



DEMYSTIFYING BLOCKCHAIN AND ITS USES FOR INTERNATIONAL DEVELOPMENT

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ACRONYMS

AML	Anti-Money Laundering
BAA	Broad Agency Announcement
CSO	Civil Society Organization
ICO	Initial Coin Offering
KYC	Know Your Customer
NGO	Non-Governmental Organization
RFID	Radio Frequency Identification
RFP	Request for Proposals
SI	Social Impact, Inc.
UNCDF	United Nations Capital Development Fund

EXECUTIVE SUMMARY

This report summarizes a two-day training event held on June 18 and 19 for USAID regional staff, followed by a one-day Practicum for USAID staff and partners. Fifty-two participants attended the two-day training, and seventy-eight participants attended the one-day Practicum. The training and Practicum provided an opportunity for USAID staff and partners to gain a deeper understanding of how Blockchain technology works. The training also enabled participants to understand the basic steps required to implement Blockchain in a development project, discuss potential challenges and limitations, and examine case studies on its various potential uses, including cases in the international development sector such as financial inclusion, agriculture, land registry, health, and payments.

The objective of the event was to build the capacity of USAID staff and partners in Asia to integrate uses of Blockchain technology into the design, implementation, monitoring, and evaluation of programs. The training strengthened the participants' understanding of Blockchain tools and how it can be integrated into programming across development sectors. The training also informed participants about current trends and applications for Blockchain technologies, as well as provided opportunities for public - private collaboration. The evaluation of the training and Practicum can be found at Annex 3.

The evaluation and post-training survey demonstrated that participants increased their level of knowledge of blockchain technology and topics. Respondents noted the value of working groups, discussion-oriented sessions, case studies, and practical examples. Participants also valued the importance of pairing USAID and development partners with Blockchain experts. The majority of attendees had a clear idea of how they would utilize Blockchain in their operations and programming, while one third of participants expressed interest and intent to do additional research and brainstorm ideas regarding Blockchain utilization.

KEY LEARNINGS

There are many use cases for Blockchain in international development; however, most are still in the proof of concept stage.

- Blockchain has the potential to solve some major problems in international development.
- Applications at scale may not be seen until 2019.
- There is an opportunity for international institutions to help shape the technology.
- There are decisions to be made about where data are held – on chain or off chain.
- Government regulations are moving slower than the technology. There is a tendency to focus on the cryptology and security side, rather than the areas that the technology would benefit from regulation, such as ownership, etc.
- Monitoring and verification are still important, including quality and validity of what goes into the Blockchain.
- Intermediaries will be removed from the supply chain; understanding the implications of this change will be a key aspect to integration with public sector work.

The Use Case presentations were very helpful for participants to understand how application of the technology can apply to development programs:

- There is a need to consider who has access to digital IDs and how the public sector will address this new tool.
- Self-Sovereign Identity¹ is being developed and a web of trust being built out using attestations, claims, and reputation.
- Don't complicate user experience, keep it simple.
- Change management is an essential element for any technology roll out.
- Careful attention is needed for economic and business models.
- Blockchain is not a goal, but a tool.
- There are many platforms being developed, so be "platform agnostic" in application development

¹ Self-sovereign identity is the concept that people and businesses can store their own identity data on their own devices and provide it efficiently to those who need to validate it without relying on a central repository of identity data. Link: <https://bitsonblocks.net/2017/05/17/a-gentle-introduction-to-self-sovereign-identity/>

BACKGROUND



The world is changing rapidly with the development of new and disruptive technologies, including Blockchain. Now, the speed at which technologies emerge has increased tremendously and technological barriers are scaled daily. In August 2016, the World Economic Forum released a [report](#) calling Blockchain technology a "mega-trend" that will shape society in the next decade, predicting that Blockchain could store as much as 10% of global GDP by 2027.

