and durability of electronic evidence. However, the following general practices can help ensure that electronic documentation captured and managed will serve the purposes of for advocacy.

Clarity

Context is especially important for documentation of specific events. Therefore, capturing all readily available information about the item along with the object—as close to the event as possible—is optimal.

In collecting electronic evidence, HROs endeavor to record information relating to the material, such as the source and creator, time and location of capture, and description of what the evidence purports to represent. This information can be coded into structured information (metadata) in a variety of containers (questionnaires, Web or mobile input forms, spreadsheets, databases). There is little uniformity among the HROs surveyed in the variety of forms or means used. However, based on a survey of practices, the following types of information are generally considered as the minimum required metadata.

- Descriptive Metadata
  - Title
  - Source information (creator, contributor)
  - Date / Time
  - Geographic Location
  - Description of event
  - Type of Act
  - Victim name and identifying information (may be kept confidential)
  - Perpetrator information
  - Recorder information
  - Rights information (permissions, security concerns)

Where possible, organizations should make every effort to capture any technical information to support the documentation collected. Photos, videos, and other information may lose information as documents are uploaded, transcoded, or migrated to different platforms. Therefore, it is important to acquire the original source material, where possible, and document how the material has been captured and migrated over time.

- Technical Metadata (file formats, devices used, etc)
  - File name
  - Format
  - File size, duration (for videos)
  - Resolution, Aspect Ratio
  - Device used
  - Source location (URL, information system, etc)
  - actions taken where the object is modified

Credibility
All available information about the source, and the circumstances surrounding the production and posting, of documentary evidence should be captured and preserved, as should data about the original and subsequent hosting of the evidence. Best practices indicate that institutions should document, to the extent possible, the original source of the documentation and the chain of custody of the information throughout the entire digital evidence lifecycle. The major western news media organizations, and some developing world media, have developed considerable authority as arbiters of the credibility of evidence from unfamiliar sources. Hence their acceptance—through publication, linking, reference or other means—of a given photograph, video, text message as genuine can endow considerable credibility and is worth recording.[64]

Mechanisms for validating electronic evidence are rapidly evolving in the social media world as well. Fact-checking and other forms of "crowd-based" verification can (but do not always) identify false information or fraudulent documentation. Ushahidi, for example, employs a number of techniques to verify digital content uploaded to its Web platform by unidentified users on location, including triangulation. WITNESS provides examples and authentication guidance for human rights organizations through its training toolkits as well as its online blog.[65]

Presentability
Steps must be taken to address the privacy and confidentiality of sources and subjects of documentation. In gathering information and testimony, permissions and restrictions on disclosure of content and source identity information must be specified and appropriately managed along with the content.

Informed consent is a crucial step in the process for acquiring material that can be used to raise awareness of human rights campaigns while simultaneously protecting the individuals who share their information for these activities. Properly acquired and recorded, a participant's consent helps establish the veracity and evidential weight of recorded human rights material.

Training documentation for WITNESS lists four main elements of informed consent that are important both to the legal definition of consent and to the moral obligation of human rights organizations to protect the safety, security, and dignity of their interviewees.

- **Disclosure:** The use and the purpose of the information sought must be fully explained, in order to protect the subject's safety and to maintain an honest relationship between interviewer and interviewee.
- **Voluntariness:** The subject must give permission for the interview/material to be used and express whether he/she is willing to be identified by name, and must be in conditions that allow them to give this consent voluntarily.
- **Comprehension:** The subject must understand the implications of the interview. This may be complicated if the subject does not have a full understanding of the reach of the intended distribution (i.e. the internet). The interviewer must find a balance, not being condescending, but also protecting the subject's safety.
- **Competence:** The subject must be able to comprehend the implications of his/her participation. This is an especially important issue with special populations (i.e. children, people with mental disabilities, people who have suffered significant trauma).

[64] While professional journalism aspires to clearly separate apparent fact from opinion, citizen journalists largely do not differentiate between news and opinion. They are also not bound by the established codes of ethics ostensibly honored by broadcast and print media.
[65] See O'Carroll, T. 2011. *Ahmad Bayasi's Story: Citizen Video Authentication in Syria and Beyond.* Witness.org, July 25, 2011. Available from: http://blog.witness.org/2011/07/ahmed-bayasi%E2%80%99s-story-citizen-video-authentication-in-syria-and-beyond/
[65] http://irevolution.net/2011/11/29/information-forensics-five-case-studies/, November 2011.

Information to be incorporated into consent forms should include, at minimum:

- Full name, Identifying criteria (address, Social Security/Passport number);
- A clear statement of intent covering the purpose of the information sought and the intended "scope of use" by the institution;
- Specific statement of consent to handling his or her personal information, and conditions under which information may be shared (including identifying individual by name, voice, or face);
- Itemized agreement specifying how organization may use the data (collection, storing, changing, processing, reproducing, distributing, sharing with third parties, etc.). The subject should be made aware and consent to distribution via the Internet, including the understanding that content may be viewed and used by third parties.
- Time frame for which the consent is valid (once this period is over, the organization is required to either get either another consent agreement or destroy the data)
- Specific clause enabling subject to rescind permissions at any time.
- Date of agreement

Provisions must also be made for the **secure storage** of original documentation, with privacy controls applied for any public dissemination of materials (data masking, redaction, or other anonymization / encryption techniques). Large organizations like WITNESS and Amnesty have built in certain security precautions for data within their content management systems. Only portions of electronic evidence cleared for public access are viewable through the WITNESS Media Archive or ADAM system.[66] Other organizations may assign case files with code names or may signify a victim only by a code ID, which can be decoded only in-house by certain staff members.

Persistence
Available human rights literature strongly promotes the use of standard forms for recording events, testimonies, and related documentation. The same principles should apply to electronic documentation. Controlled vocabularies and community standards should be followed in describing digital materials, and standard digital file formats and widely adopted technology platforms used whenever possible.

V.B. Justice

Documentary evidence of human rights abuses is also used for accountability, legal restitution, and transitional justice. The International Criminal Court, European Human Rights Court, special ad hoc tribunals established by the United Nations, and the national and local courts of the countries in which the violations occur all rely heavily on documentary evidence. Such evidence is gathered by human rights activists and organizations, investigators, prosecutors, and the news media and is used by the courts to establish the facts surrounding a given alleged act or event. Documentary evidence is usually considered secondary to the testimony of eyewitnesses and victims.

Such courts and tribunals also generate new documentary evidence that is used or cited in subsequent trials and appeals, in the form of video of testimony and transcripts of the proceedings. The UN tribunal for Rwanda, for example, admitted in evidence thousands of hours of digital video of secret testimony of victims of the genocide.

Most proceedings are years in the making and take place long after the alleged human rights violation occurred. Because digital technology has only become pervasive in recording media within the past decade courts have been slow to adapt rules and procedures to its peculiar characteristics. Electronic evidence used to establish the grounds for indictments, or to provide the basis for an international investigation, is subject to increased scrutiny by government and intergovernmental authorities.

[66] See "Agreement Notes" on p. 18 and 23 of the ADAM User Manual, https://adam.amnesty.org/asset-bank/assetfile/96703.pdf

A number of human rights groups collect and manage documentary evidence to support legal proceedings.

Centro de Derechos Humanos Fray Bartolomé de Las Casas (Frayba) works for the defense and promotion of human rights, especially for the indigenous peoples and communities in the state of Chiapas, Mexico. Frayba provides legal advice and assumes legal representation in cases where human rights violations are litigated in Mexican or international courts.

Frayba records testimonies, collects documentation, and organizes information as a means of establishing patterns of abuse. Frayba employs digital field devices on a select basis to support its witnessing and data collection efforts. Frayba houses a large archive of legal documents, as well as case evidence to support the cases they present.

Red Nacional de Organismos Civiles de Derechos Humanos: Todos los Derechos Para Todas y Todos (Red TDT), based in Mexico City, provides assistance to a network of smaller human rights groups throughout Mexico. The Red TDT network consists of more than 75 groups in 22 states of the Mexican Republic.

Memorial, an organization based in Russia with a network of partner institutions throughout the Russian Federation and elsewhere, provides legal assistance to victims of human rights violations; migrants, refugees and displaced persons ("forced migration"); and for people subjected to persecution for political reasons. Memorial relies on its 57 regional offices as well as a network of 240 lawyers and law firms that volunteer to provide these services. Memorial's legal work involves bringing cases to both domestic courts and the European Court of Human Rights (ECHR). Most domestic case work seeks to exhaust local remedies before moving further up in the judicial system.

IBUKA is a Rwandan rights organization created in 1995 which currently encompasses 15 member groups. The organization's mission is to study all of the problems caused by the genocide, to address the challenge of coordinating all activities relating to problems experienced by genocide survivors and to represent the latter in dealings with third parties. IBUKA coordinates the collection of evidence, testimony, and supporting documentation among its network of participating organizations. IBUKA volunteers in Rwanda and abroad collect information (official documents, correspondence, testimonies, and other documentation) and forward it to IBUKA's central office in Kigali. The central office then submits documentation as evidence in the Rwandan legal system.

Requirements for Documentary Evidence Used in Legal Processes

The requirements for electronic documentation for use in judicial proceedings are similar to those used in advocacy, although there is a significantly higher bar set for authenticity, reliability, and integrity of the information. And because considerably more time has elapsed between the event and the legal proceedings that address that event, managing documentary evidence for legal uses must be far more rigorous.

For its assessment, CRL has produced two detailed reports describing the conditions under which electronic evidence may be considered as evidence in courts of law.

Lucy Thomson's report, *Admissibility of Electronic Documentation as Evidence in U.S. Courts*, focuses on the uses of various types of electronic evidence by organizations involved in the judicial process or extrajudicial proceedings in the United States. Thomson discusses how the principles of admissibility and the relevant federal rules of procedure and evidence apply to electronic documentation. Her report also offers recommendations on how to facilitate the use and admissibility of documentary evidence in digital form. In addition, to assist human rights advocates, Thomson makes a number of recommendations to facilitate the gathering of "evidence" by electronic means.

The second report, produced by the Bernard and Audre Rapoport Center for Human Rights and Justice–*New Wine in Old Wineskins? New Problems in the Use of Electronic Evidence in Human Rights*

Investigations and Prosecutions–describes the legal issues that the use of electronic evidence in the international and national courts criminal courts have raised and how those issues have been resolved.

Please see these reports, attached in *Appendix IX.B*.

In general, the rules and procedures established by courts and tribunals for documentary evidence to be used in legal proceedings vary. In general, courts distinguish between admissibility of evidence and the weight that can be assigned that evidence in their fact-finding. And requirements are better established for national and local courts than for international courts and tribunals.

Authenticity

"Authenticity" in legal parlance means that the evidence is what it purports to be (i.e., that it is not a forgery or fabrication). Electronic documentation may be easily changed or tampered with. Use of evidence will require some proof of authenticity (in the form of personal or expert testimony, use of coding or encryption schemes to prove that evidence is genuine and has not been altered, or other circumstantial evidence as to its authenticity and accuracy).

The authenticity of a digital object is almost impossible to determine absolutely, because with use and over time, any number of events and actions will cause changes in its metadata, appearance and even its format. At best, authenticity can be established on a relative basis and time and legal practice will determine what acceptable level of authentication the courts will require.

For this reason, it is important to maintain as complete and original a copy of the material as possible. Materials should be stored in ways that closely mimic the original context as much as possible. Capturing an entire web site through harvesting, screen shots, etc. is better than copying only the text from a site. Email or chat correspondence should not be redacted to prove a case. Raw data should be preserved before normalizing it into a common format. Any gaps created (such as a "jump" in audio or video) should be clearly indicated and explained, preferably by the device operator.

Chain of Custody

Maintaining a complete history of hosting and possession is important in determining whether evidence has been modified or tampered with. As with physical evidence, a log should be kept of the location or custody of any material. If multiple copies are made, the master file should be carefully stored and touched (played, migrated, etc) only when necessary, with any transactions noted.

Reliability

In legal terms, “reliability” refers to the relative trust that can be placed in the truth or accuracy of a given piece of documentary evidence. In using electronic evidence in the legal setting, organization should seek to document that it was generated, produced, or transmitted according to reliable means. Indicia of reliability might be internal (device-generated metadata on authorship, timestamps, digital signatures, etc.) or external (testimony regarding the place and manner in which the documentation was obtained or showing that the contents are supported by other evidence). Evidence from mobile phones, Web sites, or other electronic devices must be acquired in a forensically sound manner and should be carefully documented to demonstrate the reliability of the manner or method in which it was generated, stored or communicated. Information about the author and the device, software platform, and applications used to produce the document are all relevant to reliability.

V.C. Societal Memory and History

The longest-term use of documentary evidence is to preserve the memory of major events in a society for survivors and future generations. The Kigali Memorial Centre (KMC) provides a place of memory for survivors and a permanent memorial to those who fell victim to the 1994 genocide. KMC hosts the National Documentation Centre of the Genocide, housing the research library, archive, audio-visual testimony archive, GPS mapping project, and documentation team.

KMC worked with the University of Texas and other Rwandan organizations in the creation of the "Genocide Archive of Rwanda," a comprehensive repository for information related to the genocide. The physical archive is housed on-site at KMC, containing the original audiovisual, documentary and photographic materials in a secure, controlled environment.

Similarly **Memorial's** Scientific Information Center in St. Petersburg created the Virtual Gulag Museum, a collection of physical evidence from the era of Soviet terror, scattered in museum collections in Russia and elsewhere, to commemorate and record the existence of the Gulag, as well as the experiences of Gulag victims. The website not only includes exhibition materials, but also a catalogue of all museums and memorials in Russia. The goal of the project is to provide a central place where Gulag history can be accessed and displayed.

Another downstream purpose is historical research and teaching on the subject of human rights. Scholars, policymakers, and government officials rely on the collecting and stewardship of documentation by academic, independent, and government libraries and archives to inform their work and to produce accurate histories of repression. Educational institutions offer interdisciplinary concentrations in human rights, with courses offered in specific areas of human rights issues, human rights law, education, and even librarianship.

Human rights electronic documentation has become a topic of intense interest in the past few years, especially as part of the study of broader social movements. Academic institutes affiliated with universities often participate actively in human rights work. Faculty, staff, and students in political science, sociology, social work, and cultural studies engage in field work or take up internships with human rights organizations. Increasing civic engagement by higher education institutions have served to bring academia and human rights organizations closer together.

Requirements of documentation to serve intended purposes

To some extent, the most rigorous standards of description, storage, and migration have been applied to "Memory" projects. Bearing closest resemblance to library and archival management projects, organizations have emulated strategies employed by those communities for metadata creation, access, and long-term retention of data.

The International Council on Archives (ICA) Human Rights Working Group works closely with human rights organizations and supporting archives. In 2005, the ICA released recommendations for the application of the "General International Standard Archival Description" (ISAD(G)) for human rights archives.[67] While the standard applies generally to the description of a set of records (as opposed to a singular piece of evidence), the categories of description serve as a useful organizing principle for electronic evidence, providing detail on creators, scope and content, contextual information, archival history, conditions of access, and other information.

As for managing digital collections of electronic documentation, the ICA has developed free and open source software that enables institutions to make their archival holdings available online, manages archival descriptions in accord with ICA standards, and is flexible and customizable. The ICA-AToM ("Access to Memory") software was initially developed to support an online guide to archival sources of human rights violations.[68] AToM has been implemented by regional archives, including the Museo de la Memoria y los Derechos Humanos in Chile.[69]

[67] Huskamp-Peterson, Trudy, *Application of ISAD(G) for Human Rights Archives*, May 16, 2005. http://www.ica.org/11247/toolkits-guides-manuals-and-guidelines/icahrg-application-of-isadg-for-human-rights-archives.html

[68] Now available at: http://humanrightsarchives.org/

[69] Other open source software tools developed for archivists include Archivist Toolkit and Archon. Assessment of these resources was not covered in this project, as CRL found no evidence of their use in human rights settings.

Key requirements for evidence to support the goal of societal memory and history include:

Accessibility
A core conviction of many advocacy and memory organizations is that broad exposure and dissemination of information is critical to counter claims or denials by perpetrators and others. To create an accurate historical record and preserve the memory of the past, institutions must make accessible—and discoverable—the records of events in a way that enables individuals and other organizations to access and use electronic documentation.

However, accessibility does not imply that all content is unrestricted. The management of electronic information requires that organizations put safeguards into place to facilitate **responsible use** of the material. Safeguards might include declaration forms that instruct readers on the limitations of use, view-only access to restricted materials (no downloads), or digital redaction and anonymization techniques to limit access to sensitive data. Wherever possible, the original consent and restrictions on use should govern the accessibility of material throughout the data's life.

Fixity
The information stored and maintained for long-term use must be faithful to the true state of the original object. That is, the evidence must as closely as possible represent its original form over time, indicated by an absence of any alteration in data between two updates of a record. Electronic evidence should be documented to show that the material was acquired and stored in a way that does not affect the integrity of the information, thus allowing users to weigh with more certainty the completeness, accuracy and validity of the material.

Sustainability
The object must be retained in a way that facilitates the management of the object indefinitely into the future, or enables viable alternate means of carrying the content forward should the original path cease being sustainable. The long-term management of electronic evidence must not only address the effects of technological obsolescence, but must also be capable of adapting to other methods of discovery and delivery, which will continue to change over time.

VI. Adequacy of Electronic Documentation Practices in the International Setting

The Human Rights Electronic Evidence Study sought to assess the adequacy of human rights practices by regional organizations in supporting advocacy, investigations, legal proceedings and societal memory on a local and international basis. CRL analyzed the activities of the regional organizations with respect to their gathering and use of documentation, particularly in electronic form. In assaying several types of human rights organizations in various regions of interest, it is no surprise that we found a variety of practices, with varying levels of technical sophistication.

VI.A. Fieldwork Case Studies – General Findings

The case studies presented in *Appendix IX.C* illustrate these challenges and some of the unique approaches taken by human rights organizations in the field. In its assessment of regional organizations, CRL sought to map the flow of information and documentation down the "supply chain," i.e., from initial capture to end use, cataloging documentation types collected by human rights groups, mapping existing collaboration networks, and depicting the geographic spread of such networks. CRL studied a variety of organizations, including small, low-budget, largely volunteer grassroots groups, mid-sized professionally specialized groups (e.g., lawyers, filmmakers, or statisticians), and large national and international organizations or institutions.

