Digital Evidence: Facilitating what and for whom?

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Abstract

The emergence of user-generated evidence has revolutionized how atrocities and human rights violations are documented globally. Since 2011, when Syrian human rights defenders began documenting atrocities on their smartphones, a professional field has emerged around the collection, authentication, and preservation of digital evidence. However, this professionalization has created unintended consequences, as expertise and verification power shifted away from frontline communities to Global North institutions. This Article examines this tension through two case studies: the Rohingya Genocide Archive, and Nigeria's #EndSARS movement. These examples demonstrate both the power of locally-informed evidence collection and the challenges when verification skills remain concentrated among elite institutions. As the rise of synthetic media through generative artificial intelligence poses new threats to the practice of fortifying the truth through digital evidence, we urge collaborative work to ensure that frontline communities are empowered with locally relevant skills and tools to protect their rights.

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I. INTRODUCTION

In 2018, the term "user-generated evidence" was coined to describe the phenomenon of people using their personal digital devices to record evidence, with the goal of helping achieve accountability for wrongdoing.[1] This phenomenon had come to the fore in 2011, as Syrians sought to document the atrocities unfolding around them, even as their government shut out foreign reporters and international observers.[2] The influx of non-professionals into what had previously been a fairly closed sphere of professional international investigators and journalists introduced new challenges (such as questions about authentication and consent) as well as potential benefits (such as increased access and agency by those directly affected).

Subsequently, a robust community of practice has emerged to strengthen the collection, authentication, preservation, storage, and use of such evidence in international commissions of inquiry and legal proceedings.[3] Best practices have been shared, and protocols have been developed, all with the goal of bringing some uniformity in professional standards to this emerging field of documentation.[4]

Today, this field faces a new set of challenges, emerging from the explosion of synthetic digital media forms. In an information ecosystem where there is widespread public awareness that generative artificial intelligence enables synthetic media to be cheaply and quickly generated, wrongdoers can readily claim that evidence against them is manipulated or fake—something that Danielle Citron and Bobby Chesney termed the "liar's dividend."[5] Meanwhile those who record evidence are pushed to prove its veracity beyond any conceivable doubt.

With an existing network of professionals dedicated to improving and strengthening the ability of user-generated evidence, open source evidence, and other forms of digital documentation to withstand judicial scrutiny, new protocols are already being considered, and new technical tools are being developed, to respond to the threat synthetic media poses to the acceptance of such evidence in international legal proceedings. We applaud the prospect of this work. At the same

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1 Rebecca Hamilton, *User-Generated Evidence*, COL. J. TRANSNT'L L. (2018).

2 *See* Syrian Archive, https://perma.cc/X6C9-PHGC (last accessed Apr. 6, 2025).

3 For a survey of the turn towards reliance on digital evidence in U.N. investigations, *see* Yvonne McDermott Rees, Murray Daragh & Alexa Koenig, *Mapping the Use of Open Source Research in UN Human Rights Investigations*, 14 J. HUM. RTS. PRAC. 554 (2022).

4 *See, e.g.*, UNHCR, HRC, THE BERKELEY PROTOCOL ON DIGITAL OPEN SOURCE INVESTIGATIONS (2022), https://perma.cc/52UC-DA7T; *E-Procedure: Evidence in Time of Increased Use of Technology and Digitalisation*, INT'L NUREMBERG PRINCIPLES ACAD., https://perma.cc/FB8G-XBA6 (last accessed Apr. 6, 2025).

5 Danielle K. Citron & Robert Chesney, *Deep Fakes: A Looming Challenge for Privacy, Democracy, and National Security*, 107 CAL L. REV. 1753 (2019).

time, this is a critical moment to reflect on what lessons can be learned from the first wave of efforts to professionalize digital evidence practices.