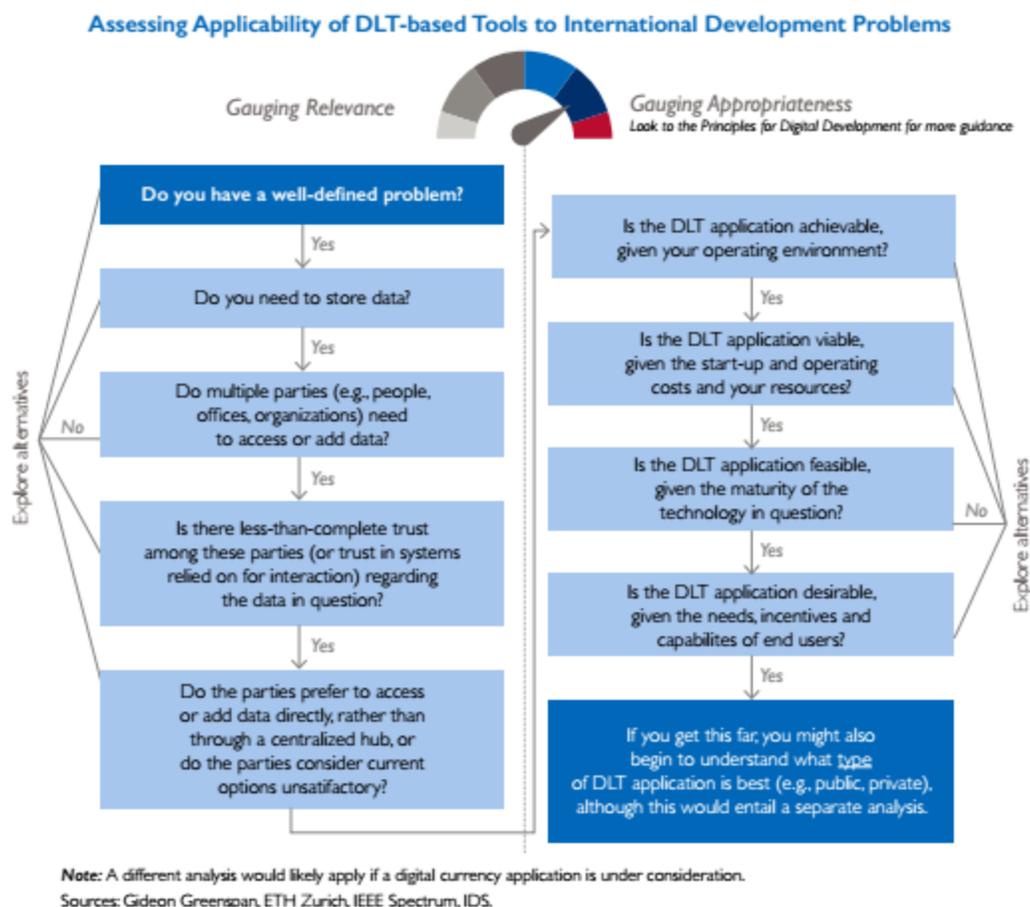
Blockchain is, in essence, a distributed data base which enables certainty about:

- Who (or which account did something);
- When something happened;
- How much of something there is.

Blockchain uses advanced cryptography and a consensus mechanism to verify that each block of data can be added to the chain. Once a block is on the chain, it cannot be changed, which is why people describe it as immutable. Because it is distributed, it is almost impossible to hack, because multiple computers across the world would need to be hacked simultaneously. Its benefits are speed, efficiency, transparency, security and immutability. Blockchains are not a panacea, but if deployed and used appropriately could be a powerful tool to solve problems. Figure One summarizes when to apply Blockchain to a development problem.

Technologies, such as Blockchain, have potential to address a number of long standing problems in international development. The public sector the world over needs to be informed of these emerging technologies and understand their impact. There are opportunities for developing countries as disruptive change may bring unique opportunities to “leapfrog” or bypass legacy technologies, an issue that advanced economies confront. There is growing global interest in how these emerging technologies can be used to tackle old development challenges, and to prepare governments for changes that are currently underway.

Figure 1. FLOWCHART DESCRIBING IF ONE NEEDS TO USE A BLOCKCHAIN²



TRAINING PROGRAM OBJECTIVES

Blockchain enthusiasts contend that the technology will greatly expand opportunities for economic exchange and collaboration by reducing the need to rely on intermediaries and the friction associated with them. The technology is obviously appealing to the international development sector, where trust—between individuals and institutions—is seen as an important precursor to growth.

Embracing a technology at such an early stage can provide benefits and limitations. To engage with emerging technologies, organizations can be actively engaged in ensuring the technology grows to address the industry’s needs. However, organizations can begin to rely on the technology before they fully understand it, opening themselves up to risks that can be difficult to manage in already challenged environments. These concerns should provide a frame and filter to how organizations engage with the technology, as opposed to justification for avoiding its use.

To better inform public sector development practitioners, a two-day training was held on June 18 and 19, 2018. The training provided an opportunity for USAID staff and partners to gain a deeper understanding of how Blockchain technology works. The training also enabled participants to understand the basic steps required to implement Blockchain in a development project, discuss potential challenges

² <https://www.usaid.gov/sites/default/files/documents/15396/USAID-Primer-Blockchain.pdf>

and limitations, and examine case studies on its various potential uses in international development sectors, such as: financial inclusion, agriculture, land tenure, health, cash payments, and other areas.

The objective of the course was to build the capacity of USAID staff and partners in Asia to integrate use of Blockchain technology into the design, implementation, monitoring, and evaluation of programs. The training provided participants with the confidence to include Blockchain tools and methodologies in USAID development objectives and programs across development sectors. The training also informed participants about current trends and how Blockchain technologies are being applied, as well as provided space for partnerships or public/private sector collaboration. Fifty-two participants attended the two-day training. The results of participant evaluations can be found in Annex 3.

INTRODUCTORY SESSIONS



Two introductory sessions gave participants an introduction to the use of Blockchain for International Development, as well as a basic introduction to the technology. A summary of use cases can be found in Figure Two below.