As one would expect, practices and techniques vary, and are informed by the cultural, legal, and technology environments under which organizations operate. However, a few general trends of information flow in all regions were noted:

> **1. Collaborative networking of documentation:**
> Site visits to Mexico, Russia, and Rwanda showed that although documentation forms, types and practices differ widely according to the goals and capabilities of individual human rights organizations, these organizations frequently share the documentation they gather and generate through both formal and informal collaborative networks. This collaboration allows documentation to circulate from grassroots groups to legal offices, investigators, national and international court systems, the media, and memory institutions. Through this process, documentation created for specific local interests also serves the broader needs of advocacy, research, and policy making. Mapping of these information-sharing networks illustrates the diversity of organization types these networks connect and that they often emerge organically across large geographic expanses.
>
> **2. Institutional and geographic centralization and standardization of documentation:**
> Though organizations in each region visited confront different rights issues and negotiate widely varied cultural and political contexts, results from field work illustrate that as documentation moves from smaller to larger groups, it generally travels from smaller communities into larger, more urbanized, and technologically sophisticated geographic centers. In the process, the documentation often becomes increasingly standardized and is often converted to electronic format. This vital process allows more informal documentation processes of many grassroots organizations (for example, traditions of oral testimony) to support legal action and advocacy work.
>
> **3. Sophistication in the ability to manage documentary evidence grows as that evidence moves down the supply chain.**
> CRL found that mid-sized specialized groups such as Memorial and Public Verdict (Russia), Red TDT and Frayba (Mexico), and IBUKA and the Kigali Memorial Centre (Rwanda) play a key role in establishing and maintaining networks for sharing and disseminating documentation generated during the course of human rights work at all levels. In addition to their own advocacy work, these groups consolidate and manage data and documentation collected by smaller grassroots groups

for distribution to broader audiences. Groups like WITNESS, HURIDOCS, and ND-Burma also provide smaller organizations with training and resources in a variety of traditional and electronic documentation practices. Support of these critical mediating organizations in helping grassroots level organizations grow capacity for collecting and handling documentary evidence would benefit policy making, activism, and legal work at the national and international levels.

See *Appendices IX.C.3-5* for more details.

VI.B. Challenges of Collecting and Maintaining Evidence for Advocacy Work

The principal task for human rights organizations in securing and maintaining electronic evidence for advocacy purposes is to ensure that the evidence is clear, credible, presentable, and persistent. The major challenges in doing this are both quantitative and technological in nature.

The sheer amount of electronic evidence created using digital devices and media is immense, and strains the capacity of large human rights groups like Human Rights Watch and Amnesty International to identify what is authentic and credible. The difficulty of distinguishing “signal” from “noise” is significant in the digital world where the costs of production are low. And most of the indicia used in the print and broadcast era to authenticate documentation do not apply. Establishing the credibility of evidence generated and distributed through social media has emerged as a particular challenge, but new means to address this challenge are evolving rapidly. Traditional media actors such as the BBC and New York Times play an important role in this process.

The rapid progression of technology and the zest to apply the latest applications to human rights activity fosters the public perception that groups in the field can handle sophisticated technology solutions. However, local and international human rights organizations have varying levels of technological capability. In some regions, like rural Mexico and Chechnya, access to high-bandwidth telecommunication networks necessary to host and transmit electronic media is sporadic at best. As a result many grassroots activist groups make use of cell phones, SMS text messaging and other low-bandwidth technologies to transmit reports, photographs and video documentation.

Also lacking at many smaller organizations is the knowledge of basic information management principles: indexing, abstracting, metadata production, controlled vocabularies, etc. For example, many organizations record information in word processing documents or spreadsheets in free-text format, where utilizing a simple SQL database and controlled vocabulary would better serve their purposes. Many institutions employ static Web pages containing endless strands of documents, where the use of a content management system with the ability to tag, sort, and retrieve by geographic location, keyword, etc. would be far more effective.

Most human rights groups employ technology providers who typically cater to the needs of small businesses in the region. These providers are not attuned to the special requirements of handling sensitive and potentially volatile human rights data. Additionally, the market-driven and proprietary nature of much hardware and software makes interoperability and training very difficult, especially when many organizations in the field use antiquated software and hardware. Several institutions partnering with WITNESS encountered difficulties receiving software and updates, with no internet connectivity, intermittent electricity, and 15-year old PCs.

Information security and control

Maintaining security of information in electronic documentation in a networked world poses challenges on a number of levels – systems may be hacked or compromised, data intercepted; and the potential for human error to lead to unauthorized, inadvertent dissemination of sensitive information is great. The shift to use of centralized or cloud services to manage digital documentation, moreover, increases the risk of surveillance or mining of the content and of documentation loss or corruption.

Maintaining security over time is especially daunting. While Red TDT's SMDH database employs levels of administrative security and encryption, concern over data security ultimately led Red TDT to decide that only public information should be maintained in its database.

Partners of WITNESS described challenges of ensuring that restricted materials collected remain so after their initial use. (A documentary filmmaker may honor restrictions in the final production, but the raw video footage may still contain private information that needs to be safeguarded).

Ownership of information is a frequent barrier to sharing of documentation for human rights groups. Legal norms vary from country to country, with different laws and regulations governing intellectual property, rights to privacy, and other individual rights. In Russia, for example, laws governing the protection of data require an organization to obtain explicit consent from an individual in order to handle his or her personal data. This has caused tremendous complications in how NGOs handle human rights cases. According to some individuals interviewed, it is nearly impossible to comply 100% with the law.

Broadcasting found footage may in fact undermine or violate the rights of the photographer, the subject, and the rights of other individuals captured on video or in a picture. The opacity of legal regulations and language often are a barrier for organizations obtaining permissions from these stakeholders. Consent forms and agreements governing data use that are overly dense may lead organizations to reconsider collaboration.

Service providers and enabling sectors exist to support this work. And, as was the case in the pre-digital era, the news media play an important role not only in documenting human rights abuses, but in maintaining and disseminating that documentation.

VI.C. Challenges of Preserving Evidence for Justice and Societal Memory

Maintaining evidence for longer-term uses faces additional challenges. While the ephemeral character of digital information introduces new complexities to the task of maintaining the integrity of documentary evidence long-term, the IT industry is rapidly evolving solutions. On the other hand, perceptions of the value of documentation for later use vary from one organization to another. Generally speaking, local and international human rights organizations are aware that the information they collect may be valuable for uses beyond their own immediate purposes. However, workers in such organizations tend to be less knowledgeable about how to preserve documentary evidence they collect for uses such as investigations and legal proceedings that might occur years or even decades in the future, and for purposes of long-term societal memory. There is often only a dim understanding at the local level of the kinds of data that must be captured to preserve the chain of custody of a given digital document, data needed to enable investigators and courts of law to establish the reliability of, and assign an evidentiary weight to a photograph, video, or audio recording. Service providers like WITNESS, HURIDOCS, and others play a useful role in helping local activist groups build these capabilities and reshape attitudes. But the problem is exacerbated by the fact that uniform requirements for admission and evaluation of electronic evidence are emerging very slowly from the courts.

Even with the requisite knowledge and requirements in place, however, resources for this activity would still be a challenge. Managing and preserving evidence in electronic form in ways that will render it useful for legal purposes is labor, cost, and skill intensive. Many small and even some large organizations are unwilling to devote scarce funding to activities of lesser urgency than their immediate goals of reporting and advocacy.

In short, many organizations recognize the potential us of their documentation for secondary purposes, but are either unwilling or unable to integrate practices and technologies that provide for the longevity and continued integrity of evidence collected.

VII. Recommendations and Resources

At a 2006 meeting of human rights experts convened by the MacArthur Foundation to consider issues involving the collection and preservation of documentary evidence, three areas were identified for further investigation:

1. Tools and standards for collecting documentation and evidence
2. Resources and best practices for groups managing the materials collected
3. Local archive infrastructure for maintaining human rights documentation.[70]

The present report identifies resources and model practices for use at the various stages of the documentation lifecycle: creating, collecting, authenticating, and organizing and maintaining documentary evidence in electronic form. These practices are not meant to be construed as universally applicable, as each organization's needs are determined by their mission, their capacity, and the environmental conditions under which they work.

Several initiatives and organizations deserve special mention for their work in supporting documentation practices.

> HURIDOCS tools and techniques for HROs are excellent resources for human rights documentation. An informal network of human rights organizations with experience and an ongoing commitment to documentation practices, HURIDOCS plays a useful role in developing common approaches and standards in a collaborative and inclusive manner.
>
> WITNESS provides numerous tools and resources for advocacy organizations WITNESS provides training, tools and methodologies for human rights groups and citizen activists. The WITNESS site contains information and resources on creating videos for effective human rights advocacy. A recent "Video Advocacy Planning Toolkit" outlines a step-by-step process for creating video campaigns. WITNESS also shares case studies, advice on filming and editing, and information on information security and other topics.
>
> MobileActive, a network of practitioners utilizing mobile phones for social impact, offers valuable information on tools and tactics for organizations involved in advocacy, disaster and humanitarian relief, and other areas. The site presents case studies and research on organizations and projects using mobile tools and social media, particularly in developing world regions. MobileActive produces country reports on mobile use, mobile service providers, and tools available for particular countries. See: Mexico, Russia, and Rwanda for a comparative survey of capacity and programs available in each country.
>
> New Tactics in Human Rights, a project of the Center for Victims of Torture, is a peer network and community for human rights activists. The New Tactics web site shares information on successful human rights tactics, provides links to resources and tools, hosts online community discussions (including an invaluable thread in 2010 on "Documenting Violations: Choosing the Right Approach"), and supports communities and groups formed around specific issues of interest.

[70] More details of the 2006 colloquium is available in CRL's FOCUS on Global Resources newsletter, Vol. 27, num. 2 (Winter 2007-08), http://www.crl.edu/focus/article/410

VII.A. Creating Documentation

As *Section IV.* above indicates, electronic evidence is produced by many types of individuals and groups, from eyewitnesses and citizen journalists to major news organizations. To be useful, electronic evidence must be properly formed and must come with certain minimal information about source and provenance.

In general, those creating documentation should use only widely accepted formats and technologies. The burden of documentation, migration, and conversion of these formats will be borne by the commercial and public sectors. Organizations should beware of specialized or purpose-engineered tools and technologies.

Several non-profit technology organizations develop and promote awareness of best practices in evidence creation, documentation, and privacy management for online activists.

- **Mobile Media Toolkit** - http://www.mobilemediatoolkit.org/

This site, a project of MobileActive.org, provides guidance, tools and resources for citizen journalists and reporters on using mobile phones to document and report events through news, broadcasting, and citizen media platforms. The Mobile Media site describes various ways to:

- Create mobile media (photographs, audio, video)
- Share multimedia and mobile content on blogs, microblogs, and other sites
- Deliver content on mobile apps, disseminating audio, video and other content to mobile phones
- Secure mobile media and protect phones from intrusion

The site provides case studies and "how-to's." While the site does not address human rights advocacy or reporting per se, many of its recommendations are potentially useful to human rights organizations. Groups in restrictive environments may be interested in sections such as "Limitations of Adding Location Information to Mobile Content," and "Limitations of Sharing Mobile Content on the Web," and "A Mobile Surveillance Primer." Site text content is in English, Russian, Spanish and Arabic.

More resources and best practices relevant to creation and transmission of documentation:

- Tactical Technology Collective: Mobiles-in-a-box
  collection of tools, tactics, how-to guides and case studies designed to help advocacy and activist organizations use mobile technology in their work.
- SaferMobile
  SaferMobile helps activists, human rights defenders, and journalists understand the security risks of mobile technology and use mobile tech more securely for their work.
- OpenWatch
  A participatory citizen media project which uses mobile technology to enable public monitoring of authority figures.
- FrontlineSMS
  FrontlineSMS is open source software that can enable a mobile phone and laptop to serve as a wireless communications hub. Once installed, the program enables users to send and receive text messages with groups of people through mobile phone networks.
- Electronic Frontier Foundation - Legal Guide for Bloggers
  This resource guides individuals through the legal issues (based on U.S. laws) of posting blog content, including liability, intellectual property, and app
- Rethinking the Mobile Workflow for Human Rights Video

Information Security

- **Tor** - https://www.torproject.org

Tor promotes secure communication by routing communications through several relays on the Internet so that no single point can link directly to a communication's destination. Surveillance known as "traffic analysis" focuses on the source, destination, size, timing, and other information contained in the headers of data packages transmitted over the Internet. Tor obscures source information in email transmissions, blog postings and other Internet content and provides secure messaging and email on mobile phones.

- **ObscuraCam** (Guardian Project / WITNESS Labs) **-** https://guardianproject.info/apps/securecam/

The Guardian Project and WITNESS are developing an open source secure camera application that allows video filtering, file encryption, and secure uploading of files. "V1" has been released for testing on Android phones.

Other sites of Interest:

- Tactical Technology Collective: Security-in-a-box
- Mobile Tools for Backups, Data Deletion, and Remote Wipe
- *Digital Security and Privacy for Human Rights Defenders*, Dmitri Vitaliev, 2007

VII.B. Collecting Documentation

In the digital environment, the boundaries between production, collection, and archiving of documentation break down. Many of the steps required for long-term management of documentation must be undertaken up front, at the beginning of the information lifecycle. In general those collecting documentation should establish – and to the extent possible, adhere to -- a consistent pattern of systematic data collection. Ideally, a content management or archiving strategy should be put in place before documentation even begins, rather than after the fact. One of the best resources for developing such strategies is HURIDOCS' **"What is Documentation?"** (http://www.huridocs.org/wp-content/uploads/2010/08/whatisdocumentation-eng.pdf). This guide, produced in 2003 (2nd ed.), is a practical manual on monitoring and documenting events. While it does not specifically address electronic documentation, it is still a critical primer on the methods organizations employ for sound and consistent documentation practices that can be applied to documentation and evidence collection in the digital era.

Digital Data Collection tools

- **Ushahidi**
  http://ushahidi.com/

Ushahidi was created to facilitate the collection of "crowd-sourced data" submitted through SMS text messages. It has been successfully deployed since 2007 in a variety of critical situations, for election monitoring, to map protests and violence, and operational planning. The Ushahidi Platform is free and open source, released under the GNU Lesser General Public License (LGPL).

In 2010, Ushahidi released Crowdmap, a hosted version of the Ushahidi platform. This meant that users could launch a new implementation in a matter of minutes, without the need for a local server. In order for a deployment to support text messaging via SMS, however, one must sign up for access to a SMS mobile gateway (such as Clickatell) or set up FrontlineSMS to work with the deployment.

"Ushahidi Resources" provides more detail on how to use the platform. Particularly useful is the Ushahidi Blog, which provides extensive data on deployments, impact, and software development.

- **KoBo Toolbox**
  http://www.kobotoolbox.org/

The KoBoToolbox was created to offer an integrated suite of applications to facilitate digital data collection. Created by a team of researchers now based at the Harvard Humanitarian Initiative, the KoBoToolbox offers GPS-based tools to collect and manage data in a secure fashion and make results available rapidly after data collection. The ToolKit includes applications that may be used individually or in tandem with each other, including:

- KoBoForm: a digital form builder that develops digital data collection forms.
- KoboCollect: a mobile application based on the Open Data Kit project's ODK Collect to collect data using a variety of handheld devices.
- KoboSync: a synchronization tool, designed for offline use, when data needs to be aggregated locally, and/or when the lack of internet connectivity prevents the use of remote servers.
- KoboMap: a simple display tool to generate maps from aggregated data stored in an online spreadsheet.

The KoBoKit provides tips for preparing for handheld digital data collection projects. The team provides recommendations for kits used for rapid assessments (disaster or conflict environments) and beneficiary tracking (for organizations that provide services to specific beneficiaries to monitor services given over time).

More Resources in Collection and Monitoring

- ICTJ Documentation Affinity Group (DAG) : "Documenting Truth" (2009)
- Model questionnaire of the Special Rapporteur on Extrajudicial, Summary, or Arbitrary Executions, United Nations

VII.C. Authenticating Documentation

Processes for Verifying Social Media

Given the amount of content generated by external parties and the inherent impermanence of digital formats, it is increasingly difficult to verify the authenticity or source of electronic documentation. To support later authentication of the documentation they manage, organizations should document the devices used as much as possible, including model and manufacturer information. They should also record the circumstances of transfer of custody of digital evidence where it occurs. The chain of custody is an important indicator for courts and investigators of the credibility of documentary evidence, and changes in the document are most likely to occur at junctures where custody is transferred.

In addition to the resources discussed earlier in this report, a handful of articles and posts point to some of the new techniques for assessing the authenticity of user-generated content.

- **"How to verify information from social media "**
  http://storify.com/nicolabruno/how-to-verify-information-from-social-media
  by Nicola Bruno
- **"Best Practices for Social Media Verification"**
  http://www.cjr.org/the_news_frontier/best_practices_for_social_medi.php?page=all
  Posted by Craig Silverman
- **"Content, context and code: verifying information online"**
  http://onlinejournalismblog.com/2011/01/26/verifying-information-online-content-context-code/
  Posted by Paul Bradshaw on Jan 26, 2011

In general, some evolving practices adopted by professional media organizations involving both traditional verification techniques and new technological solutions, can be applied by collecting organizations to incoming content:

- Contact and verify directly, if possible;
- Search for the original source of the upload/sequences as an indicator of date;
- Check how long account/site has been active, ownership information, frequency and recency of updates;
- Check sources' history of other posts, number of followers (Twitter);
- Check with trusted sources, compare with other posts, or crowd-sourced information;
- Examine EXIF data or source code;
- Compare images with similar photos using tolls such as TinEye (a 'reverse image search' web-application compares images to others on the Web);
- Compare features with other known sources (Google maps, etc) and known conditions (time of day, weather);
- Translate audio for additional context;
- Examine forensic evidence to ensure context is correct;
- Credit the source of the information (and whether the information has been verified).

Data verification

- **SwiftRiver**
  http://ushahidi.com/products/swiftriver-platform

SwiftRiver is an open source text analysis tool for "curating" and quickly making sense of large amounts of user-generated information. Developed by Ushahidi, SwiftRiver enables the filtering and verification of real-time data from channels such as SMS, Email, Twitter and RSS feeds. The software analyzes information using natural language processing to determine its content as well as identifying metadata (location, time, author). Using semantic analysis and verification algorithms to different sources of information, SwiftRiver distills text content in a variety of message formats (SMS, Twitter, email) into structured data that can be filtered and analyzed.

SwiftRiver combines plugins, applications, and themes. Multiple code repositories process data for different purposes, including location disambiguation, natural language processing, influence detection, reputation monitoring and duplication filtering.[71]

The first application built on the SwiftRiver platform is the "Sweeper App," designed to optimize the workflow of Ushahidi users. Basing its lessons from the crisis response in Haiti, Sweeper aims to facilitate the verification and geolocation of provided data to speed relief efforts.

