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**Distributed Ledger  
Technologies  
& Humanitarian  
Assistance: Next Steps**

**Policy Brief #1**



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## Overview

**The global and humanitarian interest in distributed ledger technologies (DLTs) is evident. Yet until now there has been no comprehensive survey of the evidence from humanitarian DLT pilots.**

In 2018, GAHI, supporting a group of humanitarian stakeholders,<sup>1</sup> commissioned 'State of Blockchain and Distributed Ledger Technologies in the Humanitarian Sector' (Coppi and Fast, Humanitarian Policy Group, ODI, 2019). The research team was tasked with identifying 'knowledge and evidence gaps... potential risks, pitfalls, opportunities and advantages' and to make recommendations for the future, based on evidence. It leveraged GAHI's position as a neutral convenor to 'de-risk' sharing programme insights and documentation in a cooperative, rather than competitive fashion. Access to evidence, coupled with 35 stakeholder interviews provides substantial insight into the reality of DLT implementation.

The paper shows that DLT pilots have generated marked efficiency gains but have not brought greater accountability and transparency to crisis-affected people. The findings make clear that the risks to practitioners, humanitarian organisations, and affected people are poorly understood and not mitigated. This Policy Brief draws on the evidence from this paper and the research process to identify four targeted recommendations for GAHI's members and the wider humanitarian community.

### DLT OR BLOCKCHAIN, WHAT'S THE DIFFERENCE?

Distributed Ledger Technologies (DLTs) are electronic ledgers which are replicated and kept updated across multiple devices known as nodes. This makes them theoretically very transparent and hard to manipulate or tamper with. Blockchains, in which each entry is a timestamped, cryptographically-secure entry linked together in a growing list, are one type of DLT, and perhaps the best known. The two terms are often used interchangeably, but in both the research paper and this Brief, we use the term 'DLT', as not all of the case studies that arise can be defined as 'blockchains'.

<sup>1</sup> DFID's Blockchain Advisory Group includes representatives of the following organisations: WFP, UNHCR, START Network, USAID, Oxfam, IFRC, The Beec Center for Social Impact and Innovation, UNDP and GAHI.

## Takeaway 1

### DLT pilots show the potential for back-office innovations to create measurable efficiency gains

Most of the case studies examined by the paper simplify or improve back-office processes required to deliver aid. These examples use DLTs as small pieces of systems, bookended by traditional analogue and financial infrastructure. Case studies here report a 98% reduction in transaction costs (World Food Programme - Building Blocks) and a 78% reduction in overhead costs (World Vision International - Sikka), mostly by eliminating intermediaries. This suggests both potential for the specific technology, but also broader room for efficiency gains in back-office functions.

#### RECOMMENDATION 1:

##### Develop evidence for the potential impact of innovation in back-office functions

- Commission research to understand the prevalence of opportunities for improvements to efficiency and value for money of back-office functions; and
- Develop and apply an evidence framework for organisations scaling back-office pilots. Such a framework should provide insight into changes to impact as projects scale; the paper reports that early pilots were small and conducted in hothouse conditions, and may have implications for the economies of the systems they disrupt.

## Takeaway 2

### DLTs have transformative potential, which is very far from being realised

The paper points to the potential for DLTs to help realise:

**‘a perfectly distributed humanitarian system where intermediaries become progressively less active and needed in the network, [and] the role of traditional actors could dramatically evolve or even become irrelevant.’**

If we accept that a primary function of the international system at present is to carry out specific functions (needs assessment, registration, aid distribution and monitoring), the potential role of DLTs might be to replace some of these functions, or allow them to be run locally, by fewer staff. DLTs, in theory, offer new ways of transparently and publicly tracking the journey from donation to aid and decision-making processes along the way. This could allow humanitarians to explore distributing power to local communities, in accordance with the principles of the Grand Bargain. There are practical challenges here (e.g., the infrastructure for such end-to-end systems is absent in many humanitarian contexts) as well as ethical ones (e.g., it may not even be desirable for this vision to come to pass for many implementations of DLTs, such as digital ID or distribution of cash).

However, the paper’s survey finds only DLT projects that ‘replicate the governance and power dimensions of the systemic status quo.’ Systems are generally closed, private chains with a few private nodes and private ledgers. In contrast to the dramatic disruptive potential ascribed to DLTs, these early pilots do not disrupt, but only increase trust and transparency in the humanitarian system in limited ways. Because their impacts are to internal systems - or example, reducing the cost of delivering a voucher programme to affected people, for and within one agency - their benefits only accrue indirectly to communities.