Figure 2. SUMMARY OF USE CASES FOR INTERNATIONAL DEVELOPMENT

Identity	Economic growth
Democracy	Provenance
Financial inclusion	Government efficiency and transparency
Land and assets registration	Increased financial protection
Government and donor payments	Improved responsiveness of government and social accountability
Supply chains of medicines	Remittances
Green energy	Climate finance

KEY LEARNINGS AND OUTSTANDING ISSUES

There are many use cases for Blockchain in international development; however, most are still in the proof of concept stage.

- Blockchain has the potential to solve some major problems in international development.
- Applications at scale may not be seen until 2019.
- There is an opportunity for international institutions to help shape the technology.
- There are decisions to be made about where data are held – on chain or off chain.
- Decisions about how to control privacy using public and private keys.
- Government regulations are moving slower than the technology. There is a tendency to focus on the cryptology and security side, rather than on the areas that the technology would benefit from regulation, such as ownership, etc.
- Cost of energy for maintaining the Blockchain.
- Monitoring and verification are still important, including quality and validity of what goes into the Blockchain.
- There will be winners and losers. This requires a better understanding of who will be losing, how much, and how that will influence development objectives.

- Intermediaries will be removed from the supply chain. Understanding the implications of this change will be a key aspect to integration with public sector work.

CASE STUDY PRESENTATIONS AND DISCUSSIONS



A curated group of Blockchain companies were invited to present case studies on key use cases for international development. These are summarized in Figure Three, and a copy of their presentations can be found in the annexes and on the workshop site:

<https://sites.google.com/site/Blockchain4id2018/workshopmaterial>.

Figure 3. CASE STUDIES

CASE PRESENTATIONS		
USE CASE	ORGANIZATION	LOCATION
Land Registry	Blockscale Solutions (Canada)	India
Tracking Donor Funds	Qadre (UK)	Swaziland
Identity	EverID (USA)	Global
Agriculture Value Chain	FHI 360 (USA)	Thailand
Government Registries	Civic Ledger (Australia)	Australia
Remittances	Bloom Solutions (Philippines)	Philippines

KEY LEARNINGS AND OUTSTANDING ISSUES

- The Use Case presentations were very helpful for participants to understand how application of the technology can apply to development programs.
- There is a need to consider who has access to digital IDs and how the public sector will address this new tool.
- Self-Sovereign Identity³ is being developed and a web of trust being built out using attestations, claims, and reputation.
- Key issues with ID are creation, storage, and verification.
- The cost of transactions and the cost of build needs to be better understood.
- The design needs to consider the political economy context, or the Blockchain will be 'garbage in, garbage out.'
- How are the fluctuations of crypto currency handled?

³ Self-sovereign identity is the concept that people and businesses can store their own identity data on their own devices and provide it efficiently to those who need to validate it without relying on a central repository of identity data. Link: <https://bitsonblocks.net/2017/05/17/a-gentle-introduction-to-self-sovereign-identity/>

- What assurances exist so that the rural poor and the illiterate can buy in?
- Legal identity issues in working with refugees - what happens within camps when children are born but are stateless?
- Don't complicate the user experience, keep it simple.
- Change management is an essential element for any technology roll out.
- Careful attention is needed for economic and business models.
- Blockchain is not a goal, but a tool.
- There are many platforms being developed, so be "platform agnostic" in application development.

RISKS AND CHALLENGES

Through a moderated session, participants identified what they considered to be the key risks and challenges:



- Cross border payment issues.
- Informed consent for illiterate people.
- Size of network is a critical aspect of Blockchain (the network effect).
- Cost of transactions.
- There will be winners and losers.
- Need to consider reality on the ground in developing countries.
- Energy consumption – how to ensure these issues are resolved.
- Legal and regulatory considerations.
- Compliance with existing data security and privacy laws.
- What is needed to upgrade existing laws to facilitate the use of decentralized models.
- Developing legal frameworks aimed at supporting decentralized approaches could take a significant amount of time and be contentious.

MODELS FOR PROCURING AND FINANCING TECHNOLOGY INNOVATION



CURRENT MODELS FOR PROCUREMENT

Acquisition: obtaining goods and services, through contracts. Interested organizations submit a proposal in response to a Request for Proposals (RFP) that states the Agency’s requirements and how USAID will evaluate and select the successful offeror/bidder.

Assistance: transferring funds from USAID to another party for the implementation of programs that contribute to the public good. Interested organizations submit an application which provides a program description based on a Request for Applications from the Agency, which describes how USAID will evaluate and select the successful applicant.

OTHER PROCUREMENT MODELS

Grand Challenges: Contracting technique used elsewhere in the U.S. government to involve new actors in addressing development challenges. For example, there is \$30 million [grand challenge](#) calling on innovators to submit ideas to combat Zika and “the disease threats of tomorrow.”

[Grand Challenges for Development](#) | USAID

[Development Innovation Ventures Program](#) | USAID

[Mission Programs](#) | USAID

Broad Agency Announcement (BAA): new way to communicate with partners to design solutions before determining what procurement tool may be the best fit. BAAs allow partners to develop better solutions together than they could have developed alone.

These mechanisms do not prohibit inclusion of Blockchain in their program designs. Each program designer must carefully consider the benefits and challenges of each mechanism when designing their program.