Other applications may be designed for different workflows, such as for journalists researching different subjects. Brian Lapping, a former journalist and documentary producer, is working on a digital platform dubbed PAX that will use SwiftRiver's platform to monitor information about emerging conflicts from mobile phones, the internet and satellites, with the aim of preventing conflicts from escalating and spreading.

More Resources in Data Verification

- Ushahidi Guide to Verification

[71] Technical details may be found in "Resources for Developers," http://blog.swiftly.org/post/5788873594/resources-for-developers

Information Sharing: Informed Consent

As discussed in *Section V.A.*, **informed consent** is a process that allows human rights workers (especially those recording testimonies or events) to inform the individuals they record about the purpose and intended use of information collected. When done correctly, participants in the recording know why the recording is being made, understand potential threats or dangers that may result from participating in the recording, and based on this knowledge can give their consent for its use and formalize that consent either in writing or in a recorded statement.

Information incorporated in consent forms should include, at minimum:

- Full name, Identifying criteria (address, Social Security/Passport number);
- A clear statement of intent covering the purpose of the information sought and the intended "scope of use" by the institution;
- Specific statement of consent to handling his or her personal information, and conditions under which information may be shared (including identifying individual by name, voice, or face);
- Itemized agreement specifying how organization may use the data (collection, storing, changing, processing, reproducing, distributing, sharing with third parties, etc.). The subject should be made aware and consent to distribution via the Internet, including the understanding that content may be viewed and used by third parties.
- Time frame for which the consent is valid (once this period is over, the organization is required to either get either another consent agreement or destroy the data)
- Specific clause enabling subject to rescind permissions at any time.
- Date of agreement

Statements should be formulated to abide by country rules surround privacy and use of data. Resources for guidance on privacy laws of many countries may be found here:

- Electronic Privacy Information Center (EPIC)
- Privacy International -- European Privacy and Human Rights
- Information Shield -- International Privacy Laws

VII.D. Organizing and Maintaining Documentation

Metadata creation

There are few standards for the creation of metadata for electronic documentation used in the human rights context. Indeed, it would be difficult to define a uniform standard for all human rights documentation applications, given the variety of resources and the purposes for which they are collected. However, protocols developed for human rights information (e.g., HURIDOCS events standard formats, WITNESS Media Archive) and specifications from related fields may inform the process of developing shared and flexible standards for human rights metadata.[72]

The Data Documentation Initiative (DDI) is an effort to create an international standard for describing data from the social, behavioral, and economic sciences. Expressed in XML, the DDI metadata specification supports the research data lifecycle from data conceptualization to collection, processing, distribution, discovery, analysis, repurposing, and archiving. The DDI community believes that the best practices in metadata creation and use take place when the following ideals are observed:

- Metadata production should not be considered solely as an afterthought.
- Metadata should facilitate other activities in the overall workflows of the data life cycle.

[72] It is noteworthy that the Dublin Core Metadata Initiative (DCMI) 2012 International Conference on Dublin Core and Metadata Applications (September 2012) will explore the role of metadata in addressing global challenges such as human rights and justice.

- Metadata that are generated throughout the life cycle should be integrated with other metadata.
- Published metadata should be versioned and preserved to maintain transparency, but never discarded – if it were, this would obscure earlier stages of data development[73]

Given the similarity of issues relating to personal data collected for social science research, application of the specifications and best practices DDI has developed to human rights documentation is worth further consideration.

The Dublin Core Metadata Element Set may be used as a basis for describing objects in the human rights context. The standard elements broadly apply to publications, digital objects, and other electronic resources. Organizations may choose to extend the requirements to meet their particular needs. For example, Forced Migration Online (FMO) employs the Dublin Core elements for material contained in their digital library. FMO employed HURODOCS thesauri for controlled lists used by the library, including geographic place names and languages. For subjects, it employed the International *Thesaurus of Refugee Terminology created by* UNHCR.[74] WITNESS uses metadata elements defined by PBCore, the metadata standard for audiovisual media developed by the public broadcasting community. PBCore extends Dublin Core by adding a number of elements specific to audiovisual assets.[75]

Metadata specifications and guidelines

- Dublin Core Metadata Element Set.
- Texas HRDI "Human Rights Documentation Initiative Metadata Guidelines for Video" http://www.lib.utexas.edu/schema/Video_Metadata_Guidelines_v1.pdf
- Texas HRDI "Metadata Guidelines for Audio (Version 1.0)": http://www.lib.utexas.edu/schema/Audio_Metadata_Guidelines_v1.pdf
- HURIDOCS events standard formats
- HURIDOCS Micro-thesauri
- WITNESS Media Archive -- Tools and Resources – contains the following:
    - Cataloging Manual
    - Media Archive Thesauri

Content management systems

Institutional approaches to maintaining a storehouse of electronic documentation vary widely, ranging from custom-built tools to application of common open-source systems such as Jooma, Drupal, and WordPress CMS. HURIDOCS developed AeroCMS as a web content management system for human rights organizations managing a high volume of content. The University of Texas HRDI adopted the GLIFOS Media Toolset, a web-based application that integrates video, image, and text so that all information is fully searchable. GLIFOS is a proprietary, wiki-based software application for adding rich-media capabilities to video.[76]

The Amnesty Digital Asset Management (ADAM) system provides useful documentation, including specifications used by Amnesty International for handling image and video files, instructions for creating asset records, and sample "Subject Release Forms." Details on their system can be found in the ADAM User Manual.[77]

[73] DDI, "Best Practices Across the Data Lifecycle – Introduction," http://www.ddialliance.org/resources/publications/working/BestPractices/DataLifeCycle
[74] Forced Migration Online, "Cataloguing Guidelines," http://www.forcedmigration.org/digital-library/about/cataloguing-guidelines
[75] http://pbcore.org/
[76] See a more detailed description of the tool on CRL's project blog at http://crlgrn.wordpress.com/2009/11/19/glifos-media-rich-media-archiving/
[77] See also Amnesty's "Photo Guidelines 2010" for information on how Amnesty handles the gathering, permission process, and handling of photographs. https://adam.amnesty.org/asset-bank/assetfile/97478.pdf

VIII. Conclusions

The present report focuses on the uses of electronic technology to document and report events, specifically abuses of individual human rights through violence and other actions on the part of the state, individual ethnic or interest groups, or individuals (distinct from the use of technology to organize, affect and bring about violations themselves). It does not deal with the internal documents and communications of the human rights organizations themselves in electronic form. Nor does it deal with the outputs of those organizations: the reports, statistics, and white papers. Protecting and managing the former present a different set of challenges than managing the original reports and documents of events. There are indeed dangers for HROs in the discoverability of confidential communications and other confidential information that use the Internet and these are worth examining. But they are not within the scope of this report. Survival and integrity of the reports and other outputs generated by the organizations, on the other hand, are less at risk due to their broad dissemination to the public and collecting institutions.

There are two ultimate purposes for producing and collecting this documentary evidence: advocacy and justice. Each has a different timeframe and different requirements for documentary evidence:

> 1) Advocacy and defense: Photographs, videos, audio recordings and other digital records come into play in the efforts of organizations and individuals to report and expose human rights violations. For these purposes, activist groups need to collect and maintain such records for relatively brief durations. The time lapse between production and dissemination of these records is becoming ever briefer as digital media and networks approach real time reporting.
>
> 2) Justice and societal memory: Documentary evidence is used to support the official redress and prosecution of human rights violations through international courts and tribunals and criminal courts within nations. It is also useful investigations and indictments leading to judicial proceedings. Long periods of time—sometimes decades—elapse between the creation of documentation and the investigation of events and the prosecution of perpetrators.

Digital technology has been a boon to the human rights movement. It has made the recording and reporting of human rights abuses easier and less expensive, and has enabled the rapid and widespread dissemination of those records and reports. Digital media and networks allow almost instantaneous, worldwide exposure of violence against civilians, providing a powerful capability for human rights advocates.

At the same time the resulting profusion of digital documentation has created new challenges of managing and authenticating vast amounts of evidence, from a multitude of sources, many of them unidentified. The technology industry and the field of information forensics are evolving new ways of authenticating video, photographs, and other digital evidence of unknown or questionable origin. Meanwhile, the major traditional media organizations continue to play an important role in establishing the credibility of video, photographs, and other documentary evidence surfacing on social media platforms. As they did before the digital era, the BBC, New York Times, and other major news media organizations go to great lengths to sort through the “fire hose” profusion of documents and separate the false from the trustworthy. These same media also play an important role in maintaining documentation for longer-term, legal purposes.

The emergence of social media platforms and cloud computing services has also benefited human rights activists and organizations, by minimizing the expense and complexities of managing and storing documentation. These benefits have come with risks, however. The surveillance capabilities of these networks are a threat to the anonymity required by activists operating within reach of hostile regimes. The arrest and prosecution of the Chinese dissident Wang Xiaoning in 2002 was made possible by the cooperation of Internet service provider Yahoo! with Chinese authorities.

Producing and maintaining documentary evidence for purpose of justice and societal memory presents greater challenges. The most obvious is the impermanence of digital "objects." Digital photographs, video, text documents, and other electronic products are easily altered and erased. Here again, the technology world and the field of information forensics are rapidly developing new ways to detect changes in digital documents. And digital media intrinsically have powerful capabilities to embed in photographs, video and audio information about their production and origins. This information, or metadata, if properly preserved, can serve later investigations and proceedings by providing important indicia of the reliability and authenticity of a given piece of evidence.

The greater challenge to ensuring the admissibility of documentation collected or created by human rights groups, however, is the slowness of standards and guidelines for admissibility of evidence to evolve in the courts.

Extant best practices are identified and described in *Section VII*. above. There are three specific areas in which new support might be useful. These include:

> 1. Digital Content Management Capabilities: The growing amount and complexity of documentary evidence available to and collected by human rights organizations and courts creates a critical need for digital asset management (DAM) capabilities. Non-profit technology providers have begun to create specialized DAM systems for human rights organizations. At the same time, powerful capabilities for digital asset management are being created in the for-profit sector, subsidized by commercial activity. Support should be provided for adapting the infrastructure and tools there developed for the purposes of human rights and civil society groups like Amnesty International and for the international criminal courts and tribunals.
>
> 2. Documentation of Content Management Practices: The authentication of documentary evidence for legal purposes relies heavily on information about the processes involved in the creation and handling of such evidence, available through expert testimony or information forensics. To support authentication in the future, current practices in the creation, transfer, and maintenance of documentary evidence should be described and recorded. Mapping and documenting the lifecycle of particular types of documentary evidence in a range of types of networks would be useful for those purposes. To ensure that processes such as encryption, misdirection, and so forth, designed to preserve secrecy and confidentiality can be documented in the future without compromising security today, arrangements for secure computer code and other proprietary information can be escrowed with appropriate trusted, independent parties for later use.
>
> 3. Documentation of Provenance. Information about a digital object's source, chain of custody and provenance are critical to that object's migration across multiple generations of technology, and to its value in legal proceedings. Organizations and individuals who handle documentary evidence in electronic form would be well served by a guide to documenting chain of custody and provenance, based on actual precedents established in the International Criminal Court, in various human rights tribunals and, to a lesser extent, in national courts.

The evolving challenges of electronic documentation collection and management require intermediary organizations to engage grassroots institutions and individuals in different ways. Short-term training is not sufficient. Capacity-building approaches that provide customized technical support and assistance have the potential to deepen the impact of assistance by technology providers, funding bodies, and academic institutions.

IX. Appendices

A. Project Background

1. Matrix of organizations visited: use of electronic evidence
2. Organization survey instrument

B. Legal Consultant Reports

1. *Admissibility of Electronic Documentation as Evidence in U.S. Courts*,
   Lucy L. Thomson, Esq.

2. *New Wine in Old Wineskins? New Problems in the Use of Electronic Evidence in Human Rights Investigations and Prosecutions*
   Bernard and Audre Rapoport Center for Human Rights and Justice
   University of Texas at Austin School of Law

C. Case Studies

1. Case Study: Gikonda Footage

2. Case Study: "Tweeting out a Protest" - Iran Elections 2009

3. Case Study: Advocacy in Mexico (Canalseisdejulio and grassroots organizations in Chiapas)

4. Case Study: Justice in Russia (Public Verdict Foundation, International Protection Centre, and Russian Justice Initiative)

5. Case Study: Memory in Rwanda (Ibuka and Kigali Memorial Centre)

D. Human Rights Resources Profiles:
on CRL Web site at: http://www.crl.edu/grn/hradp/electronic-evidence

1. Human Rights Resources Profile: WITNESS

2. Human Rights Resources Profile: Amnesty International--ADAM & AIDAN

3. Human Rights Resources Profile: Ushahidi

4. Human Rights Resources Profile: Memorial

5. Human Rights Resources Profile: Web Ecology Project

IX.A. Project Background

IX.A.1. Organizations Visited: Use of Electronic Evidence

US/International

Type of Documentation Activity	**AI**	**HURIDOCS**	**ICTJ**	**WITNESS**	**Ushahidi**	**WEP**
Monitoring, collecting data	x		x	x	x	x
Aggregating information	x	x	x	x	x	x
Collecting testimony						
Analysis / Expert Research	x		x			x
Producing reports	x	x	x	x		x
Information dissemination	x		x	x	x	
Education / Awareness	x		x	x		
Training advocates	x	x	x	x		
NGO, community support		x	x	x		
Legal services						
Social services						
Collection, Archiving (Memory)				x		
Electronic Information Collected (input)						
text messages					x	x
photos	x			x	?	
video	x			x	?	
audio	x			x		
Web content (pages, news articles, feeds)	x				x	x
Other documents (PDF, Word, etc)	x		x			
email	x					
testimony	x		x	x		
Identity documents (scanned)						
medical records (scanned)						
Official documents (government, police reports, etc)	x		x			
legal files (born digital & scanned)						
Electronic Information Produced (output)						
Database (Internal)	x	x	x	x		x
Database (external)	x	x		x	x	x
Web pages	x	x	x	x	x	x
Reports, briefings, announcements, etc.	x	x	x	x		x
Press release	x		x	x		x
email	x	x				
digital news media			x			
YouTube / online video	x		x	x		
documentaries				x		
Training materials		x	x	x	x	
legal files						
Repository / Archive				x		
memory projects				x		

Mexico

Type of Documentation Activity	Abejas	Canal6	CDMC	CP	CMP	Frayba
Monitoring, collecting data		x	x	x	x	x
Aggregating information			x	x		x
Collecting testimony	x	x	x		x	x
Analysis / Expert Research				x		
Producing reports			x	x		
Information dissemination	x	x	x	x	x	x
Education / Awareness	x	x	x	x	x	
Training advocates			x			
NGO, community support			x			x
Legal services						x
Social services			x			
Collection, Archiving (Memory)		x		x	x	x

Electronic Information Collected (input)						
text messages						
photos	x		x		x	x
video	x	x	x	x	x	x
audio	x					
Web content (pages, news articles, feeds)						
Other documents (PDF, Word, etc)		x	x	x		
email						
testimony	x			x		x
Identity documents (scanned)						
medical records (scanned)						
Official documents (government, police reports, etc)	-					
legal files (born digital & scanned)	_					x

Electronic Information Produced (output)						
Database (Internal)		x	x	x	x	x
Database (external)				x		
Web pages	x	x	x	x	x	x
Reports, briefings, announcements, etc.	x	x	x	x		
Press release	x	x			x	x
email					x	x
digital news media	x			x		x
YouTube / online video		x		x		
documentaries	x	x			x	
Training materials			x			
legal files						x
Repository / Archive		x				x
memory projects	x					

Mexico (continued)

Type of Documentation Activity	**FP**	**Promedios**	**RedTdT**	**SP**
Monitoring, collecting data		x	x	
Aggregating information		x	x	
Collecting testimony		x		x
Analysis / Expert Research			x	
Producing reports			x	x
Information dissemination	x	x	x	x
Education / Awareness	x	x	x	x
Training advocates	x	x		x
NGO, community support			x	x
Legal services				
Social services	x			x
Collection, Archiving (Memory)		x	x	

Electronic Information Collected (input)

text messages				
photos		x		x
video		x	x	x
audio				
Web content (pages, news articles, feeds)				
Other documents (PDF, Word, etc)			x	
email				
testimony		x		
Identity documents (scanned)				
medical records (scanned)				
Official documents (government, police reports, etc)				
legal files (born digital & scanned)				

Electronic Information Produced (output)

Database (Internal)		x	x	
Database (external)				
Web pages		x	x	x
Reports, briefings, announcements, etc.	x		x	x
Press release	x	x	x	x
email		x		
digital news media		x		
YouTube / online video		x		
documentaries		X		
Training materials				
legal files				
Repository / Archive		x	x	
memory projects				

Rwanda

Type of Documentation Activity	**Ibuka**	**IRDP**	**IWACU**	**KGMC**	**LIPRODHOR**	**CNLG**
Monitoring, collecting data	x		x	x	x	x
Aggregating information					x	x
Collecting testimony	x	x		x	x	
Analysis / Expert Research						
Producing reports	x	x		x	x	x
Information dissemination	x		x	x	x	x
Education / Awareness		x	x	x	x	x
Training advocates					x	
NGO, community support			x			
Legal services						
Social services	x	x				
Collection, Archiving (Memory)	x		x	x		x

Electronic Information Collected (input)						
text messages					x	
photos	x	x		x	x	
video	x	x	x	x	x	x
audio			x		x	
Web content (pages, news articles, feeds)						
Other documents (PDF, Word, etc)						
email						
testimony	x					
Identity documents (scanned)						
medical records (scanned)						
Official documents (government, police reports, etc)	x					
legal files (born digital & scanned)						

Electronic Information Produced (output)						
Database (Internal)		x		x	x	x
Database (external)				x		
Web pages	x			x	x	
Reports, briefings, announcements, etc.					x	x
Press release				x	x	
email						
digital news media				x	x	
YouTube / online video				x		
documentaries						
Training materials						
legal files						
Repository / Archive	x			x		
memory projects				x		

Rwanda (Continued)

Type of Documentation Activity	Nottingham	Solace	VoR
Monitoring, collecting data	x		x
Aggregating information			
Collecting testimony		x	x
Analysis / Expert Research			
Producing reports			
Information dissemination	x	x	x
Education / Awareness	x	x	x
Training advocates			
NGO, community support	x		x
Legal services			
Social services		x	
Collection, Archiving (Memory)	x		x

Electronic Information Collected (input)			
text messages			
photos	x	x	
video	x	x	x
audio		x	x
Web content (pages, news articles, feeds)			
Other documents (PDF, Word, etc)	x		
email			
testimony			
Identity documents (scanned)			
medical records (scanned)			
Official documents (government, police reports, etc)			
legal files (born digital & scanned)			