The authors suggest a ‘public and inclusive discussion’ about how a distributed humanitarian system might be designed and achieved. However, we see the opportunity to combine the potential transparency, accountability and community ownership of DLT solutions with the existing movement towards improved sector-wide accountability to affected people and subsidiarity to communities.

#### RECOMMENDATION 2:

##### Undertake robust analysis of challenges and barriers to adoption in cases where DLT presents an opportunity

- Explore the use of DLT, perhaps focusing initially on feedback mechanisms in collective efforts such as the Lebanon Cash Consortium, or the Communication and Community Engagement Initiative. These could provide operational environments to build knowledge on how DLT can support genuine accountability. Additionally:
  - Co-designing with an affected population is a good practice model that would offer significant benefits to the wider ecosystem
  - This would allow an initial engagement with the theoretical potential of DLT to change power relationships
  - The cost efficiencies suggested by the HPG/GAHI case studies indicate that DLTs could reduce the cost of managing feedback mechanisms, strengthening their business case; and
  - Doing so could enhance capacity and understanding of DLTs at the local level, in support of localization efforts such as the Grand Bargain, and the broader principle of locally-owned innovation.

## Takeaway 3

### DLTs showcase the serious risks of innovative technology for humanitarian action

DLTs can pose enormous risks to both implementing organisations and beneficiary communities. They may formalise or store critical pieces of personal data or make them vulnerable to misuse in new ways. As the research documents, failures of implementation may create new protection risks for vulnerable populations who may not even know they and their data are touched by these innovations. The hurried implementation of new technologies like DLTs can import biases from the technology into the humanitarian programming – here, the political origins may have implications for its application in social programmes that need to keep communities and vulnerable groups firmly in mind. Organisations risk legal, financial and reputational damage through vulnerability to bad actors, public accountability for errors or failing to understand the law. Yet, all of these risks are poorly articulated, understood and evidenced.

#### RECOMMENDATION 3:

Recognise and mitigate the risks DLTs pose to organisations and the vulnerable populations they serve

The risks to vulnerable people of digital projects, including DLT projects, are poorly understood. GAHI urges the rapid, collective development of a taxonomy of the potential harms and risks of DLT projects including both protection risks to vulnerable people and the legal, operational, and financial risks to organisations. This effort might build into or be part of broader efforts, brokered by the ICRC, to create a similar taxonomy of harms for digital data in the humanitarian realm:

- The time has come for the humanitarian sector to agree to ‘common core minimum digital data protection standards’. These should be guidelines that recognise that organisations are guided by different principles, so that one binding code of conduct may not be appropriate – but that data responsibility contains within it certain core elements that should be present in any such policy or standard. Data responsibility must go beyond mere privacy concerns around personally identifiable information to the broader protection risks stemming from digital harms. GAHI is working to develop a draft of such guidelines in the spring of 2019; and
- The complexity of national and international law around both DLTs and digital projects more broadly needs clarifying. GAHI suggests articulating the problem and identifying potential resources and solutions through a convening focused on such legal issues. This might be prompted by a sub-working group element of GAHI’s Collective Platform on Data Ethics but could also be independently convened.

#### RECOMMENDATION 4:

Catalyse collective, networked action to enable responsible digital innovation across the sector

There is an urgent need to both build usable resources to ensure ethical evidence and create a shared and transparent evidence base for the sector. There are two concrete ways for the emerging field of DLT within humanitarian aid to contribute to this wider goal:

- First, Humanitarian DLT practitioners should urge broader adoption of, and commitment to the Digital Principles within their own institutions, recognising the importance of good digital practice for success and ‘do no harm’. The Principles succinctly capture good practice that would address many of the problems the paper describes, and have already been publicly endorsed by many humanitarian actors and donors. They imply participatory design, effective context and market analysis prior to technology selection, and reuse of and contribution to open platforms; and
- Second, commit, within the humanitarian DLT community, to practices of open sharing of resources and learning. Practitioners should share market assessment frameworks, system specifications and completed analyses; participatory design methodologies; evaluations and other learning products; and other assets that would help address the sector’s dearth of expertise in this area and support an improved knowledge base.

## Conclusion

The humanitarian sector must manage risk and build evidence before scaling DLT projects – but may not yet be ready to embrace their disruptive potential. The operational opportunity for DLT is starting to emerge – based on evidence. But the theoretical transformation of the sector – the digital opportunity – will require more collective action and a deeply ethical approach, and significant work is required to reach this standard.



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