TENDER EVALUATION: CURRENT MODEL

- Past Performance
- Technical Approach
- Personnel
- Corporate Capability
- Management Plans

Some participants noted that the current model may not work well for technology.

OTHER FUNDS USAID COULD PARTNER WITH

The following entities have demonstrated a commitment to investing in emerging technologies and could serve as a worthwhile partner for co-funded initiatives.

[Acumen Fund](#)

The Acumen Fund is a social enterprise incubator for projects and businesses in communities with emerging economies.

[Grassroots Business Fund](#)

Grassroots Business Fund is a social enterprise incubator. It invests in companies working in agribusiness, bottom-of-the-pyramid service, artisanal programs, and financial innovation.

[Invested Development](#)

Invested Development is a small social enterprise incubator with a focus on alternative energy and mobile technology start-ups.

[Google Impact Awards](#)

Google awards grants to non-profit organizations to jumpstart technological innovation to address the world's tough social challenges.

KEY LEARNINGS

Innovation Often Originates in Developing Countries

- Users may be far better at finding innovative uses than suppliers or aid agencies.
- Consumers should be mined for innovative ideas.

Test a Suite of Technologies Rather than One

- Testing aid-funded technology interventions on a bespoke basis is inefficient.
- Build in, test, and adjust as part of the project development process.
- Support technologies for low-cost monitoring, including satellite monitoring and mobile phone-based survey approaches.

Determining Use Cases

- What is the problem? – Need a variety of sector specialists, technical experts, and policy specialists to develop solutions and understand the tools available.
- Test Assumptions - Don't assume that centralized solutions are always second-best, and that trust is always lacking.
- Consider Tech and Context - technology has varied impacts in different environments, making context a critical piece in determining good use cases.

Evaluation

- Evaluate context.
- Shorter feedback loops.
- Evaluation tools should be used as part of the learning process.

Need ongoing data gathering & analysis for design, testing, and rollout of technological solution

- Due diligence.
- Financial sustainability - mobile charges, platform charges.
- Partnerships with platforms and mobile providers.
- Intellectual property.
- Commercialization.

EVALUATION OF BLOCKCHAIN TESTING AND IMPLEMENTATION



Blockchain is an evolving innovation. Traditional M&E is focused on accountability or achieving pre-determined outcomes, whereas M&E systems that are designed for innovations, such as Blockchain, must be more learning focused. This would mean moving from traditional log frame and linear approaches to programs that are more agile and ‘sprint’-based micro-pilots that measure not only the adoption of technology, but also the dynamics involved in the socio-cultural and political economy space. Recommended approaches are the Developmental Evaluation Technique⁴ and Complexity Aware monitoring tools.⁵ These were presented during the workshop with specific reference to selecting and applying Blockchain technology in development projects.⁶

⁴ Developmental Evaluation: Applying complexity concepts to enhance innovation and use. Patton, m. q. (2011). New York: Guilford press; vii–375.

⁵ Bamberger, M., & Vaessen, J., & Raimondo, E. (2015) Dealing With Complexity in Development Evaluation - A Practical Approach. SAGE publications.

⁶ Gandhi, Valentine J, Evaluating Innovations through Innovative Evaluations, Workshop Module. June 2018 ([Refer Resource](#))

ROLE OF DEVELOPMENT AGENCIES

The deployment of Blockchain applications will continue to accelerate with or without government and international agency support. The workshop participants agreed that development agencies and the donor community need more knowledge not only to understand the benefits and pitfalls of this new technology, but also to help shape the conversation and the utilization of it so that it benefits as many people as possible. The industry representatives suggested how donors could support innovation and the rollout of new technologies in emerging markets where the risks are sometimes perceived to be too high for the private sector. For example, donors can collect evidence of the impact of Blockchain in developing countries and disseminate across a broad range of stakeholders; help facilitate connections between technology providers and other stakeholders that are necessary players in technology rollout (e.g. host government agencies, NGOs, CSOs, etc.); and help support the policy and regulatory environment being contemplated by governments. Other areas participants identified for potential donor support included:

- Help governments understand and prepare for policy and regulatory issues.
- Education and knowledge sharing across countries.
- Support innovation and the rollout of selected new technologies in implementation.
- Conduct small pilots and proofs of concepts for public good.
- Build the evidence and share it with countries and international institutions.
- Match and network technology companies with problems that they may be able to solve.
- Further research and evaluation as the technology rolls out.

WHERE IS FURTHER EXPLORATION NEEDED

Participants discussed where they saw knowledge gaps and identified areas where further exploration or research may be needed. These are summarized below.

USAID and Other Donors

Implementation and Testing	Knowledge Sharing	Research and Evaluation	Execution within USAID
<ul style="list-style-type: none">•Begin with selected Missions and Office of Transition Initiatives Countries•Roll out selected applications (e.g. donor supply chain and fund tracking)•Identify successful pilots and support proofs of concept	<ul style="list-style-type: none">•Share evidence on what works on Blockchain for development•Share what is needed to scale	<ul style="list-style-type: none">•Better understand relationships between technology, corruption, transparency, and national security•Political economy analysis	<ul style="list-style-type: none">•Internal gap analysis of USAID Operations related to Blockchain use•Develop collaboration models for working with industry partners

Private Sector

Industry partners also suggested some areas that donors could support them to be able to scale their solutions. These included:

- Help de-risk investments.
- Help overcome barriers to entry in developing countries, including access to finance.
- Work together on the policy environment and regulations.
- Facilitate access to “non-monetary” assets, such as introductions to government partners.
- Convene and amplify ideas to development practitioner’s governments and implementing partners.
- Collect and share evidence through monitoring, evaluation, and learning support.