Electronic Information Produced (output)			
Database (Internal)			x
Database (external)			
Web pages		x	x
Reports, briefings, announcements, etc.		x	
Press release			
email			
digital news media			
YouTube / online video			
documentaries			x
Training materials			
legal files			
Repository / Archive	x		x
memory projects	x		x

Russia

Type of Documentation Activity	FIF	IPC	LGBT	Memorial	MRF	PVF
Monitoring, collecting data	x	x	x	x		x
Aggregating information	x	x	x			
Collecting testimony		x	x	x	x	x
Analysis / Expert Research	x		x			x
Producing reports	x	x		x	x	x
Information dissemination	x	x	x	x	x	x
Education / Awareness	x		x		x	x
Training advocates			x			
NGO, community support	x		x	x	x	x
Legal services		x	x	x	x	x
Social services			x		x	
Collection, Archiving (Memory)				x		

Electronic Information Collected (input)						
text messages						
photos				x	x	x
video				x	x	x
audio				x	x	x
Web content (pages, news articles, feeds)	x		x	x	x	x
Other documents (PDF, Word, etc)	x	x	x	x	x	x
email			x	x	x	x
testimony			x	x	x	x
Identity documents (scanned)						
medical records (scanned)					x	
Official documents (government, police reports, etc)					x	
legal files (born digital & scanned)		x	x	x	x	x

Electronic Information Produced (output)						
Database (Internal)	x	x	x	x	x	x
Database (external)						
Web pages	x	x	x	x	x	x
Reports, briefings, announcements, etc.	x	x	x	x	x	x
Press release	x		x		x	x
email		x	x	x		x
digital news media						x
YouTube / online video					x	
documentaries						
Training materials	x		x			
legal files	x	x	x	x	x	x
Repository / Archive				x		
memory projects				x		

Russia (Continued)

Type of Documentation Activity	**SRJI**	**SOVA**
Monitoring, collecting data		x
Aggregating information		x
Collecting testimony	x	
Analysis / Expert Research	x	x
Producing reports		x
Information dissemination		x
Education / Awareness		x
Training advocates		
NGO, community support	x	
Legal services	x	
Social services		
Collection, Archiving (Memory)		x

Electronic Information Collected (input)

text messages		
photos	x	x
video	x	
audio	x	
Web content (pages, news articles, feeds)	x	x
Other documents (PDF, Word, etc)	x	x
email	x	x
testimony	x	
Identity documents (scanned)	x	
medical records (scanned)		
Official documents (government, police reports, etc)	x	
legal files (born digital & scanned)	x	x

Electronic Information Produced (output)

Database (Internal)	x	x
Database (external)		
Web pages	x	x
Reports, briefings, announcements, etc.	x	x
Press release		x
email	x	x
digital news media		x
YouTube / online video		
documentaries		
Training materials		
legal files	x	
Repository / Archive		x
memory projects		

IX.A.2. Organization Survey Questions

Survey Framework

1. Questions for Human Rights orgs re: collection of field material
    A. What sorts of field material do you collect?
        i. What are your goals for the material you collect?
        ii. Do you train field workers in specific collection protocols?
            1. If yes, what are the goals of your protocols?
            2. If not, why not?
    B. What are the sources of field materials (trained workers from your orgs or serendipitous material from unaffiliated individuals?
    C. What types of electronic documentation do you collect?
        i. Types of material
        ii. Formats
        iii. Metadata
    D. Do you systematically archive materials?
        i. If no, would you be interested in archiving materials?
        ii. If yes, do you share archived materials with other orgs?
            1. Which ones?
            2. How do you control access to materials?
        iii. If yes, what metadata do you collect associated with your materials?
            1. If none, would you be interested in establishing a metadata system?
    E. Do your materials get used for further purposes after a campaign or project is finished?
        i. Legal? Academic? Advocacy?
        ii. How do your materials get distributed for these purposes?

2. Questions for legal professionals
    A. What sorts of material are acceptable as evidence—especially digital?
    B. What requirements do materials need to meet in order to be admissible as evidence?
    C. Do you archive documentation from Human Rights legal proceedings or tribunals?
        i. If yes, what challenges or issues do you encounter in archiving materials?
        ii. If yes, do you participate in information sharing networks with other organizations that archive human rights documentation?
            1. If no, why not? Is this something that would interest you?
            2. If yes, how do you manage access issues? Privacy and safety issues?

3. Questions for institutions organizations and institutions (e.g. libraries or other off-site archiving services) archiving human rights materials
    A. What types of human rights materials do you archive right now?

i. Is there additional material you’d like to have? Why?

ii. What challenges do you encounter in collecting materials?

iii. Have you dealt with or thought about dealing with SMS and cell phone materials, blogs, or other sorts of more immediate and somewhat ephemeral materials that are proliferating on the web (e.g. Facebook group posts or e-newsletters)?

iv. iv. How do you prioritize materials for archiving?

1. Are there materials that you feel you can’t or shouldn’t archive?

v. Have you thought about capturing web content?

1. what is the potential there?

vi. what challenges do you face in this?

B. What are your goals for the human rights materials that you archive?

i. In terms of preservation?

ii. In terms of use by scholars, activists, or individuals interested in their own history?

iii. In terms of supporting legal activity?

1. If so, what sorts of information is necessary to insure the admissibility of materials?

C. What technologies do you use for archiving digital material in particular

i. What works?

ii. Challenges?

D. Do you monitor who uses the materials in the archive and why they use it?

i. Is this necessary or useful for your goals?

ii. Do considerations of anonymity or subject safety play into monitoring use?

E. Do you network or share information with other archives or archiving organizations?

i. If yes:

1. how do you manage the network? Is there special software considerations?
2. are there any shared metadata standards that facilitate sharing?

ii. If no, would such standards be useful for you?

1. If yes, what would you like to see in such standards?
2. If no, do you want to?

a. if yes, which groups or individuals would you like to network with and why?

F. Metadata issues

i. What sorts of information do you need for each archived piece?

ii. What information do you gather to coordinate information sharing between archives?

G. Access issues

H. Confidentiality and safety issues

IX.B. Legal Consultant Reports

IX.B.1 Thomson Report: *Admissibility of Electronic Documentation as Evidence in U.S. Courts*

This report may be found in its entirety at:

http://www.crl.edu/sites/default/files/attachments/pages/Thomson-E-evidence-report.pdf

IX.B.2. Rapoport Center Report: *New Wine in Old Wineskins? New problems in the use of electronic evidence in Human Rights investigations and prosecutions*

This report may be found in its entirety at:

http://www.crl.edu/sites/default/files/attachments/pages/Rapoport-E-evidence-report.pdf

IX.C. Case Studies

IX.C.1. Case Study: Gikonda Footage

A good example of the multiple uses of a single piece of electronic evidence is the case study of film footage shot by British reporter Nick Hughes at the start of the Rwandan genocide on April 11, 1994.[1] Hughes, an independent cameraman, was one of the very few foreign reporters remaining in Gikonda at the start of the hundred day massacre of the Tutsis by the Hutu. Stationing his camera atop the roof of the Ecole Antoine de Saint-Exupery (known locally as the "French School"), Using a digital camera, Hughes captured footage of the murder of a father and his daughter, along with other victims.

The footage (shot from a distance) shows the victims kneeling and praying, while the perpetrators violently strike them with wooden clubs. Watching this footage, one can see the intention of these men is to kill. In the background are the sounds of those near the camera, witnessing the event. This footage is one of only three known pieces of footage of the killing that took place in Rwanda over one hundred days in 1994.

After capturing the footage Mr. Hughes had the resources to quickly deliver this footage worldwide, via his employer World Television News. WTN distributed the footage to CNN, Australian Broadcasting and ZDF (Germany) soon after the event took place. This news footage was the first time the global community was exposed to the shocking genocide that was occurring inside Rwanda. Although it did not stop the atrocities from continuing in Rwanda, it provided evidence of what was occurring to a largely uninformed world audience.

In 1998, Hughes' footage was entered as "Exhibit 467" in the trial of George Rutaganda, the vice president of the Rwandan Hutu militia Interahamwe. Rutaganda, a radio announcer and a leader of the Hutu militia, was identified as a key figure who encouraged Hutus to abuse and kill Tutsis during the Rwandan genocide. Mr. Hughes' film and his testimony were entered as evidence in Mr. Rutaganda's trial before the International Criminal Tribunal for Rwanda. Mr. Rutaganda was convicted and sent to prison in 1998.[2]

Though grainy and containing several "jumps" (Hughes reportedly had to stop shooting at several points for fear that his battery pack would expire), the Gikonda footage is considered reliable in part because it was shot by a professional journalist. Mr. Hugh's ensured it was the best quality footage that could be captured in that time and place. His professional skills meant he knew his equipment and could discern the best shot. His professional standing also meant that the chain of custody was well established for this footage. Chain of custody or authenticity is a key component of human rights evidence.

The footage has motivated others to discover more information about the event that took place. In 2003-2004, Alan Thompson, a Canadian reporter and Carleton University professor, learned of the footage while doing research on media coverage of the genocide. He contacted Nick Hughes to ask him for a copy of his footage. Mr. Hughes sent it to him by courier in mini-DV format. Mr. Thompson had colleagues at Carleton University convert the footage for into a.wmv file, in order to use it in academic presentations. This allowed him to insert the footage into PowerPoint presentations and show it from his laptop. He used the footage extensively during 2007 in a book tour for *The Media and the Rwanda Genocide*, a book of essays he had edited.

In 2007, Thompson, who was visiting Rwanda, noted he happened to be the area of the Gikonda footage. He began talking to the people who lived on the street where the event took place and encountered two witnesses to the killing. As Mr. Thompson states in an email to CRL staff,

[1] The footage can be viewed through the Toronto Star's website, http://www.thestar.com/article/616860
[2] Nick Hughes, "Exhibit 467: Genocide Through a Camera Lens," The Media and the Rwanda Genocide, 2007 http://web.idrc.ca/openebooks/338-0/#page_231

> ... I was very careful not to coach the witnesses while interviewing them. Well before showing them the video, we first took steps to establish that they had witnessed a killing outside their homes that matched the scene captured in the video. Only after the witnesses had described witnessing the killing of two people, a man and a woman who were kneeling in the street with their hands stretched out in prayer, did we show them the video. They watched it several times and noticed various details that they had forgotten.

Through these people and others, Thompson was able to locate the remaining family members. There he met with the family and used his laptop to show Hughes' film to them. They were grateful to discover the fate of their family members. They also confirmed the identity and names of those killed, partially through family photographs. Memory is an important aspect of human rights evidence. It is important for family members, friends and neighbors to know what happened.

After meeting the family, Thompson passed along to Hughes the additional information. The names and witnesses were added to Hughes' footage in 2007. This strengthened the case against the perpetrators and helped elucidate what took place. This additional information also provided local Rwandan survivors with the evidence needed to identify and convict at least one of the perpetrators.[3] Also of importance is the information the family and neighbors could provide, descriptive information about who, what, where and when that the camera captured. This information is not always available at the time of the event. Without it, the film does not have the same power as evidence. This information, often called metadata (data about data), is key for understanding who was victimized, when it happened, and where it happened.

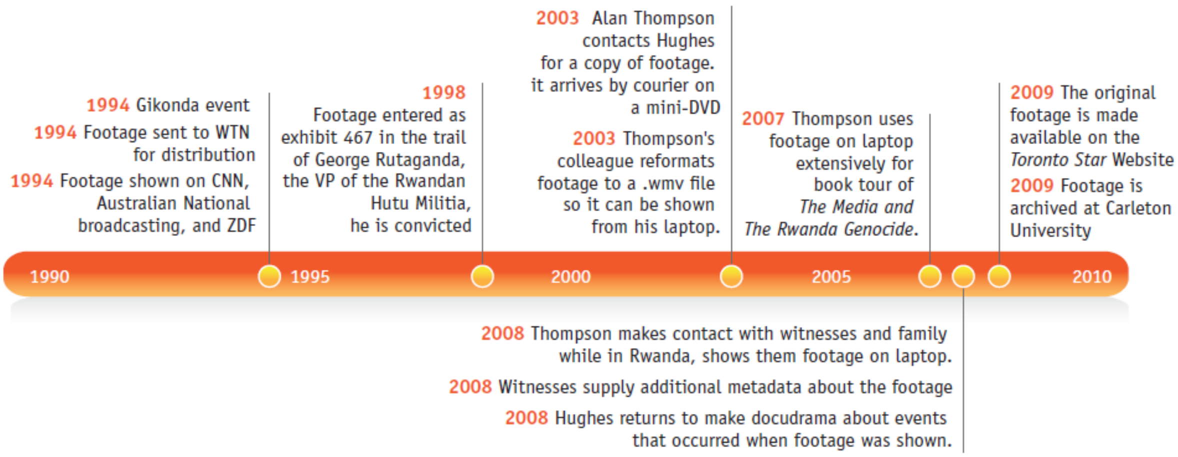
Based on Thompson's findings, Mr. Hughes returned to Rwanda and filmed a docudrama entitled *Iseta : Behind the Roadblock* The movie's plot told the true story of how the family and their neighbors used Hughes footage to identify the victims, and the perpetrators of the crime he had captured. Most importantly, the main perpetrator continued to live nearby. The town arrested, tried and sent him to prison with the aid of the footage. Mr. Hughes' documentary and Mr. Thompson's reporting of the story updated the story of Rwanda. This is important, as it helps provide an historical understanding of what happened.

Due to its impact and rarity the Gikonda footage continues to be used and referred to as a singular event within the Rwandan genocide. Because of this, the footage has been effectively archived throughout many countries and environments. Archiving is important for its preservation and future uses. The original footage is available on the *Toronto Star* website. Another archived copy of the raw footage has been deposited in the Media and Genocide Archive at Carleton University. Archiving the footage ensures it will be available for use into the future.

The analysis of what has happened with the Gikonda footage helps to illuminate a lifecycle for a particular piece of evidence, with collection, communication, transformation and archiving of an important piece of electronic evidence. The Gikonda footage has impact for many reasons, but primarily because it is trustworthy, good quality and depicts the worst of human rights violations, the taking of human life. The story of this footage is particularly important because it illustrates how a single piece of electronic evidence can impact the understanding and acknowledgement of a particular human rights event. The story is particularly good because it shows how effective a piece of authentic electronic evidence can be over a long period of time. Electronic evidence, the subject of this report, has the potential to provide this same level of quality evidence, though the need to ensure it is archived and preserved is of primary consideration.

[3] Telephone conversation with Alan Thompson, October 12, 2011.

Timeline of Gikonda Footage Events



1994 Gikonda event

1994 Footage sent to WTN for distribution

1994 Footage shown on CNN, Australian National broadcasting, and ZDF

1998 Footage entered as exhibit 467 in the trail of George Rutaganda, the VP of the Rwandan Hutu Militia, he is convicted

2003 Alan Thompson contacts Hughes for a copy of footage. it arrives by courier on a mini-DVD

2003 Thompson's colleague reformats footage to a .wmv file so it can be shown from his laptop.

2007 Thompson uses footage on laptop extensively for book tour of *The Media and The Rwanda Genocide*.

2009 The original footage is made available on the *Toronto Star* Website

2009 Footage is archived at Carleton University

2008 Thompson makes contact with witnesses and family while in Rwanda, shows them footage on laptop.

2008 Witnesses supply additional metadata about the footage

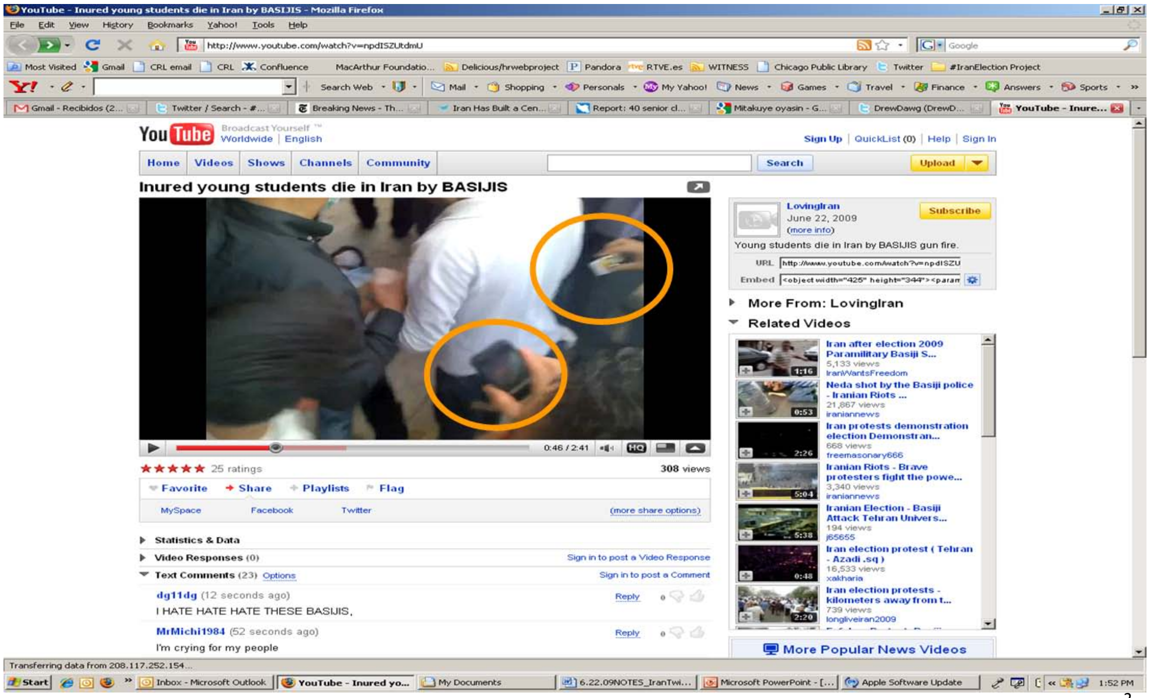
2008 Hughes returns to make docudrama about events that occurred when footage was shown.

IX.C.2. Case Study: “Tweeting out a Protest” - Iran Elections 2009

On June 12, 2009 Iran held presidential elections, with the incumbent, Mahmoud Ahmadinejad (conservative Abadgaran party), running against three challengers. By Saturday, June 13, Iran's official news agency reported that Ahmadinejad had won the election with 63% of the votes cast (the independent reformist Mir-Hussein Mousavi received 34% of the vote). Western governments and journalists voiced doubts about the authenticity of the results, and the voting public, suspecting irregularities in the polling process, began to protest, asking for a re-vote to confirm the result. Though protests were at first largely peaceful, as time passed they became increasingly violent.