The following highlights one of the unintended, although surely foreseeable, consequences of early efforts to professionalize digital evidence practices. On account of being directed towards meeting the legal standards of international accountability mechanisms, professionalization efforts began to pull the center of gravity back from the local communities from which user-generated evidence first emerged, towards Global North centers of expertise.[6] This undercut some of the hoped-for benefits of the original user-generated evidence phenomenon—namely increased access and agency by those experiencing or witnessing wrongdoing in their community.[7]

This is not a novel critique and, as discussed below, more recent efforts have shown how the utility of digital evidence can be strengthened by both training and drawing on the expertise of frontline communities—in short, by working in solidarity with those directly affected.[8] However, we argue that as generative artificial intelligence enables synthetic media to dominate the digital evidence landscape, technological tools to verify the authenticity of digital evidence, developed and deployed by Global North experts, risk undercutting the access and agency of frontline communities to fortify the truth. Our call for democratization and pluralization of the tools that enable frontline communities to shore up their accounts of reality in the face of a tarnished information ecosystem is a matter of urgency.

A. Enabling Frontline Communities to Fortify the Truth

In the following, we offer two vignettes emerging from work supported by WITNESS, a human rights organization with three decades of experience with video evidence. In the first, building the skills and centering the expertise of the Rohingya people has both helped preserve, and increase the utility of, digital evidence that the Rohingya gathered in the face of genocidal violence against their community. In the second, we see the limits of user-generated evidence when human rights defenders in Nigeria faced an onslaught of disinformation by government officials attacking the work that these defenders had done to document violence by the Nigerian police.

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6 *See* Patrick Smith, Andrew Williams & Sasha Crawford-Holland, *Law's Capture of Human Rights focused Open-Source Investigations: the Dangers of Legal Deference*, 00 LONDON REV. IN'TL LAW 1 (2025).

7 *See also generally* Hamilton, *supra* note 1; Molly K Land*, Democratizing Human Rights Fact-Finding*, *in* THE TRANSFORMATION OF HUMAN RIGHTS FACT-FINDING (Philip Alston & Sarah Knuckey eds., 2016).

8 As Libby McAvoy observes, "[p]racticing solidarity in open source investigation could be key to bridging the content-creator/content-analyzer divide." Libby McAvoy, *Centering the "Source" in Open Source Investigation*, OPEN GLOB. RTS. (Jan. 21, 2021), https://perma.cc/4K7X-NDA2.

II. THE ROHINGYA GENOCIDE ARCHIVE (MYANMAR)

In 2017, videos showing atrocities perpetrated by the Myanmar military against the Rohingya, a minority Muslim population in Myanmar, began emerging on social media. These videos revealed grave crimes including the burning of villages, forced displacement, sexual crimes, and others and were being shared across platforms such as Facebook, YouTube, and Twitter (now X). Other examples of user-generated evidence were not uploaded but remained on the personal devices of witnesses. Recognizing the potential for these videos to be taken down from social media platforms due to their graphic nature,[9] or forever lost if not backed up on personal devices, WITNESS worked with the Myanmar online news site, Rohingya Vision, to establish the Rohingya Genocide Archive.[10]

WITNESS trained members of the Rohingya community in archival workflows and shared tools that would facilitate the preservation and organization of the audio-visual evidence. This enabled Rohingya to lead the process of archiving, analyzing and cataloguing the evidence.

The decision to ground the documentation and archival process in local hands was based on the principle that those with direct experience of a violation are best placed to provide the nuance and context to ensure the accuracy and efficiency of the cataloguing process. For example, there are some villages that have similar names and were it not for the linguistic and cultural understanding of the Rohingya working on the project, the similar names might have been attributed to spelling inconsistencies. The names *Alel Chaung* and *Aley Chaung* for instance, which are two separate village tracts, could have easily been mistaken as one if catalogued by someone outside the community.

The process of cataloguing was not void of challenges. Some of the villages where atrocities took place had been bulldozed or razed to the ground by the Myanmar military. Often, the Rohingya names for their villages were different from what the Myanmar government called them, and the latter was the name reflected on Google Maps. And, in many cases, the government had already started erecting structures such as military bases on lands where those villages once stood.[11] Thus without name or visual recognition clues through which to identify the villages, it became very difficult to investigate using geospatial technologies. Even some of the Rohingya archivists who were born in such villages had trouble pointing them out on a digital map.