NEXT STEPS

1. Refine this workshop and make it more accessible.
2. Provide technical support to Missions to help with developing requests for proposals, evaluating proposals, etc.
3. Undertake applicability landscaping – which countries or regions should be a priority.
4. Integrate digital technology into strategy across all programs.
5. Build internal technology resources.
6. Use an agile methodology program design, implementation, and evaluation.
7. Provide domain expertise to define problem statements.
8. Provide feedback to startups.
9. Using Blockchain internally to improve efficiency.
10. Apply Blockchain in USAID programs.
11. Support others (governments and other organizations) to use Blockchain.
12. Develop impact measurement tool for technology with rapid feedback loops.

USAID AND UNCDF PARTNER WORKSHOP AND BLOCKCHAIN PRACTICUM



Following the USAID Training, a one-day Partner Workshop and Practicum was co-hosted on 20 June 2018 with the United Nations Capital Development Fund (UNCDF). The workshop and practicum included 78 participants from the technology sector, other donors, and implementing partners. 56% of attendees considered themselves to be development practitioners, and 37% represented the private sector. This provided an opportunity for USAID and UNCDF staff and partners to apply what they have learned by collaborating with experts in the Blockchain field. The primary objectives of the workshop and practicum were to:

(i) create a space where participants understand current trends, uses, and risks of Blockchain technology, as well as learn from like-minded practitioners who are effectively making use of Blockchain to address development challenges.

(ii) Provide a facilitated opportunity for participants to explore new ideas and partnership opportunities to expand the scale of Blockchain for international development efforts.

INTRODUCTORY SESSIONS

Two introductory sessions gave participants an introduction to the use cases of Blockchain for International Development, as well as a basic introduction to the technology.

We already have 2 projects running in Vietnam and this even provided me with useful connections to some tech firms and we plan to work with them on exploring possible partnerships.

BLOCKCHAIN LIGHTENING PITCHES

12 Companies were given 5 minutes to discuss their solution with each table group. The following is a list of all 12 companies and their founder or CEO.

1. Ish Goel, Somesh
2. Luis Buenaventura, Bloom Solutions
3. Rosalia Gitau, EverEx
4. Lina Lim, Tempus Adventus
5. Bob Reid, EverID
6. Chami Akmeemana, Blocksale
7. Katrina Donahy, Civic Ledger
8. Laura Bailey, Qadre
9. Roy Lai, Oracle
10. Rajiv Unnikrishnan, Oracle
11. Josh Woodward, BitBank
12. Larry Dohrs, iRespond
13. Alex Kosturas, Consensys

REGULATORS PERSPECTIVE – PANEL DISCUSSION

- Moderated by Dr. Jane Thomason
- Mr. Roy Teo Head, Financial Centre Development Department, and Director, FinTech & Innovation Group, Monetary Authority of Singapore
- Mohammed Al-Duwaik, Central Bank of Jordan

- Chami Akmeemana, former fintech advisor to the Ontario Securities Commission, Canada

Approaches to Regulation

This discussion focused on how Central Banks as regulators were considering digital assets in Canada, Singapore and Jordan.

- Use a 'regulatory sandbox' approach.
- Regulators are not moving fast enough, they should be part of the conversation.
- All parties need to follow regulations; with the creation of a new technology, there is a need to check if regulations are being followed.
- Jordan is against cryptocurrencies, but not against Blockchain.
- In Singapore, cryptocurrency is not regulated, but the regulator is interested in safety and soundness of the financial system – innovations should be encouraged.
- Singapore is creating an interbank settlement to facilitate internal use of cryptocurrencies within banks.
- Initial Coin Offering (ICO) regulation and consumer protection.

How about Less Developed Countries? What should be regulated there?

- Consumer protection is important.
- Enforcement problem applies to all tech, and regulation is not necessarily the right perspective on how to do it.
- Know your Customer (KYC) and Anti-Money Laundering (AML) principles should be followed.

How is a central bank moving from regulator to facilitator?

- In Singapore, each of the banks has an account with the central bank, so it is the trusted party; the role of the bank is changing from one that is processing the settlement to one that is facilitating.
- In Jordan, there were no regulations in the beginning. A market study led to the development of laws; the laws now provide the guidance.
- Regulations cover activities, not the type of actor. No need to have a regulation for FinTech companies, only for the activities they undertake.

What is the role of regulators on education (Informed consent) and how proactive should regulators be?

- In Jordan, a whole new department has been established to build awareness.
- Singapore has a scam investors alert list.