The Iranian government’s response to the protests was to crack down on news outlets and communication resources, canceling visas for foreign journalists and requiring them to leave the country. Some news websites (such as the BBC) and television broadcasts were blocked by the Iranian authorities. Central Telecom shut down approximately 90% of internet bandwidth access and began monitoring Facebook, YouTube, Skype and Twitter for “seditious” material. In addition, Iran restricted mobile phone services including text messaging to restrict communications, likely to prevent Mousavi's supporters from organizing large-scale protests.

In this restricted environment, the emergence of social media and digital devices played a significant role in subsequent events. Protesters used phone calls, e-mails and word of mouth to get around the measures. Tech-savvy users accessed proxy servers to read foreign news reports and to sneak information out of the country.[1] By Friday, June 19th, social media helped organize massive peaceful demonstrations of more than 1 million people in Tehran. With the prospect of even larger rallies, the government, which hasn’t been able to shut down the flow of information, vaguely threatened violence against protesters and started to more aggressively arrest opposition leaders.


YouTube - Inured young students die in Iran by BASIJIS - Mozilla Firefox

http://www.youtube.com/watch?v=npdISZUtdmU

Inured young students die in Iran by BASIJIS

0:46 / 2:41

★★★★★ 25 ratings

308 views

LovingIran
June 22, 2009
(more info)
Young students die in Iran by BASIJIS gun fire.

URL http://www.youtube.com/watch?v=npdISZU

Embed <object width="425" height="344"><param

More From: LovingIran

Related Videos

Iran after election 2009 Paramilitary Basiji S... 5,133 views IranWantsFreedom 1:16

Neda shot by the Basiji police - Iranian Riots ... 21,867 views iraniannews 0:53

Iran protests demonstration election Demonstran... 668 views freemasonary666 2:26

Iranian Riots - Brave protesters fight the powe... 3,340 views iraniannews 5:04

Iranian Election - Basiji Attack Tehran Univers... 194 views j65655 5:38

Iran election protest (Tehran - Azadi .sq) 16,533 views xakharia 0:48

Iran election protests - kilometers away from t... 739 views longliveiran2009 2:20

Statistics & Data

Video Responses (0)

Text Comments (23)

dg11dg (12 seconds ago)
I HATE HATE HATE THESE BASIJIS,

MrMichi1984 (52 seconds ago)
I'm crying for my people

Transferring data from 208.117.252.154...

File Edit View History Bookmarks Yahoo! Tools Help
Most Visited Gmail CRL email CRL Confluence MacArthur Foundatio... Delicious/hrwebproject Pandora RTVE.es WITNESS Chicago Public Library Twitter #IranElection Project
Search Web Mail Shopping Personals My Yahoo! News Games Travel Finance Answers Sports
Gmail - Recibidos (2... Twitter / Search - #... Breaking News - Th... Iran Has Built a Cen... Report: 40 senior cl... Mitakuye oyasin - G... DrewDawg (DrewD... YouTube - Inure...
Broadcast Yourself ™ Worldwide English
Sign Up QuickList (0) Help Sign In
Home Videos Shows Channels Community Search Upload
Subscribe
Favorite Share Playlists Flag
MySpace Facebook Twitter (more share options)
Sign in to post a Video Response
Options Sign in to post a Comment
Reply
More Popular News Videos
Start Inbox - Microsoft Outlook YouTube - Inured yo... My Documents 6.22.09NOTES_IranTwi... Microsoft PowerPoint - [... Apple Software Update 1:52 PM

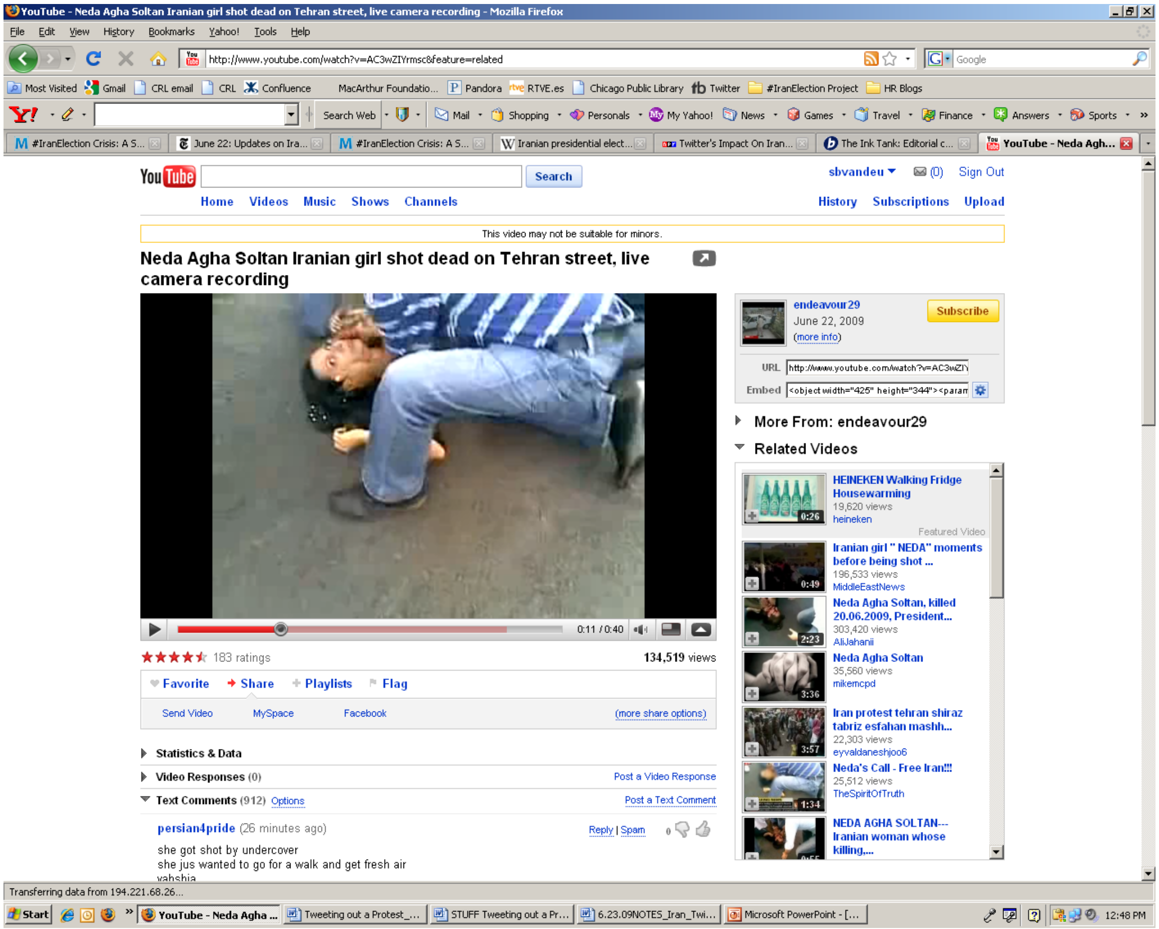
Screenshot of bystanders using cell phones to record the suffering of a protester who was shot in Iran.[2]

[1] Tools and tips were shared via Websites such as http://iran.whyweprotest.net/keeping-your-anonymity-iran/ (Accessed June 22, 2009. No longer accessible)

[2] “Inured [sic] young students die in Iran by BASIJIS,” http://www.youtube.com/watch?v=npdISZURdmU (Accessed June 22, 2009. No longer accessible).

Digital Media

The protests and resulting events demonstrate the potential of digital devices to capture evidence of human rights abuses. Demonstrators with cell phones produced photos, videos, and text messages during the protests. Thousands of videos were posted--or re-posted--to YouTube. The most viewed is a chilling video documenting the death of Neda Agha-Soltan.[3] The video has garnered 1,170,000 views as of December 31, 2011.



YouTube - Neda Agha Soltan Iranian girl shot dead on Tehran street, live camera recording - Mozilla Firefox

http://www.youtube.com/watch?v=AC3wZIYrmsc&feature=related

This video may not be suitable for minors.

Neda Agha Soltan Iranian girl shot dead on Tehran street, live camera recording

endeavour29
June 22, 2009
(more info)

URL http://www.youtube.com/watch?v=AC3wZIY

Embed <object width="425" height="344"><param

0:11 / 0:40

★★★★½ 183 ratings

134,519 views

Statistics & Data

Video Responses (0)

Text Comments (912)

persian4pride (26 minutes ago)

she got shot by undercover
she jus wanted to go for a walk and get fresh air
vahshia

More From: endeavour29

Related Videos

HEINEKEN Walking Fridge Housewarming 19,620 views heineken 0:26 Featured Video

Iranian girl " NEDA" moments before being shot ... 196,533 views MiddleEastNews 0:49

Neda Agha Soltan, killed 20.06.2009, President... 303,420 views AliJahanii 2:23

Neda Agha Soltan 35,560 views mikemcpd 3:36

Iran protest tehran shiraz tabriz esfahan mashh... 22,303 views eyvaldaneshjoo6 3:57

Neda's Call - Free Iran!!! 25,512 views TheSpiritOfTruth 1:34

NEDA AGHA SOLTAN--- Iranian woman whose killing,...

Transferring data from 194.221.68.26...

Screen capture of video of Neda Agha-Soltan, taken June 23, 2009.[4]

On or about June 20, 2009, anonymous witnesses captured the shooting of Neda Agha-Soltan in three separate cell phone videos. A New York Times article describes the process of how original video was circulated.[5] According to the report, "a chain of people aided in getting the video to the world..." A person, identified as only "the doctor" e-mailed the video clip to several acquaintances outside of Iran. The intention was to bypass the country's Internet filters by uploading it to Web sites like YouTube. The first person to upload the video to You Tube, according to a New York Times Web search last June, was an Iranian man in the Netherlands. This man requested anonymity to protect friends and family in Iran. This

[3] "Iran, Tehran: wounded girl dying in front of camera, Her name was Neda." http://www.youtube.com/watch?v=bbdEf0QRsLM (accessed December 31, 2011).

[4] "Neda Agha Soltan Iranian girl shot dead on Tehran street, live camera recording." http://www.youtube.com/watch?v=AC3wZIYrmsc (accessed June 23, 2009. No longer accessible).

[5] "Web Pries Lid of Iranian Censorship," New York Times, June 22, 2009. http://www.nytimes.com/2009/06/23/world/middleeast/23censor.html?emc=eta1 (accessed June 22, 2009).

person spoke to the New York Times via telephone and e-mail, and provided The New York Times with a copy of the doctor's original e-mail message. The message was sent to five other people, and two of them confirmed with The New York Times that they had also received it. One of those recipients, a British woman who asked that her name not be published, said she shared the video on Facebook, and watched as friends on the social networking site reposted it. Steve Grove, head of news and politics for YouTube, said the video of Ms. Agha-Soltan was "pretty instantly fragmented into hundreds of other re-uploads." A shorter video clip of Ms. Agha-Soltan's death was recorded by a second person and later uploaded by a Canadian YouTube user, who in June asked not to be identified and who did not respond to a request for comment by the New York Times. The footage of Ms. Agha-Soltan's death lead to worldwide acknowledgement of the role violence was playing out on Iranian citizens, but more importantly it allowed Iranian citizens to see what was occurring, despite local censorship. The chain of custody for these videos is not completely clear, they were filmed anonymously and some links in their chain of transmission are unclear. However, they reached a large audience and were acknowledged as fact by the media and others.

In fact, despite being anonymous, these videos were awarded the George Polk Award in 2009 for a new category, videography. These awards are a series of American journalism awards presented annually by Long Island University in New York. Awarding these videos also helps the media to acknowledge the role of citizen journalism in news, and legitimizes anonymous video as a new source for news stories.

The nonprofit organization Access (http://www.accessnow.org) received videos from "trusted contacts" in Iran, usually via email, which the organization then attempted to verify, check locations, dates of recording, and any security risks prior to posting. According to Brett Solomon of Access,

> *Most of the people watching our posted videos come from inside Iran – they are a lifeline to a community where all traditional sources of independent news are shut down. We also convert video to 3GP format as well. This allows videos to be watched on mobile phones and shared via blue tooth inside Iran.*[6]

There appears to be no accurate count of the number of unique videos posted to YouTube or other media. However, by one account, more than 184,500 Videos on Iran were available by June 17, with a rate of 3000 videos being uploaded per day.[7] Cameron Ashraf (University of Southern California) related that within 16 hours of the protests, more than 80 videos had been smuggled out of Iran.[8]

Twitter

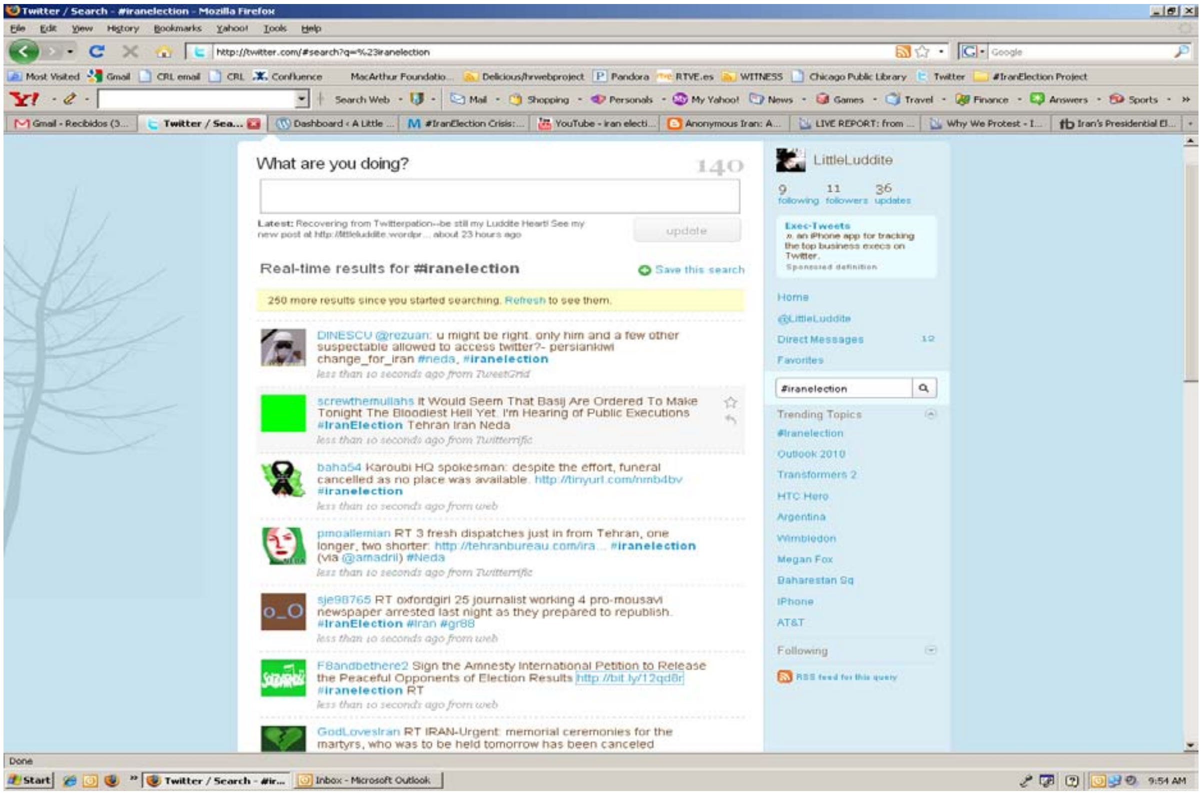
The most discussed social media phenomenon was the use of Twitter to spread information about the protests. Using hashtags such as #iranelection, #iran, and #neda, Twitter users supplied a steady stream of information about events occurring in Iran. An analysis of Twitter content conducted by the Web Ecology Project reported that more than two million tweets were posted in the first 18 days of the protest.[9] Nearly 500,000 account holders shared information via Twitter, though the most active 1% of users accounted for a third of the relevant tweets.

[6] Blog post by Brett Soloman, "Ready, Set, Revolution," http://www.citizentube.com/2009/12/ready-set-revolution.html (Accessed December 31, 2011)

[7] http://mashable.com/2009/06/17/iranelection-crisis-numbers (Accessed December 22, 2011).

[8] Cameron Ashraf on #iranelection: The digital media response to the 2009 Iranian election http://cyber.law.harvard.edu/interactive/events/luncheons/2009/11/iranelection

[9] http://webecologyproject.org/wp-content/uploads/2009/08/WEP-twitterFINAL.pdf


Twitter / Search - #iranelection - Mozilla Firefox
File Edit View History Bookmarks Yahoo! Tools Help
http://twitter.com/#search?q=%23iranelection
Most Visited Gmail CRL email CRL Confluence MacArthur Foundatio... Delicious/hrwebproject Pandora RTVE.es WITNESS Chicago Public Library Twitter #IranElection Project
Search Web Mail Shopping Personals My Yahoo! News Games Travel Finance Answers Sports
Gmail - Recibidos (3... Twitter / Sea... Dashboard ‹ A Little ... #IranElection Crisis:... YouTube - iran electi... Anonymous Iran: A... LIVE REPORT: from ... Why We Protest - I... Iran's Presidential El...
140
update
Save this search
LittleLuddite
9 following 11 followers 36 updates
Home
@LittleLuddite
Direct Messages 12
Favorites
#iranelection
Trending Topics
#iranelection
Outlook 2010
Transformers 2
HTC Hero
Argentina
Wimbledon
Megan Fox
Baharestan Sq
iPhone
AT&T
Following
RSS feed for this query
Done
Start
Twitter / Search - #ir...
Inbox - Microsoft Outlook
9:54 AM

What are you doing?

Latest: Recovering from Twitterpation--be still my Luddite Heart! See my new post at http://littleluddite.wordpr... about 23 hours ago

Real-time results for #iranelection

250 more results since you started searching. Refresh to see them.