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9 On how this problem emerged for Syrian activists doing documentation work, *see* Rebecca J. Hamilton, *Social Media Platforms in International Criminal Investigations*, 52 CASE W. RES. J. INT'L L. 213 (2020).

10 Huey-Shin Choo, *Memorialising the Rohingya Genocide,* WITNESS (Sept. 2, 2023), https://perma.cc/LSS5-N2EQ.

11 *See Myanmar: Military land grab as security forces build bases on torched Rohingya villages*, AMNESTY INT'L (Mar. 12, 2018), https://perma.cc/8A5Y-DADC.

The solution was to mobilize individuals with historical knowledge of where the villages once stood, to physically access the location and share coordinates directly with the archival team for accurate cataloguing. Not only was this process time-consuming, but it also highlighted the shortcomings of systems reliant upon geospatial technology and reinforced the importance of collaboration with local communities. A truly robust, reliable, and compelling investigation should have the community at its heart. As Patrick Smith and co-authors note, this means ensuring that those directly affected "are no longer instruments of concern, but interlocutors in the investigative process and its forms of justiciability."[12]

III. #ENDSARS (NIGERIA)

In 2020, a youth-led movement in Nigeria called #EndSARS demanded the government disband a unit of the Nigerian Police Force known as SARS (Special Anti-Robbery Squad). This unit had become notorious for torture, extortion, unlawful arrests, extra-judicial killings, and other forms of human rights abuses. A series of nationwide protests were sparked in October 2020 following the emergence of a video showing a police officer killing a young Nigerian.[13] Throughout this period, WITNESS supported frontline activists with resources and guidance on how to document to the highest standards possible.[14]

The protests reached a tragic turning point on October 20, 2020, when the government's security forces were deployed to the Lekki Toll Gate and opened fire on unarmed protesters, killing and injuring many in the process. A livestream of the horrific events was broadcast via the Instagram account of one of the witnesses at the scene—Catherine Obianuju (also known as DJ Switch).[15] The violence unleashed by government forces drew widespread outrage and international condemnation.[16] However, in the immediate aftermath of the incident, the government tried to cover up the atrocity and engaged in a series of

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12 *See* Rees et al., *supra* note 3, at 27.

13 *See* Emmanuel Akinwotu, *Outcry in Nigeria over footage of shooting by notorious police unit,* THE GUARDIAN (Oct. 6, 2020), https://perma.cc/7T9G-Q7G6.

14 Witness, *Documenting and exposing human rights violations in Nigeria*, YOUTUBE (Oct. 13, 2020), https://perma.cc/DQX5-ZX9R; *see also* Adebayo Okeowo, *The role of video evidence in Nigeria's #EndSARS movement*, WITNESS (Oct. 20, 2020) https://perma.cc/4379-6KDH. WITNESS also engaged with partners through closed communication channels to provide filming tips and forms other guidance.

15 Suyin Haynes, *She Livestreamed the Shooting of Peaceful Protesters in Lagos. Now in Exile, DJ Switch is Still Fighting for the Future of Nigeria*, TIME (Dec. 17, 2020), https://perma.cc/7M3T-VF26 .

16 Sam Olukoya & Lekan Oyekanmi, *Nigerian forces killed 12 peaceful protesters, Amnesty says*, AP NEWS (Oct. 21, 2020), https://perma.cc/3HT4-XWT6.

denials. A disinformation campaign was launched to discredit the trustworthiness of the video evidence captured that night.[17]

Many of the frontline activists had feared this exact same thing would happen. One of them was Feyikemi Abudu, who posted a tweet at the time saying: "Please gather all the footage and save it. They will change the story in the morning. Gather everything."[18] DJ Switch, whose livestream became a key piece of visual evidence of the crimes committed by state forces that night, also later mentioned in an interview the reason for her filming. She said: "So let's make sure the world sees this so they don't change the story and tell people that we killed ourselves . . . I didn't want us to die in vain."[19]