BLOCKCHAIN WORKSHOPS



Participants worked in 12 groups with facilitators to define a clear problem statement for a Blockchain solution, including ensuring that it is a problem suitable for Blockchain. The descriptions below include the problem statements, follow-up items, and other details discussed during the workshops. Following the workshops, Blocksale Solutions developed a demonstration based on Day One discussions of a payment system for financial inclusion.

1. Remittances

Facilitator: Luis Buenaventura, Bloom Solutions

- How can we get migrants to spend their money on more productive investments and support their families?
- Blockchain solution needed: Smart contracts through mobile wallets that would enable the remittances to ensure how the money is used.

2. Climate Change

Facilitator: Valentine Gandhi, DevCafe

- Certification and control of endangered species – CITES (has no logistical support for verifying their certificate, 40% are fake).
- Blockchain solution is viable.
- Onboard the ivory owners – at the first level we get a Radio Frequency Identification (RFID) with picture tag, etc.
- Follow Up: Explore Generation Blue – Venture capital fund for natural resource project opportunities. Also, two organizations, Freeland and Genblue, have brought stakeholders together and are forming a Blockchain-based network that will enhance wildlife and forest protection in the Asia region and, while doing so, will also be improving, monitoring, and evaluating systems.

3. Financial Inclusion

Facilitator: Rosalia Gitau, EverEx – Financial Inclusion

- Micro retailers do not have access to favorable loans from banks. How can a Blockchain solution be provided so that banks can trust retailers and track their loans?

4. Alternative Financing

Facilitator: Lina Lim: Tempus Adventus – Alternate Financing

- Problem is sustainable development capital funds (SDGs). SDGs have a gap of 2 trillion.
- Blockchain can assist, being a tool to facilitate the private sector to get involved.
- Have a social bond to give the Blockchain.

5. Agriculture Supply Chain

Facilitator: Josh Woodward, BitBank – Agriculture Supply Chains

- To improve the cotton value chain, a Blockchain solution can help improve better deals for cotton farmers.

6. Identity

Facilitator: Craig Jolly, USAID

- Refugees from Myanmar in a camp in Thailand.
- If you bring a Blockchain, it can improve the ID solution.
- In a refugee setting, a fully public Blockchain is unlikely to be used; a public, permissioned Blockchain is more suitable.
- Challenge – they might not want a permanent record of refugee status.
- Follow-up: Connect Oceans' Good with IRESPOND.
- Follow-up: Workshop participants to share suggestions on research efforts to Craig Jolley.

7. Donor Operations - Asset management, Acquisitions

Facilitator: Kyriacos Koupparis, USAID/RDMA

- How can Blockchain improve the efficiency of USAID systems, especially in conflict zones?
- Follow up with USAID office in Washington.
- Follow-up: Indonesia is looking for ways to pilot Blockchain in programming.
- Follow-up: Global South technology allows donors to facilitate cross-border partnerships.

8. Gender

Facilitator: Jane Thomason, Blockchain Quantum Impact

- Migrant workers who work at sea. Poor living conditions.
- Smart contracts can improve conditions.

9. Government

Facilitator: Katrina Donaghy, Civic Ledger

- Government Registries.
- Follow-up: Identify ways to connect start-ups with government and international institutions.

10. Donor Transfers

Facilitator: Ashley Kembell-Cook, Qadre

- Cash for transfer programs in Somalia.
- Issue 1: Where does the donor give in terms of UN and how do you get it to the implementing partner?
- Issue 2: How do you know money has been given to poor people and not to Al Shabbab or war lords?
- Block chain specific to Somalia – it is useful given the nature of the country.

11. Pharmaceutical Supply Chains

Facilitator: Laura Bailey, Qadre

- Nutrition/Health/HIV – Deliver the right food to right people.
- (HIV/AIDS): how do we do it in a way we are blinded but also enables a faster transfer in a smart contract?
- Follow-up: Oadre platform is a consortium open to new partners.