DINESCU @rezuan: u might be right. only him and a few other suspectable allowed to access twitter?- persiankiwi change_for_iran #neda, #iranelection
less than 10 seconds ago from TweetGrid

screwthemullahs It Would Seem That Basij Are Ordered To Make Tonight The Bloodiest Hell Yet. I'm Hearing of Public Executions #IranElection Tehran Iran Neda
less than 10 seconds ago from Twitterrific

baha54 Karoubi HQ spokesman: despite the effort, funeral cancelled as no place was available. http://tinyurl.com/nmb4bv #iranelection
less than 10 seconds ago from web

pmoallemian RT 3 fresh dispatches just in from Tehran, one longer, two shorter: http://tehranbureau.com/ira... #iranelection (via @amadril) #Neda
less than 10 seconds ago from Twitterrific

sje98765 RT oxfordgirl 25 journalist working 4 pro-mousavi newspaper arrested last night as they prepared to republish. #IranElection #iran #gr88
less than 10 seconds ago from web

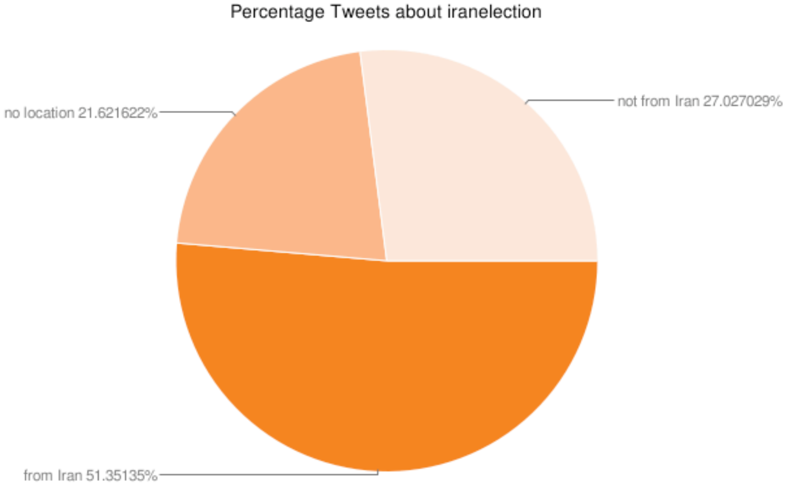
F8andbethere2 Sign the Amnesty International Petition to Release the Peaceful Opponents of Election Results http://bit.ly/12qd8r #iranelection RT
less than 10 seconds ago from web

GodLovesIran RT IRAN-Urgent: memorial ceremonies for the martyrs, who was to be held tomorrow has been canceled

Exec-Tweets
n. an iPhone app for tracking the top business execs on Twitter.
Sponsored definition

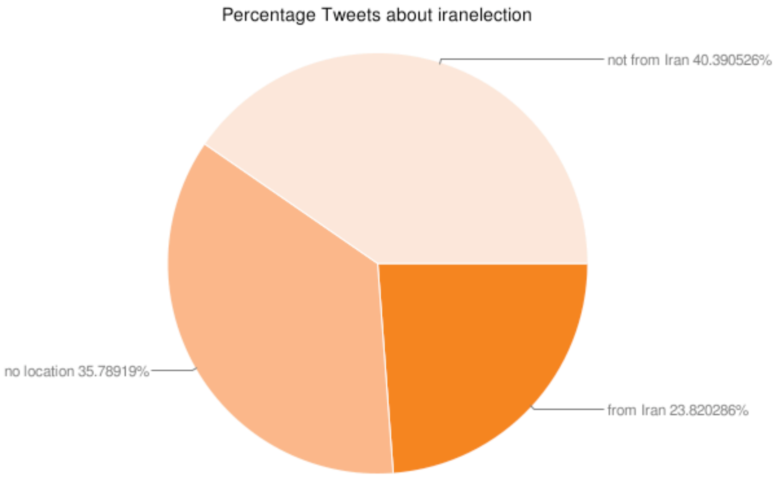
Screen capture of Twitter feed for #iranelection, taken June 23, 2009.

Following the protests, many have debated the relevance and impact of Twitter. For instance, it is unclear how many tweets actually came out of Iran itself. The social media monitoring company Sysomos estimated that prior to the election, only 8,600 individuals with Twitter accounts listed Iran as their location.[10] While the numbers grew significantly in May and June 2009, it was unclear whether account holders were falsely listing Iran as their location (a tactic employed to prevent Iranian authorities from tracking real protesters in Tehran).



June 11, 2009 – Twitter posts using hashtag "#iranelection"

[10] http://blog.sysomos.com/2009/06/21/a-look-at-twitter-in-iran/



June 19, 2009 – Twitter posts using hashtag "#iranelection"
Source: http://blog.sysomos.com/2009/06/21/a-look-at-twitter-in-iran/

Riyaad Minty, head of Al-Jazeera Network's social media initiatives, reported that a study by Harvard University on the breakdown of the Internet population in Iran estimated the number of active Twitter and other social media users in Iran around 1,000.[11] Al-Jazeera was able to verify 60 Twitter accounts posting content from within Iran (a figure that dropped down to six as networks were blocked or users arrested).[12] The much-hyped "Twitter Revolution" in Iran appeared to be led more by supporters outside Iran than from within.

Regardless of the number of actual users, most agree that the role of social media sites such as Twitter was important, whether to organize gatherings, share information, or bring attention to the plight of Iran citizens.

Blogs

Bloggers inside Iran and without were active leading up to the elections and during the violent protests. Iran has a particularly active political blogosphere (by varying accounts, some 60,000 to 100,000 blogs in or about Iran are updated regularly). A 2008 study conducted by the Berkman Center for Internet & Society, "Mapping Iran's Online Public: Politics and Culture in the Persian Blogosphere," indicated that while blogging factors prominently in Iranian youth and opposition movements, a wide range of opinions representing religious conservative points of view as well as secular and reform-minded ones are present in the online public communications network.

The Iranian state runs one of the world's most formidable online censorship regimes, engaging in active surveillance and imprisonment of bloggers. During the presidential election in 2009, opposition sites were routinely blocked by authorities and many bloggers and journalists were suppressed and detained. Blogfa.com, the dominant Iranian blogging platform, was disrupted several times in this time period, including one significant disruption starting the day after the disputed election.[13] Still, significant numbers of individuals--only a minority of which blogged anonymously--engaged in active communications about

[11] Riyaad Minty, "Misinterpretations of the Iranian Elections," Twitter and the Iranian Democracy Uprising (video), http://fora.tv/2009/11/05/Twitter_and_the_Iranian_Democracy_Uprising#chapter_04

[12] "Providing Context: The role of Social Media in Iran " http://riyaadm.com/2009/08/02/providing-context-the-role-of-social-media-in-iran/

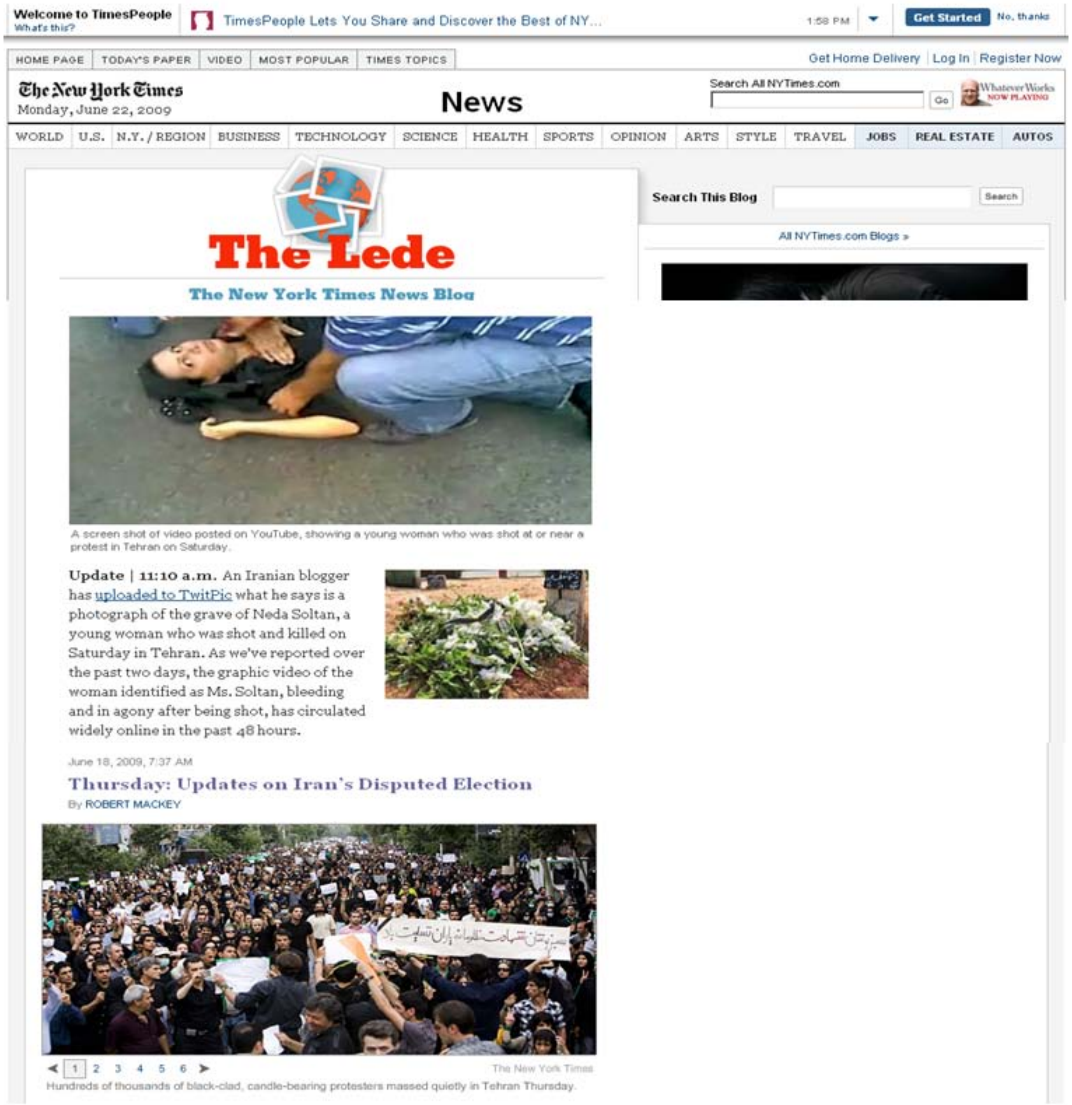
[13] "Iranian Blogs Dynamic During Election Protests" http://blogs.law.harvard.edu/idblog/2009/06/30/iranian-blogs-dynamic-during-election-protests/

the elections, protests, and crackdown. These feeds contributed significantly to the information coming out of Iran during the media restrictions.[14]

Aggregations and News Postings

For some time, social media channels were the only means through which events could be broadcast. News organizations, citizen journalists, and human rights groups collated photos, videos, and other information to provide context and clarity to the stream of information overwhelming the web.

The Lede, the official blog of the New York Times provided continuously updated coverage of events by culling material from YouTube, blogs, Twitter, and independent news outlets. The blog aggregated content in a time-stamped fashion, presenting confirmed or unconfirmed information with associated links to content. Other news sites such as the BBC and the Huffington Post provided similar coverage.



A screen shot of video posted on YouTube, showing a young woman who was shot at or near a protest in Tehran on Saturday.

Update | 11:10 a.m. An Iranian blogger has uploaded to TwitPic what he says is a photograph of the grave of Neda Soltan, a young woman who was shot and killed on Saturday in Tehran. As we've reported over the past two days, the graphic video of the woman identified as Ms. Soltan, bleeding and in agony after being shot, has circulated widely online in the past 48 hours.

June 18, 2009, 7:37 AM

Thursday: Updates on Iran's Disputed Election

By ROBERT MACKEY

Hundreds of thousands of black-clad, candle-bearing protesters massed quietly in Tehran Thursday.

Composite image created from screen shots of materials posted and updated at http://thelede.blogs.nytimes.com/ (captured June 22, 2009).

[14] For example, see http://anoniran.blogspot.com/2009/06/message-to-international-community-from.html (Accessed December 31, 2011)

Social media sites such as **mashable** also contributed to the assessment of events as they unfolded, culled from Twitter, blogs, and YouTube.[15] **CitizenTube**, YouTube's news and politics blog, posted numerous updates on the protests and subsequent events, linking to the most critical videos being uploaded by users.[16] **Breaking Tweets**, a website that brings together news and reports emerging from Twitter, reported numerous stories over the course of events (including an #IranElection timeline).[17] Tweets are consolidated and a story is presented in a journalistic style, accompanied by representative tweets and associated links.

The case study raises the complex issue of verification of social media, whether for public awareness, media distribution, or future uses in human rights reparations, prosecutions, and the like. Media organizations such as the **BBC** are developing methodologies for attempting to verify citizen-generated content, examining (among other things) forensic data to support the images:

- Referencing locations against maps and existing images from, in particular, geo-located ones.
- Working with colleagues to ascertain that accents and language are correct for the location.
- Searching for the original source of the upload/sequences as an indicator of date.
- Examining weather reports and shadows to confirm that the conditions shown fit with the claimed date and time.
- Maintaining lists of previously verified material to act as reference for colleagues covering the stories.
- Checking weaponry, vehicles and licence plates against those known for the given country.[18]

Storyful, a site founded by journalists to share "social journalism" stories, utilizes social networking to a large degree in verifying electronic information it receives. Contact with individuals on the ground is often critical for verification. This is an area where journalists and human rights groups are starting to come closer together.

Impact of Social Media

The true impact of social media and electronic evidence in this case remains, as yet, uncertain. Unlike the events of the Arab Spring in Egypt and other countries in 2010-2011, Iran's government remained in power. Vocal opponents in Iran were been targeted for reprisal, often using the same social networking techniques as the protestors to identify those speaking out against the government.[19] Iran has executed several responsible for distributing photos and footage on the Internet.[20]

It seems that until a significant change in regime is effected, there may be no justice in the actions taken by government forces (as well as violent demonstrators). Thus, it is critical that the body of evidence produced during the events be protected, preserved, and properly documented to the extent possible.

Archiving

In a paper written as part of her Master's fulfillment, Layla Hashemi (New York University) writes "Although the Internet cannot stop every unjust execution or sentencing from happening, it does have the

[15] For example, see http://mashable.com/2009/06/21/iran-election-timeline/

[16] http://www.citizentube.com/2009/06/note-from-citizentube-about-videos.html/

[17] http://www.breakingtweets.com/2009/06/23/updated-iranelection-timeline/

[18] http://www.bbc.co.uk/journalism/blog/2011/05/bbcsms-bbc-procedures-for-veri.shtml

[19] The government-supported crowdsourcing website Gerdab.ir posted pictures of protesters (often taken from Iranian citizen media) and offered rewards to identify them. For more details see: "Digital Media and Iran's Green Movement: A Look Back with Cameran Ashraf " http://hub.witness.org/en/blog/digital-media-and-irans-green-movement-look-back-cameran-ashraf

[20] "Iranian opposition activists hanged for protest footage," 24 January 2011. http://www.bbc.co.uk/news/world-middle-east-12272067

power to report and permanently archive these injustices."[21] This statement underlies a common assumption that what is posted on the Internet will remain there forever. However, as yet no simple and effective solution exists to automatically capture electronic "evidence" such as Twitter tweets, Facebook pages, blogs, Flickr photostreams, and electronic news articles. Many of the videos posted and linked to other pages (including prominent human rights organizations) are no longer accessible. While the prominence of the event increases the likelihood that these videos and photos will have been re-posted and shared in other locations,[22] the durability of links, and ultimately the resources themselves, is in question.

The Library of Congress announced in April 2010 that it would preserve the entire archive of public tweets from Twitter, comprising potentially billions of tweets. Technical details have yet to be finalized, and as of this report writing, the Library has not yet decided how to present access to this archive. According to Bill Lefurgy, it is possible that researchers at the Library of Congress may be presented with a block of data (based on dates, geographic location, other information) on which to do their research.[23] In the meanwhile, Twitter provides only limited access to its archives of tweets through its site or Application Programming Interface (API). Due to the volume of tweets (by some estimates, more than 50 million per day), the Search API goes back only a few days, and there are pagination and date limits to the REST and Search API (to ensure the performance of the search system). This limit varies depending on the number of Tweets being created and the relevance of the results.

Web Archives

The use of Web archiving tools, such as Archive-It (a tool developed by the Internet Archive) is one means of capturing electronic evidence relating to human rights events. To evaluate how such crawling technologies currently serve research purposes, CRL recently performed an assessment of Archive-It content based on three public collections related to the Middle East.[24] Using the Archive-It crawling tool, New York University selected roughly 755 blogs produced by Iranian scholars, politicians, journalists, and the general public. The periods of capture varied according to different phases of crawling, but spanned from early 2008 to the present. Some of the collection’s sites are still active on the web, but many are no longer updated or have since been removed entirely.

Testing a representative sample of harvested sites, it is clear that the crawling technology employed in Web archives has mixed success with blogs and social media. While blogs tend to feature less-advanced programming and follow a consistent template, embedded videos frequently do not work, or else point to live versions of videos hosted by external sites (e.g., YouTube, Al Jazeera). External links were generally not included in the crawl, limiting the functionality of posts that refer to external news items or posts (a common occurrence).

As for the selection and crawl periods, the NYU collection represents only a small sampling of potentially relevant sites, given the scale of the Iranian blogosphere. Many sites were crawled only once or for a brief period of time, with some pages crawled more intensively over longer periods. The crawl frequency was set for monthly crawls, resulting in selective crawls on May 2, June 2, July 7, and August 7, 2009. Since the crawls were not adjusted to capture more frequently during the protests, it is likely that the archive could have missed critical posts during the worst of the crackdown. While Archive-It frequently captured older posts linked from the main blog page, this occurred inconsistently.

[21] Hashemi, Layla M., "Dynamics of Contention : Media and Social Movement in Post-Revolutionary Iran," New York University, 2010. http://resources.betterfly.com/uploads_resources/20000/19128/1306946294-9071.pdf

[22] See, for example, Mehdi Saharkiz's YouTube page compiling videos, http://www.youtube.com/user/onlymehdi

[23] "Library of Congress to receive entire Twitter archive" http://www.federalnewsradio.com/?nid=247&sid=2658996

[24] “An Imperfect History: Capturing the Middle East Web,” *FOCUS On Global Resources*, Fall 2011, Vol. 31, Num. 1 http://www.crl.edu/focus/article/7438

IX.C.3. Case Study: Advocacy in Mexico

(Canalseisdejulio and grassroots organizations in Chiapas)

Background: Canalseisdejulio (Canal 6), an audio-visual collective located in Mexico City, produces alternative information outside the influence of state-sponsored media and the large private media corporations that dominate Mexican cultural production and news.[1] Supported by individual contributions, Canal 6 receives no federal or corporate funds, which allows it to produce documentary content independent from outside interests.[2] However, this model has its own particular challenges. As stated on the organization's Web site (translated from the original Spanish):

> The road traveled by this sort of small-scale production of documentaries has been varied, however, it is no exaggeration to say that the greater part of the long journey of Canalseisdejulio has been navigated against the current, suffering frequent attacks of censorship and worse, violent attacks, or suffering the indifference that was later turned upon it by the Mexican so-called Left that has become the governing party.[3]

Working within this context of censorship and threat, Canal 6 focuses on exposing human rights and political abuses throughout Mexico. It creates documentary films that draw from primary source documentation the organization collects or that others bring to it for production. In some cases, footage is donated by individuals from TV stations[4] that recognize the value of the material and know that it will never be aired.[5] Other materials are generated by victims featured in documentaries, for example: individuals who donate their own photographs; communities that share denunciations of territorial politics they have written; or testimonies recorded through interviews.

