

**INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

**Geneva, Switzerland
18-22 January 2020**

Contribution by WFP

to the CSTD 2020-2021 priority theme on “Harnessing blockchain for sustainable
development: prospects and challenges”

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PRIORITY THEME 1: Harnessing blockchain for sustainable development: prospects and challenges

United Nations Commission on Science and Technology for Development (CSTD)

Dear international organization/UN entity/agency,

As you are aware, the CSTD 23rd annual session selected “Harnessing blockchain for sustainable development: prospects and challenges” as one of the priority themes for its 24th session (2020-21 period).

In an increasingly digitalized economy and society, the security and accountability of data transactions are critical elements for creating trust and enabling breakthrough innovations in the digital world. In this regard, blockchain technology has been perceived as a game-changer, with the potential to revolutionize processes from finance to pharmaceutical industries, from humanitarian work to development aid. The blockchain serves as the base technology for cryptocurrency, enabling open (peer-to-peer), secure and fast transactions. The application of blockchain has expanded to include various financial transactions (online payments and credit and debit card payments) as well as IoT, health and supply chain. However, issues associated with scalability, privacy concerns, uncertain regulatory standards and difficulties posed by the technology in integration with existing applications are some of the potential market constraints. The priority theme will focus on the importance of developing a local financial infrastructure that avoids financial exclusion of the most vulnerable communities. There is also the risk that the potential of blockchain for solving developmental problems had been somewhat inflated by its early adopters and the tech media and may not be as applicable for developing and least developed countries. What are the emerging uses of blockchain that can be breakthroughs in accelerating progress towards the SDGs? What are the potential negative unintended social and economic effects of this technology? How could governments maximize the opportunities and minimize the risks? The CSTD could consider this priority theme to examine the potential of harnessing blockchain for sustainable development.

The CSTD secretariat is in the process of drafting an issues paper on the theme to be presented at the CSTD inter-sessional panel meeting. In this context, we would like to solicit inputs from international organizations, UN entities and agencies on this theme. We would be grateful if you could kindly answer the following questions based on your organization’s work.

1. Could you share specific examples, projects or initiatives that have used or plan to use blockchain technology for the SDGs? What are the main challenges confronted while trying to implement these projects/initiatives? (Examples may include blockchain solutions for financial inclusion, trade facilitation, supply chains, health, energy, e-Government, etc.)

The Atrium SDG 17 (Partnerships for the Goals)

The Atrium is a platform that focusses on encouraging cooperation between UN Agencies by stimulating learning and knowledge transfer of both IP and experience between UN staff members interested in blockchain technology. An underlying private-permission blockchain has been set up to enable the use of Remix – a smart contract development and deployment tool - and provision of tokens via the Bounties platform – which allow for the creation of micro-tasks incentivised through a token (in this case an ERC20). Therefore, it focusses on SDG 17 – Partnerships for the Goals

Blocks for Transport SDG 2 (Zero Hunger)

Blocks for Transport is a supply chain digitisation initiative to increase the efficiency of the food transport between the Port of Djibouti through the Ethiopian supply chain corridor to destination warehouses. This initiative aims to deploy a private-permissioned blockchain between the supply chain participants from whom authorisation is needed.

Building Blocks SDG 2 (Zero Hunger)

The first large-scale deployment of blockchain, Building Blocks is a voucher delivery platform created to simplify voucher transactions by removing the need to create custodial virtual accounts with financial services providers. Currently Building Blocks serves approximately 700,000 beneficiaries in two

countries. Furthermore, UN Women are also a member of Building Blocks and, therefore, this initiative focusses on both SDG 2 – Zero Hunger and SDG 17 – Partnerships for the Goals

Key Challenge(s):

- Governance and the relinquishing of system control are key challenges when developing a blockchain system which normally starts as a pilot championed by one key individual, and then requires a system to be built around it. Furthermore, the translation between technical requirements and responsibilities and the business impacts is a core challenge as there is a significant amount of technical jargon creating a barrier to understanding for managers.
- Bringing on participants into the blockchain is also a challenge as, in many cases, the obvious benefit might not be initially visible. Many blockchains can operate without a distributed infrastructure, however this goes against the value of the blockchain as it centralises authority. A visible and tangible application-level benefit needs to exist for organisations to join DLTs.