12. Governance of Blockchains

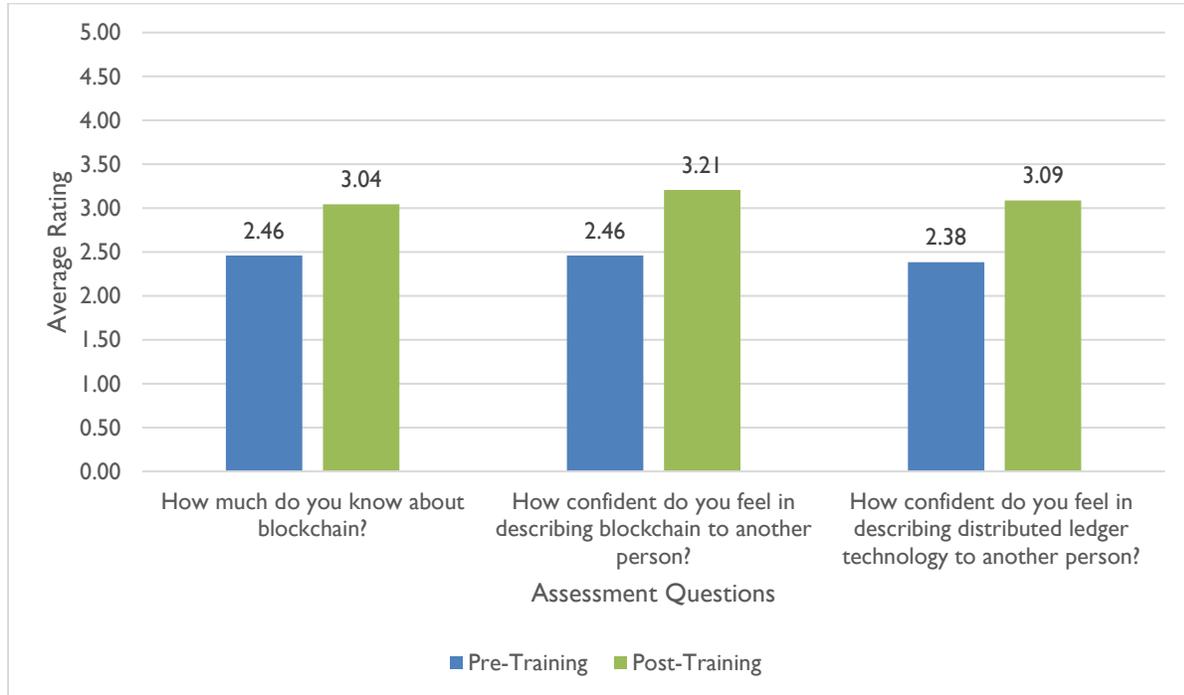
Facilitator – Ish Goel, Somesh Solutions

- How do we tackle governance issues on a decentralized, public Blockchain?

EVALUATION AND SYNTHESIS

SI issued a pre- and post-training assessment and a post-workshop evaluation to participants. The training assessment inquired about perceived knowledge of blockchain technology and topics, as well as feedback on the workshop to inform planning for future workshops. The table below shows that participants increased in their level of knowledge of blockchain technology and topics.

Figure 4. PRE/POST TRAINING RESULTS



When asked about the most useful aspects of the training, about 30% (5 of 16) respondents noted the value of working groups and discussion-oriented sessions, and 25% (4 of 16) said that case studies and practical examples helped them better understand the complex terminology and blockchain topics.

When asked whether they would recommend the workshop to a colleague, 88% of respondents stated that they would recommend the workshop.

When asked about suggestions for the future trainings, six out of 22 respondents mentioned the importance of having an introduction of Blockchain basic terms and concepts or a pre-reading/introductory exercise on Blockchain 101. Four out of 22 participants stressed the importance of active engagement from USAID/development partners in group discussions and pairing them with Blockchain champions. Three respondents noted that lightning pitches were either too long or too technical while three respondents would like to see more case studies that illustrate how Blockchain can improve operations in various sectors. Four people would prefer to focus on facilitated, hands-on, group discussions.

“I got a clear idea on its usefulness and the areas/sectors where Blockchain can be used to further development outcome”

When asked about topics that respondents would have liked to see, but were not addressed, three out of 16 Day 3 respondents included agriculture supply chain and one noted practical blockchain application in the apparel industry. One respondent would like to get more information on inclusivity and diversity in Blockchain users. Three participants would prefer a clearer understanding of legal and regulatory frameworks and challenges while focusing on Blockchain in non-technical terms.

When asked about applicability of Blockchain knowledge in programming and operations work, nine out of 16 participants responded positively and provided ideas of how they will use Blockchain knowledge in their fields, including but not limited to agriculture, energy, and international trade. Five participants stated that they intend to conduct additional research to find the right fit for Blockchain use. One respondent noted that Blockchain is already being used in his projects and the workshop provided him with necessary networking opportunities.

From listening to the tech companies, I found that the services/technology are not available to the groups of people who are out of those scope (e.g. people with no internet access or no digital literacy, and countries where the developers decide not to offer the service, etc.).

On a question addressing gender disparity, eight out of 16 participants responded positively by saying that Blockchain technology has the potential to address gender disparities.

ANNEX I: LIST OF PARTICIPANTS

Participants Day 1 and 2			
	Name	Last Name	Company
1	Roy	Teo	Monetary Authority of Singapore
2	Desarack	Teso	Microsoft Thailand
3	Rajiv	Unnikrishnan	Oracle
4	Roy	Lai	Sentenial; Infocorp Technologies
5	Alex	Kosturas	Consensus
6	Luis	Buenaventura	Bloom Solutions
7	Lina	Lim	Tempus Adventus
8	Josh	Woodard	FHI 360
9	Bob	Reid	EverID
10	Chami	Akmeemana	Blockscale Solutions
11	Katrina	Donaghy	Civic Ledger
12	Rosalia	Gitau	EverEx
13	Laura	Bailey	Qadre; British Blockchain Association
14	Craig	Jolly	USAID
15	Adam	Lemmon	Blockscale Solutions
16	Erik	Zvaigzne	Blockscale Solutions
17	Larry	Dohrs	iRespond Global
18	Mohammed	AIDuwaik	Jordan Central Bank
19	Juan Sebastian	Barinas	Blockscale Solutions
20	Mr. Vincent	Wierda	UNCDF
22	Chaingam	Tinaflor	USAID/RDMA
23	Coffey	Kevin	USAID/RDMA
24	Darkin	Maksym	USAID
25	Frydman	Ira	USAID
26	Heron	Lena	USAID/Washington
27	Hogg	Angela	USAID/RDMA
28	Jahn	Gary	USAID/RDMA
29	Johnston	Matthew	USAID
30	Kirkpatrick	Rob	USAID/RDMA
31	Koupparis	Kyriacos	USAID
32	La Fargue	Christopher	
33	Marcus	Ashley	USAID
34	Nitikitpaiboon	Chanyut	USAID/RDMA
35	Reese	Andrew	USAID
36	Deanna	Morris	UNCDF
37	Robin	Gravestejn	UNCDF
38	Fakhrul	Islam	UNCDF