Canal 6 has amassed a considerable collection of video, text, and images.[6] The organization prides itself on its documentary rigor, investing considerable time and energy into cross-referencing information from images or footage it receives with documented cases in the press or in legal work to ensure that producers are not working with doctored materials. As activists as well as documentary filmmakers, individuals at Canal 6 draw on personal knowledge of places, events, and timing to help confirm and verify the places, people, and events depicted in donated footage. Beyond this, when creating their own documentation, Canal 6 filmmakers take copious notes during the filming and editing process, all of which are maintained along with the original film footage, either as handwritten notes or electronic documents backed up on a local server.

All materials are deposited at the Universidad Nacional Autónoma de México (UNAM), which maintains the collection of original materials (footage, images, and documents), provides backup of electronic materials, and creates working copies of original footage for access. Materials are accessible through the UNAM archives for academic and legal work, contingent upon the library's access practices and the rights or restrictions applied to individual materials as Canal 6 submits them to the collection.[7] Canal 6 and the organizations or individuals who contribute materials negotiate rights regarding use of materials and confidentiality. Canal 6 keeps records of all signed privacy and use agreements, which apply to the materials once they shift to UNAM.

[1] Luis Hernández Navarro. (7 April 2009). "Canal 6 de Julio: Televisión sin televisión." La Jornada. http://www.jornada.unam.mx/2009/04/07/index.php?secion=opinion&article=017a1pol

[2] *Ibid*

[3] "El camino recorrido por esta especie de pequeña fabrica de documentales ha sido de signo variado, sin embargo, no se exagera al afirmar que la mayor parte del largo recorrido realizado por canalseisdejulio ha sido navegado a contracorriente, sufriendo los frecuentes embates de la censura y aún del acoso violento, o padeciendo la indiferencia que después le aplicó una parte de la llamada izquierda Méxicana convertido en gobierno" (Historia y Características del Trabajo de Canalseisdejulio. http://www.canalseisdejulio.com/15_a_os.html).

[4] Canal 6 does not name specific TV stations in order to protect the identity of the individuals who take the political risk of donating controversial material. Personal Interview, 22 February, 2010

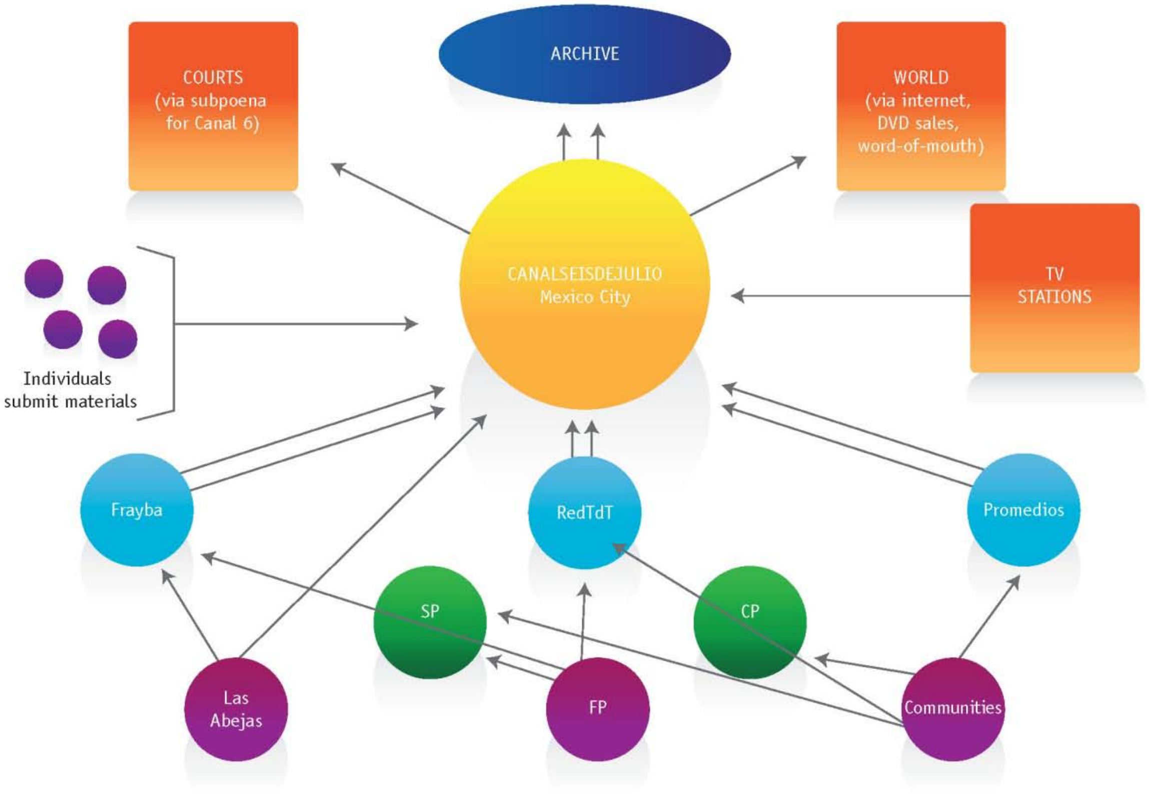
[5] Personal Interview, 22 February, 2010

[6] *Ibid* & Luis Hernández Navarro (7 April 2009). "Canal 6 de Julio: Televisión sin televisión." La Jornada. http://www.jornada.unam.mx/2009/04/07/index.php?secion=opinion&article=017a1pol

[7] Personal Interview, 22 February, 2010

Drawing from and creating this documentary material over the course of more than twenty years, Canal 6 has produced more than fifty documentary films largely distributed through individual sales. Though Canal 6 does not broadcast documentaries in any formal way, its model of DVD and videotape distribution from hand to hand manages to reach a wide viewing audience at very low cost. Since Canal 6 works closely with all organizations or individuals depicted in a documentary, all materials have been released for public viewing. With the advent of video streaming and sharing on the Internet, Canal 6 can reach an even broader audience (see http://www.youtube.com/user/canalseisdejulio).[8]

Figure 1 (below) depicts the documentation- and information-sharing network that has emerged around Canal 6 as a result of its documentary activities. Canal 6 serves as a hub of information gathered primarily from other mid-sized organizations (represented by the larger circles in the second and third rows from the bottom), with which it often collaborates for the creation of documentaries. It also accepts materials from individuals and smaller grassroots groups directly. Materials are catalogued as they are incorporated into the Canal 6 collection and will ultimately be forwarded to UNAM for formal long-term storage, maintenance, and access.



ARCHIVE
COURTS (via subpoena for Canal 6)
WORLD (via internet, DVD sales, word-of-mouth)
TV STATIONS
CANALSEISDEJULIO Mexico City
Individuals submit materials
Frayba
RedTdT
Promedios
SP
CP
Las Abejas
FP
Communities

Figure 1 - Documentation Network Map for Canalseisdejulio[9]

[8] *Ibid*

[9] **List of organizational abbreviations depicted** from top to bottom and left to right. Each organization's location is indicated in parentheses**:**

Frayba	= Fray Bartolomé de las Casas (San Cristóbal de las Casas)
Red TDT	= Red Nacional de Organismos Civiles de Derechos Humanos Todos los Derechos para Todas y Todos (D.F.)
Promedios	= Promedios de Comunicación Comunitaria (San Cristóbal de las Casas, Chiapas)
SP	= ___ (Ocosingo, Chiapas)

Key to Reading the figure:

- small circles at the bottom of the figure represent small grassroots organizations
- larger circles represent mid-sized professionalized organizations
- the large central circle is the information processing hub for this map (in this case, Canal 6)
- arrows represent the primary direction of information flow between entities depicted, with arrows becoming thicker as information consolidates and moves on to larger groups or institutions.

To demonstrate an example of the flow of documentation, Frayba (left-most circle at the bottom of the figure) is a group of human rights lawyers that advocates for local rights in Chiapas and serves as legal counsel for local Chiapanesco cases. Frayba works with a number of small grassroots organizations as well as with other mid-sized groups in collecting evidence for these cases. For example, Frayba has amassed a considerable archive of evidence and legal documentation related to the Acteal Massacres[10] of 12 years ago and these materials have been used in litigation at all levels of the legal system in Mexico. Most recently, Frayba has drawn on these materials to appeal a state court's decision to release paramilitary perpetrators on a technicality of law unrelated to the facts of the violence they originally committed. At least some of the information that Frayba gathers for advocacy and legal use is consolidated into reports or case studies and forwarded to Canal 6 for documentary projects that Canal 6 then disseminates to a broader audience.

Mid-sized groups tend to solicit materials from smaller groups for specific purposes such as:

- the generation of statistical regional and national reports (Red TDT),
- legal archives to support legal cases in local, national, and international courts (Frayba),
- visual documentation for media dissemination (Canal 6 and Promedios),
- or economic and political analysis of local conditions contributing to human rights abuses (CP).

In this process, information collected from small groups becomes organized through increasingly professional documentation and presentation practices.

Documentation Types for Organizations Visited in Mexico: Each of the organizations indicated in the Documentation Network Map for Canal 6 collects a variety of documentation depending on its needs and goals. Table 1 indicates the types of documents the organizations on the Canal 6 network map collect and the digital technologies they use.

Table 1: Documentation inventory for organizations depicted in Canal 6 Network map

Organization	Documentation created or collected	Internet Presence
Las Abejas Acteal, Chiapas Christian pacifist society within the Tzotzil Maya community working to defend legal, land, health, and education rights.	• Oral testimonies recorded on VHS or mini-DV by outside volunteers or legal professionals (e.g., Frayba)	http://www.lasabejas.org/ • Created in Google Sites (free online platform) • Stored in Google's cloud • Hosts text, video links to YouTube, and still photos • Videos created by outside individuals or groups • Blog posts
FP Ocosingo, Chiapas Dominican grassroots	• Hand-filled incident report forms filed in three-ring binders on shelves • Periodic reports and newsletters produced in MS word and stored on a	[redacted] • Text • Still photos

CP = _____ (San Cristóbal de las Casas, Chiapas)
Las Abejas = Organización de la Sociedad Civil, Las Abejas (Acteal, Chiapas)
FP = _____ (Ocosingo, Chiapas)

[10] See the following Web resources for background on the Acteal Massacres, which took place on December 22, 1997 in the Toztzil village of Acteal, Chiapas. 45 civilians—mostly women and children—were gunned down during a religious ceremony by local paramilitary groups who may have been quietly supported by the Mexican government to suppress social resistance to local policies that would negatively impact indigenous communities. http://en.wikipedia.org/wiki/Acteal_massacre; http://www.libertadlatina.org/Crisis_Mexico_Chiapas_Acteal_Massacre.htm; http://www.lasabejas.org/

organization created to defend the Maya communities surrounding Ocosingo, Chiapas, against government militarization.	PC circa 1995 • Three-ring binders containing letters from individuals they represent • History of the organization prepared in MS Word and stored on PC	
SP Ocosingo, Chiapas Grassroots activism coordinators working with Maya communities of Chiapas.	• Personal field journals—some handwritten, some maintained on PCs as word-processor documents • Handwritten incident and training reports • Printed Google maps for visualizing and marking event locations with victim groups • Handwritten meeting minutes sometimes typed up as MS Word documents on PCs • Organizational reports and press releases created as MS Word documents and stored on PCs • VHS recordings of some community meetings • 35mm photography • Digital photography on consumer grade small digital cameras • Photocopies of key legal cases for groups supported by SP	[redacted] • Still photos • Links to articles, press releases, and reports published by SP and its subsidiary groups
CP San Cristobál de las Casas, Chiapas Grassroots political, economic, and social analysis group focusing on local issues in the Maya communities of Chiapas.	• Paper documentation kept in un-systematized file folders and stacks • Reports created idiosyncratically by volunteers stored haphazardly on PCs according to each person's own method—MS Word documents, Excel spread sheets • Analysis bulletins stored electronically on PCs and as hard published copy • VHS and Mini-DV video • Edited video productions on DVD—collaborations with other groups	[redacted] • Links to published materials • Photo galleries • Embedded videos created by CP and collaborators • Embedded audio recordings from local radio and interviews conducted by CP • A collection of economic, political, social and military maps of Chiapas collected from a variety of published sources
Frayba San Cristobál de las Casas, Chiapas A group of Catholic legal professionals that work to represent smaller communities and individuals that experience human rights abuses.	• Database in FileMaker Pro—converting to database sponsored by Red TDT (see below) • Physical archive of legal documents from all cases handled • Electronic archive of reports, press releases, publications, and electronic case documents stored on in-house server • Scanning documents on high-end commercial grade scanners (in process) and storing on in-house server • A wide variety of evidence for cases --paper case documentation --testimonies --discovery --court transcripts --decisions --VHS and Mini DV video	http://www.frayba.org.mx/informes.php • Links to PDF copies of : --reports published by Frayba and • related organizations --articles from outside print media --bulletins and newsletters from Frayba and related organizations --electronic versions of published fliers and booklets --articles published by Frayba • Still photos of events Frayba attends • Embedded video created by Frayba and related groups • Embedded audio recordings of events, interviews, conferences created by Frayba, local media, or related organizations

	footage --traditional and digital photography	
Promedios San Cristobál de las Casas, Chiapas Documentary film organization that collaborates with and trains smaller local grassroots groups to create video evidence from their own perspective.	• Raw footage on VHS and Mini-DV • DVD production copies of documentaries • 35 mm still photography • Professional resolution digital photography • Filming notes—hand notes in notebooks • Filming notes—electronic notes in MS Word documents on password protected PCs • Digitized photographs from commercial grade Canon scanner stored on local server	http://www.promediosmexico.org/ associated with http://chiapasmediaproject.org/cmp/ (Chiapas Media Project—mother organization) • Online calendar of events • Online catalog for DVDs for sale published by Chiapas Media Project and Promedios
Red TDT Mexico City Statistical analysis group that draws together cases from smaller groups through a standardized database program that provides categories and codes for sorting and aggregating human rights data.	• Database program based on HURIDOCS' human rights documentation program (OpenEvSys) and thesaurus modified by local programmers using open source code • CD-ROM of program distributed to participating organizations • Local server storage for centralized data submitted by network of participating organizations • Reports and analysis created from data in database in word-processing software and stored in local server • Copies of professionally published hard-copy reports • Electronic publication of reports on Web site	http://www.redtdt.org.mx/ • Links to PDF files: --reports published by Red TDT --publications from the UN --reports from collaborating human rights groups • Photo galleries of images of events Red TDT participates in • Press releases • Denunciations
Canalseisdejulio Mexico City Professional media cooperative and hub organization for Figure 1 above	• Professional media grade digital and analog raw video footage • Handwritten filming notes • Film notes created in MS Word and stored in local server • Edited digital copy of produced documentaries for publication and sale • DVD copy of final published documentary material • Video footage submitted by amateurs and professionals • Still photography (analog and digital) submitted by amateurs and professionals • Paper documentation submitted by collaborators --letters --newspaper reports --testimonies --denouncements --press releases • Professional digital and analog still photography	http://www.canalseisdejulio.com/ • online catalog for DVDs for sale published by Canalseisdejulio • Embedded links to Canalseisdejulio video material released on YouTube • Space for users to create accounts and upload their own human rights video

	• Excel database cataloging collection of footage, images and notes	

Much of the documentation begins on traditional analog media (paper, video tape), but as it moves through to larger organizations, it will be transferred to an electronic version either through scanning or by entering original handwritten material into word-processing documents and databases. It is important to note that not all documentation created at the grassroots level is forwarded to the mid-sized groups for conversion, and that these collections face long-term challenges due to constant degradation of physical paper, photos and video in a tropical climate without a climate controlled facility.

Geographic Range of Documentation Networks: Documentation networks emerge over a broad geographic range, with hubs like Canal 6 collecting representative material regionally to distribute it to audiences at the national and international level.

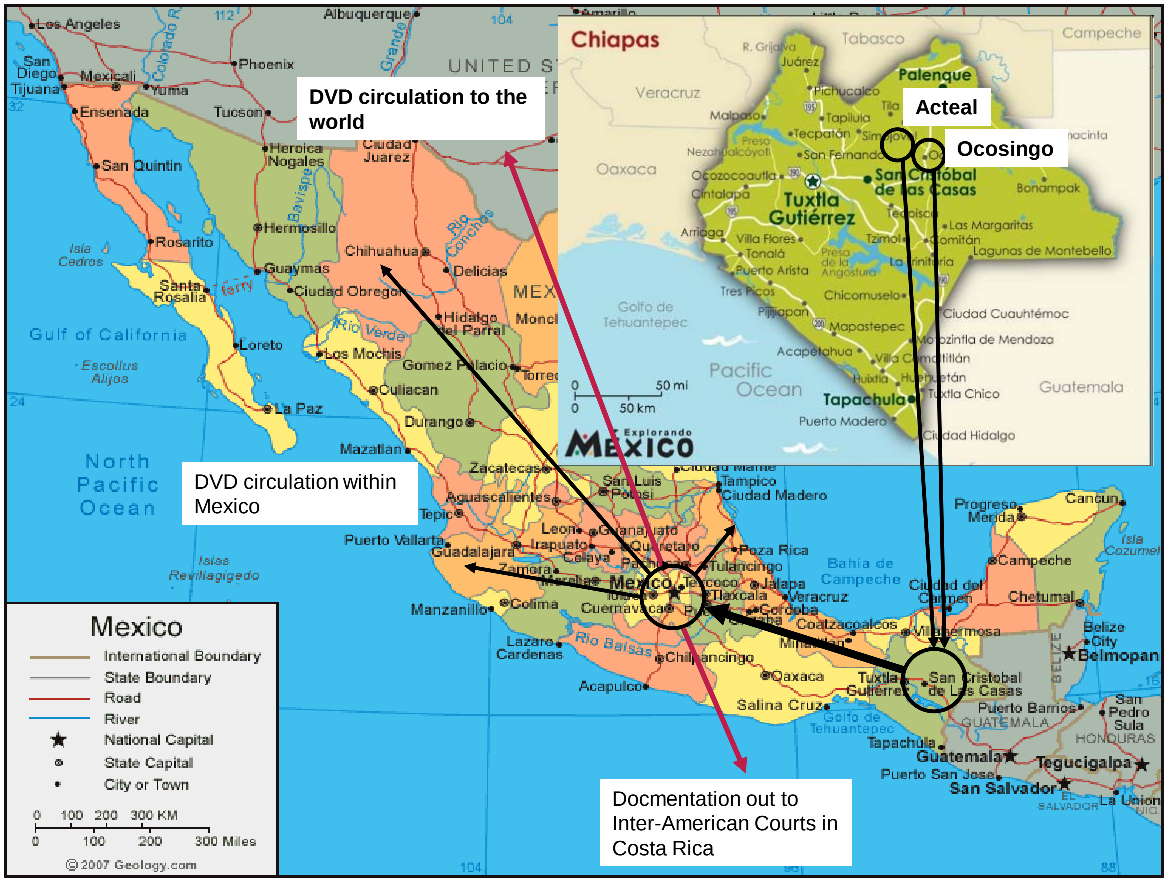


Figure 2: Geographic Range of the Documentation Network for Canal 6[11]

Key to reading the figure:

- Black circles indicate regions of documentation production,
- Black arrows indicate the flow of documentation within Mexico
- Red arrows indicate flow of documentation to areas outside of Mexico

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[11] Large Map: http://www.utdallas.edu/~mrankin/mexicoweb/mexicomap.html
Detail: http://www.explorandomexico.com/map-gallery/0/25/
N.B. Acteal is so small that it does not appear on general maps of Chiapas. The arrow labeled "Acteal" in the detail pop-out map points to the location of this small village in relation to San Cristóbal de Las Casas and Ocosingo.