Due to the different pieces of incontrovertible audio-visual evidence, the Nigerian military walked back initial claims that they had made denying culpability. Nevertheless, there were still denials as to the casualties of that night, with the government claiming that no one was killed.[20] Nigeria's Minister of Information at the time, Lai Mohammed, claimed that DJ Switch was a purveyor of fake news.[21] The Nigerian government used the Anti Money Laundering and Anti-Terrorism Acts to freeze the bank accounts of nineteen protestors, trying to paint them as individuals with ulterior motives.[22]

Several of those who had been part of the #EndSARS protests felt defeated by the sheer volume of disinformation by the government, even in the face of overwhelming video evidence collected by the protestors. This was due, in large part, to their inability to leverage verification skills in order to further fortify and defend the truth. One of the activists WITNESS worked with during the protests —Rinu Oduala—remarked on the absence of adequate collaboration with better-resourced international organizations as a major disappointment. She said:

> During that period, I wish we had built stronger collaborations with international fact-checking organizations to counter the disinformation more

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17 A full year later, the Minister of Information continued to describe it as a "phantom massacre." *See* Stephanie Busari et al., *Nigerian judicial panel condemns 2020 Lekki toll gate shooting as 'a massacre'*, CNN (Nov. 16, 2021), https://perma.cc/J8B3-9PTJ.

18 *See* FK. (@fkabudu), X (Oct. 20, 2020, 4:01 PM), https://perma.cc/29AX-KU2X.

19 Lola Ogunnaike, *"It Was a Horror Show": Inside the #EndSARS Protests Against Police Violence in Nigeria*, GQ (Oct. 27, 2020), https://perma.cc/9GMF-EBFT.

20 For example, at different times, the Nigerian Army claimed that they were not at the scene and that they never fired at the protesters. Both these claims were later reversed and the Army admitted being at the scene and claimed to have fired only rubber bullets. *See* Arise News, *Lekki Shooting: Nigerian Army Admits Deploying Live Rounds But Insists Only Blanks Were Used*, YouTube (Nov. 22, 2020), https://perma.cc/J87X-KT9D. ("Lekki shooting: Nigerian army admits deploying live rounds but insists only blank rounds were used").

21 Stephen Kenechi, *Lekki shooting: DJ Switch will soon be exposed . . . she's a fraud, says Lai,* THE NATION (Nov. 19, 2020), https://perma.cc/KG4J-ZFB9.

22 Central Bank of Nigeria Press Release, *CBN Freezes Accounts Linked to #EndSARS Promoters*, POLICY AND LEGAL ADVOCACY CENTRE (Nov. 12, 2020), https://perma.cc/TJF6-XVGL.

> systematically and amplify the truth globally. While we worked hard on social media to protect the integrity of the videos, the government's denial machine was relentless, and we underestimated how relentless the disinformation would be. More could have been done to preemptively counter false narratives in real time e.g. having more coordinated efforts with global allies.[23]

Such collaboration did not occur. However, on November 18, 2020, CNN released an investigative report that corroborated the video evidence of #EndSARS protesters.[24] The CNN report revealed that soldiers from the Nigerian Army fired live ammunition into the crowd of peaceful protesters. In verification work akin to that done by domestic law enforcement or war crimes investigators, the CNN report also identified bullet casings at the scene that it linked back to the type of weapons commonly used by the Nigerian military.[25]

Many #EndSARS activists viewed the CNN report as vindication and validation of their video evidence.[26] But at the same time, this exposed the problem that exists within the ecosystem of emerging investigative practices—the concentration of verification skillsets in the hands of a few well resourced, Global North institutions.

These examples from Myanmar and Nigeria underscore the importance of the democratization of skillsets and pluralization of tools for bolstering the trustworthiness of user-generated evidence. As the Rohingya archival project shows, centering frontline communities can have concrete benefits to the accuracy and utility of digital evidence. Yet, as the #EndSARS experience shows, simply recording and preserving accurate digital evidence is unlikely to be enough to counter concerted efforts to undermine the truth about the events that were documented. Even in advance of the use of generative artificial intelligence to produce synthetic media cheaply and at scale, disinformation campaigns, like those pushed by the Nigerian government, impose insurmountably high verification demands on low-resourced local communities who are trying to establish the truth through digital evidence.