2. What are the challenges that governments have faced or may face for promoting innovation and competence building in blockchain, to contribute to their national development priorities and accelerate the progress towards the SDGs?

Based on secondary and tertiary knowledge, below is a list of challenges that governments may encounter:

1. **Ensuring that the appropriate regulatory frameworks are designed to support fintech and other innovation is an important step that governments need to take.** There is already a clear distinction between 'blockchain' innovation and 'cryptocurrency' whereby the latter is far more thorny as a topic as convertible complementary currencies can challenge national fiat currencies. So the creation of an 'innovation risk profile' is required when considering blockchain and cryptocurrency innovation so that all activities are not painted with the same brush.
2. **Internal percolation of ideas and innovation is a challenge in most organisations let alone in large political bureaucracies.** Ensuring that the appropriate structures are put in place to allow for new ideas to make their way through the organisation is important – a great book on this subject is 'Loonshots' by Safi Bahcall. Governments will likely face significant challenges in ensuring that ideas that are supportive are given the needed space and encouragement to succeed (e.g. land-rights registry in Ghana).
3. **Blockchains require a significant amount of work and stewarding to ensure they operate appropriately at a governance level.** Blockchain can significantly reduce process workload through heightened levels of information transparency leading to greater velocity of decision making, but at a system level they require significant governance stewarding and support to ensure they are appropriately delivering the intended value – be that through data quality assessments, security assessments, active maintenance, protocol and consensus decisions, etc.

3. What are the actions that the international community, including the CSTD, can take to contribute to harnessing blockchain for sustainable development?

A significant amount of work has already gone into supporting the development of blockchain infrastructure by a large number of organisations. A few additional areas of support could include:

Strategy Level:

1. A clear and actively updated international regulatory map to understand which countries are more or less supportive of blockchain innovation and cryptocurrency innovation (separately identified as per previous notes).
2. Strategic analysis of where blockchain is influencing development and humanitarian assistance and active convening of thought leaders to discuss where they see the industry going (these used to happen, but recently there have been much fewer).
3. Guidelines for governments on developing innovation risk assessments for the creation of appropriately delineated sandboxes to stimulate innovation (could be applied more broadly than blockchain)
4. Convening of the international community on the ethical delivery of blockchain initiatives.

Application and Delivery Level:

1. Coordination between donor grants for blockchain initiatives (creating a platform to simplify the access and availability of donor grants specifically associated with blockchain)
 2. Join the Atrium and stimulate discussions around key topics concerning the UN and international space on blockchain
 3. Research and develop actionable governance guidelines and recommendations for UN and international blockchains.
4. Could you suggest some contact persons in your agency responsible for projects/policies and international collaboration in this context as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area? We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.

Houman Haddad – Head of Emerging Technologies WFP

Kyriacos Koupparis – Head of Frontier Innovations WFP

Yorke Rhodes III – Microsoft, head of blockchain

Shailee Adinolfi – Consensus

Ric Shreves – Mercy Corps

5. Do you have any documentation, references, technological assessments, future studies or reports on the priority theme?

A good resource for blockchain applications in the social impact space: <https://positiveblockchain.io/>

A good report on the topic: <https://www.giz.de/en/downloads/giz2019-EN-Blockchain-A-World-Without-Middlemen.pdf>

Please send your responses and any further inputs on the theme to the CSTD secretariat (stdev@unctad.org) by 7 October 2020. We look forward to receiving your valuable inputs.

Sincere Regards,

CSTD secretariat