Figure 2 represents the geographic spread for the organizations that contribute to the Canal 6 documentation network. The map depicts the physical locations of the organizations described above and how they relate to larger urban centers at the state and national levels. Grassroots organizations in the small Mayan villages and communities of Chiapas—where people directly suffer a number of human rights violations or abuses—work to address the immediate needs and concerns of their communities. The mid-sized professional groups with which they collaborate establish themselves in larger towns and urban centers. In this case, groups from the small Mayan towns of Ocosingo and Acteal in rural mountainous regions of the state of Chiapas coordinate with more professionalized groups in the larger city of San Cristobál de Las Casas. Documentation then moves to the national level through collaborations with groups like Canal 6, which is located in Mexico City, the nation's capital. Groups like Canal 6 work to distribute information nationally and even internationally as need and resources dictate. The following outline specifies the geographic locations depicted in Figure 2: Geographic Range of the Documentation Network for Canal 6:

- Smaller grassroots groups in the villages outlying San Cristóbal de Las Casas
    - Village of Acteal
        - Las Abejas
    - Village of Ocosingo
        - FP
        - SP
- Mid-sized groups in larger towns and urban centers
    - San Cristóbal de Las Casas
        - Frayba
        - Promedios
        - CP
    - Mexico City
        - Canal 6
        - UNAM

The arrows on the map indicate the overall flow of documentation and information from villages into towns and cities, and eventually out to other nations. Looking across documentation types from Table 1 and the flow of documentation depicted in Figures 1 and 2, documentation and supporting information becomes more centralized and standardized as it moves into urbanized, educated, and political geographic centers where more professional resources and stronger technological infrastructure exist.

Looking further at the documentation types inventoried in Table 1, it is also evident that the documentation that feeds into the larger groups and more urbanized centers is largely paper-based. This is largely because the small villages and rural communities of Chiapas, where the majority of human rights abuses for that region occur, have undeveloped infrastructural- and knowledge-bases for supporting and using digital technology. Inconsistent electrical service in these regions makes it difficult to operate electronic equipment such as cell phones, computers, or digital cameras. Also, such equipment is expensive and thus beyond the financial means of these communities. Furthermore, much of the population is illiterate or has achieved a low level of education, which limits familiarity with many digital devices and their uses, including the Internet.

An additional challenge to the use of digital documentation at the grassroots level in Chiapas arises within traditional Mayan culture itself. These communities preserve evidence of conflict orally rather than writing it down. For this sort of knowledge to move forward in the type of network described, traditional oral histories must be captured by trained individuals who are either community members who have left for education and returned, or by trusted outsiders. Taken together, these conditions do not currently favor the widespread use of digital documentation practices at the grassroots level in Chiapas. This situation will slowly change with improved electrical infrastructure, continued emphasis on literacy, and (most importantly) the efforts that mid-sized organizations put into training individuals and small groups in the use of digital for capturing local oral testimony and evidence of human rights abuses.

IX.C.4. Case Study: Justice in Russia

(Public Verdict Foundation, International Protection Centre, and Russian Justice Initiative)

Content redacted pending approval of interviewed organizations.

IX.C.5. Case Study: Memory in Rwanda

Ibuka and Kigali Memorial Centre

Background: Ibuka is a memorial to the Rwandan Genocide of 1994 and a center for defending the political, health, and educational rights of genocide survivors. From April to June 1994, Rwanda suffered one of the largest-scale planned genocides of recent history. In the course of 100 days, over 800,000 ethnic Tutsis and moderate Hutus sympathetic to Tutsi communities were killed in systematic campaigns organized by the then-Hutu government.[1] As a memorial, Ibuka maintains mass graves where remains of victims can be interred with dignity; as a center for activism, Ibuka organizes campaigns to uphold and defend the rights of survivors. In its latter capacity, Ibuka seeks to collect a variety of evidence of the pre-genocide government's wrongdoing as well as continued human rights abuses against survivors at the hands of genocide deniers and *genocidaires* who have fled to neighboring countries alongside the victims they continue to harass.

To accomplish the human rights defense work, Ibuka has created its own formal network of satellite offices within Rwanda and abroad that answer to the central office in Kigali, the nation's capital. Each office seeks out connections with relatives of former Hutu government members now living outside of Rwanda, or with employees in government offices that house the documents Ibuka seeks. In order to gain access to pre-genocide government documents that left Rwanda with fleeing officials; once identified, key documents are photocopied by members of regional offices and forwarded to Ibuka's central office in Kigali. Ibuka follows a similar process with current government employees within Rwanda, where it searches for pre- and post-genocide policy drafts, police records, or regional government reports.[2] The central office then sends out press releases, reports of abuse, and policy proposals and submits documentation as evidence in the Rwandan legal system. Figure 3 illustrates the structure of this network for collecting and disseminating documentation.

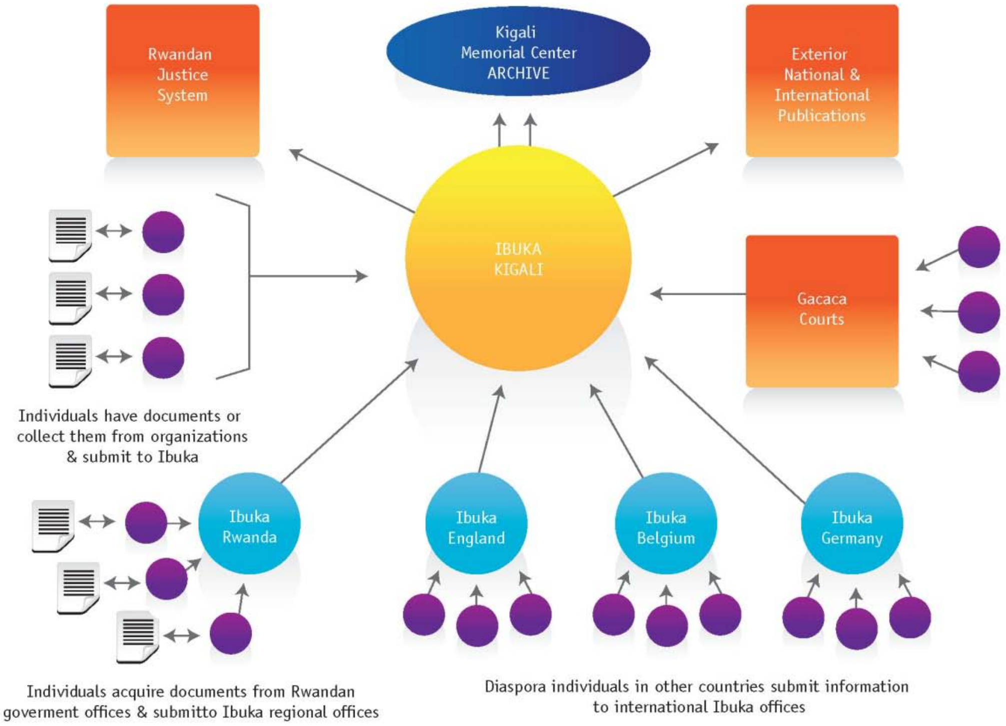

Rwandan Justice System
Kigali Memorial Center ARCHIVE
Exterior National & International Publications
IBUKA KIGALI
Gacaca Courts
Individuals have documents or collect them from organizations & submit to Ibuka
Ibuka Rwanda
Ibuka England
Ibuka Belgium
Ibuka Germany
Individuals acquire documents from Rwandan goverment offices & submitto Ibuka regional offices
Diaspora individuals in other countries submit information to international Ibuka offices

Figure 1 - Documentation Network Map for Ibuka

[1] See BBC News Online's December 18, 2008, "Rwanda: How the Genocide Happened" at http://news.bbc.co.uk/2/hi/1288230.stm for a brief overview of the genocide.

[2] As yet, Ibuka has not established any sort of formal archive. Field observations, Ibuka, Kigali, Rwanda. 25 & 26 May, 2010.

Key to reading the figure:

- small squares represent government offices or other institutions that house targeted documentation
- small circles at the bottom of the figure represent individual informants
- larger circles represent Ibuka offices both within Rwanda and internationally
- the large central circle is the information processing hub for this map (in this case, Ibuka, Kigali)
- arrows represent the primary direction of information flow between entities depicted, with arrows becoming thicker as information consolidates and moves on to larger groups or institutions.

Though Ibuka has explicitly established this network for gathering and centralizing documentation, it nevertheless resembles the organically emergent Canal 6 network (Figure 1) in key ways. Individuals and smaller communities outside of Kigali work with Ibuka to document local issues and send evidence to the central office for processing and uses downstream such as legal action, political action, and historical memory.[3] Local documentation—largely paper based—moves from smaller communities into an urban center where it is used for further activism, much like the pattern for Canal 6. However, unlike the network for Canal 6, documentation does not yet get digitized as it moves to Ibuka's center.[4] Paper evidence remains paper evidence, though published materials drawn from these materials are created through desktop publishing suites like Microsoft Office.

Digitization of key documents is beginning to happen through collaboration with the Kigali Genocide Memorial Center (KMC), which receives considerable local, national, and international funding to support the creation of an online digital archive of genocide materials. Digitization, cataloguing, presentation, and preservation of materials occurs through KMC's partnership with the University of Texas-Austin libraries, which provides the server space, technical support, and training necessary to create and maintain the archive.[5] Once the archive launches online in late 2010, it will be freely accessible from anywhere in the world. KMC is also establishing a reading room and research center that will allow Rwandans, as well as foreign visitors to the center, to take advantage of the digital archive to research family members and conduct scholarly investigations, as well as legal research.[6]

Documentation types for Ibuka: Ibuka's centralized network has a specialized set of documentation that it targets and creates, so its inventory of documentation types is much more constrained than the source documents inventoried for the Canalseisdejulio network (Table 1). This documentation is used for three primary purposes:

- denunciations of continuing abuses of genocide survivors, particularly by the police;
- support of policy decisions within the current Rwandan government headed by Paul Kagame (himself a Tutsi survivor);
- press releases calling attention to the continuing needs of survivors.

Table 2 lists the types of documentation Ibuka collects and the use of digital technology, particularly a Web site to disseminate some reports and activities.

Table 1: Documentation inventory for Ibuka

Organization	Documentation created or collected	Internet Presence
Ibuka • Central office: Kigali • Rwandan regional	• Handwritten testimonies • Victim letters (originals: handwritten and typed)	http://www.ibuka.net/ • A few photos • A list of publications, some with live

[3] Personal interview with AHISHAKIYE Naphtal, Director of Documentation for Ibuka in Kigali, Rwanda on 25 May, 2010

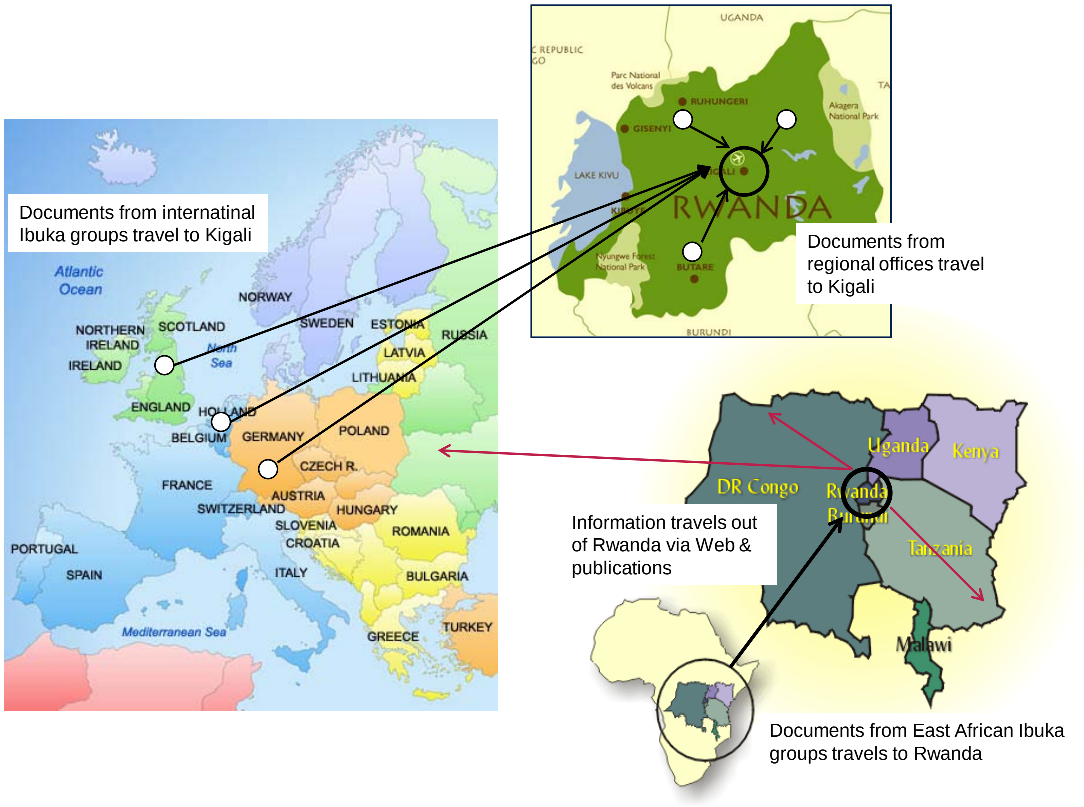
[4] However, Ibuka is working with other organizations to establish and in-house digitizing project for scanning and preserving targeted portions of their paper collections. Personal interview with AHISHAKIYE Naphtal, 25 May, 2010. Ibuka, Kigali, Rwanda.

[5] See "Libraries $1.2 Million Grant to Preserve Record of Human Rights Violations, Genocide" at http://www.lib.utexas.edu/about/news/bridgeway_grant.html

[6] The archive will contain videotapes of Genocide survivors' testimonies, scanned copies of rare books related to the genocide, scanned copies of rare newspapers and journals documenting the progress of the genocide from the Hutu perspective, as well as scanned copies of key government documents, many supplied by Ibuka. Personal interview with KAMURONSI Yves, Technical Director for Kigali Genocide Memorial Center on 27 May, 2010.

offices • International offices in Europe	• Photocopies of government documents • 35 mm photography • Newspaper articles • Financial records (paper) • VHS and Mini-DV video footage of Gacaca (traditional Rwandan) court proceedings • Electronically created reports, publications, press releases, etc., using desktop word-processing programs	links • Many dead links to outside sites

Geographic Range of Documentation Networks: As with Canal 6, the geographic range for Ibuka's documentation network (Figure 4) is extensive. Ibuka's Web site (http://www.ibuka.net/) distributes publications and press releases to the rest of Rwanda as well as the international community. Within Rwanda, press releases also appear in local newspapers.



Documents from internatinal Ibuka groups travel to Kigali

Documents from regional offices travel to Kigali

Information travels out of Rwanda via Web & publications

Documents from East African Ibuka groups travels to Rwanda

Figure 2: Geographic Range of the Documentation Network for Ibuka[7]

Key to reading the figure:

- White dots represent Ibuka satellite groups or representatives working outside of Kigali or internationally. N.B.: dots are general representations, not accurate location points for groups or individuals.
- Heavy dark arrows represent documentation moving from Ibuka satellite centers within Rwanda and internationally moving to the central office in Kigali, Rwanda (arrows pointing in to Kigali on the inset map on the right side of the figure)

[7] Map of Europe courtesy of BACKPACKING Europe at http://www.backpackingeurope.com/maps.asp
East Africa map courtesy of African Pastors at: http://www.africanpastors.org/html/about_us.html
Map of Rwanda (insert) courtesy of Imagine Africa at: http://www.imagineafrica.co.uk/Rwanda/Rwanda_Map

- Heavy red arrows represent consolidated documentation or reports moving from Kigali out to the rest of the world.

As with the Canal 6 network, documentation moves into urban centers and becomes more standardized as it serves legal and activism purposes—particularly once documentation moves beyond Ibuka, where records consist mostly of paper and are quite disorganized.[8]Many communities, however, still rely on paper documentation over digital or electronic means. The smaller communities served by Ibuka's satellite offices lack a basic infrastructure to support digital work, including unreliable electrical service and little access to the Internet. A lack of general technology savvy hampers the use of computers, scanners, or digital equipment. These expensive pieces of equipment can extend beyond the financial reach of these communities—a problem also found in rural Mexico.

[8] Site visit notes 25 and 26 May, 2010. Ibuka, Kigali, Rwanda.

IX.D. Human Rights Resources Profiles:

The following profiles are hosted on CRL's project Web site at:
http://www.crl.edu/grn/hradp/electronic-evidence

1. Human Rights Resources Profile: WITNESS
   http://www.crl.edu/sites/default/files/attachments/pages/HRResourcesProfile_WITNESS_7.27.10_0.pdf

2. Human Rights Resources Profile: Amnesty International--ADAM & AIDAN
   http://www.crl.edu/sites/default/files/attachments/pages/AI_Profile_FINAL_8.11.11.pdf

3. Human Rights Resources Profile: Ushahidi
   http://www.crl.edu/sites/default/files/attachments/pages/Ushahidi_Profile_6%2012%2011_FINAL_0.pdf

4. Human Rights Resources Profile: Memorial
   http://www.crl.edu/sites/default/files/attachments/pages/Memorial_Profile__FINAL.pdf

5. Human Rights Resources Profile: Web Ecology Project
   http://www.crl.edu/sites/default/files/attachments/pages/WEP_Report_5.7.pdf