IV. PREPARING FOR THE VERIFICATION DEMANDS OF A TAINTED INFORMATION ECOSYSTEM

"Seeing is believing" has long been a truism. Until very recently, mis- and dis-information campaigns that could undermine people's ability to believe audio-visual evidence were limited to well resourced actors, commonly states.

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23 Interview with Rinu Oduala, (Jan. 3, 2025).

24 *See* Stephanie Busari et al., *'They pointed their guns at us and started shooting'*, CNN (Nov. 18, 2020), https://perma.cc/R93H-83Z9 ("CNN investigation sheds new light on anti-brutality protest").

25 *See id.*

26 *See, e.g.*, @_UncleAlex, X (Nov. 18, 2020 9:34 AM), https://perma.cc/Y3SP-HE3H; @Onaz_confidence, X (Nov. 18, 2020 12:23 PM), https://perma.cc/7LT7-96JC .

Generative artificial intelligence is poised to change this, enabling the fast and near-costless production of synthetic media at scale by anyone with a stable internet connection. This, in turn, will (rightly) undermine the trust that the public has in the idea that they can believe what they see. This is obviously a problem for societies at large. But it is a particular problem for those seeking accountability for wrongdoing.

One response, in the face of this increasingly tainted information ecosystem, is to take the position of an international judicial institution, and ask what verification standards would be required to convince a judge that the digital evidence they are seeing is authentic. This, in essence, identifies the problem as the same one that faced user-generated evidence from the outset. Yet defining the problem in this way creates a path dependency towards the kinds of solutions that satisfy judges and is likely to replicate the same dynamic that initial efforts at professionalization in this space created—namely reducing the access and agency that frontline communities had to fortify the truth for themselves.

An alternative reaction, and one we advocate, is to ask any given frontline community what tools and skills they would need to push back against efforts to delegitimize their work. Sometimes, this might mean gaining access to the kind of high-level verification technology that would convince a court in The Hague that a piece of digital evidence was authentic. At other times, access to advanced visualization technology of the kind utilized by Situ Studio, or Forensic Architecture, would help communities present their truth. At present, such technology is often cost-prohibitive, and both low-cost access to it, and the training required to utilize it, should be made available to communities. Yet, these advanced tools are unlikely to be what is most needed in most cases. Indeed, some communities have explained that in their local context, these exact tools may be counterproductive, since the use of artificial intelligence to generate advanced visualizations only increases skepticism about the authenticity of what the community is presenting.[27]

Across the board, the biggest need lies not in access to advanced tools, but to basic skills such as reverse image searching. A lack of language localization is also a widespread problem. To take just one concrete example, major social media platforms often fail to remove content that violates community standards because their algorithms cannot detect racist slurs or calls to gender-based violence that are posted in local languages.[28] Frontline communities need support to develop

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27 Interview by WITNESS with Fisayo Soyombo on the adoption of AI and other forms of emerging technologies for 3D modeling and presentation in journalism and human rights reporting (Feb. 16, 2024).

28 *See, e.g.*, Rebecca J. Hamilton, *Governing the Global Public Square*, 62 HARVARD INT'L L. J. 117 (2021) (discussing the inability of Meta's platform, Facebook, to detect casteist language in India).

lexicons of hate speech in Indigenous language so that such speech can be identified and removed.

With the volume of mis- and dis-information threatening human rights globally, frontline communities need a range of locally relevant skills and tools to defend the truth and protect their rights. Techniques and technologies developed to satisfy the requirements of international accountability mechanisms are one aspect of this project, but they should not become the singular standard for establishing truth.

We conclude in favor of fostering collaborations that ensure communities have agency and support to fortify the truth in ways that serve their own accountability goals, including at the local level, and distribute the burden of responsibility across all stakeholders—including software developers, platforms, and investigators.