Participants Day 1 and 2			
	Name	Last Name	Company
39	Alberto	Isgut	UNESCAP, Microeconomic Policy and Financing Division
40	Tientip	Subhanij	UNESCAP, Microeconomic Policy and Financing Division
41	Juanita	Woodward	World Remit; Connecting the Dots
42	Roy	Aniruddha	
43	Sadana	Mukesh	
44	Sintasath	David	USAID
45	Srisawaskraisorn	Seangroaj	USAID
46	Zahner	Luke	USAID/RDMA
47	Desire	Baca Livelli	UNCDF
48	Richard	Last	UNCDF
49	Ashraful	Alam	UNCDF
50	Shahmina	Isha Mannan	The Federation of Bangladesh Chambers of Commerce and Industries (FBCCI)
51	Zvinakis	Alexander	USAID/RDMA
52	Ashley	Kemball-Cook	Qadre

Day 3 Participants		
	Name	Company
1	Kyriacos Koupparis	USAID
2	Sascha Jochum	FUTERIO 360° Blockchain & ICO Solutions
3	Alisha Ryu	Polaris Global Management LLC (PGM)
4	Adinda Savitri	Palm to Palm
5	Lathika Chandra Mouli	Energo Labs
6	Davis Chan	VFC
7	Nikunj Soni	Abt Associates Papua New Guinea
8	Jakub Lambrych	UNICEF
9	Joni Simpson	ILO
10	Mimansha Joshi	AWR Lloyd
11	Tanawat Likitkererat	tlikitkererat@usaidwildlifeasia.org
12	Larry Dohrs	iRespond Global
13	Sallie C.W. YANG	USAID Wildlife Asia
14	Tientip Subhanij	UNESCAP
15	Rachel Zedeck	Peterson
16	Adam Lemmon	Blockscale Solutions
17	Erik Zvaigzne	Blockscale Solutions
18	Mohammed Al-Duwaik	Jordan Central Bank
19	Kevin Coffey	Jordan Central Bank
20	Maksym Darkin	USAID
21	Lena Heron	USAID
22	Angela Hogg	USAID
23	Gary Jahn	USAID
24	Matthew Johnston	USAID
25	Ashley Marcus	USAID
26	Andrew Reese	USAID
27	Aniruddha Roy	USAID
28	David Sintasath	USAID
29	Seangroaj Srisawaskraisorn	USAID
30	Vincent Wierda	UNCDF
31	Surajit Sinha	SourceTrace Systems India
32	Gerard Sylvester	Food and Agriculture Organization of the United Nations
33	Roy Teo	Monetary Authority of Singapore
34	Desarack Teso	Microsoft Thailand
35	Rajiv Unnikrishnan	Oracle
36	Roy Lai	Sentential; Infocorp Technologies
37	Alex Kosturas	Consensus

Day 3 Participants		
	Name	Company
38	Ish Goel	Somish
39	Luis Benaventura	Bloom Solutions
40	Lina Lim	Tempus Adventus
41	Josh Woodard	FHI 360
42	Bob Reid	EverID
43	Chami Akmeemana	Blockscale Solutions
44	Katrina Donaghy	Civic Ledger
45	Juanita Woodward	World Remit; Connecting the Dots
46	Laura Bailey	Qadre; British Blockchain Association
47	Craig Jolly	USAID
48	Juan Sebastian Barinas	Blockscale Solutions
49	Scott Hefter	Abt Associates
50	Arndt Husar	UNDP
51	Medhapan Sundaradeja	Thai Committee for Refugees Foundation (TCR)
52	Josie Raines	Freeland
53	Ryan Merrill	Singapore Management University
54	Nick Laidlaw	Generation Blue
55	Anthony Watanabe	Asia Clean Innovations Co
56	Marie-Eva Ferry	Asia Clean Innovations Co
57	Irina Tisacova	UNDG Asia Pacific Secretariat
58	Ayaka Matsuno	Japan International Cooperation Agency (JICA)
59	Azwar Hasan	Abt Associates
60	Daniel Brown	Abt Associates
61	Sailendra Dev	EnerGaia
62	Rob Frost	UNCDF
63	Maria Guimaraes	UN Women
64	Ralph OFUYO	World Food Programme
65	Filip Graovac	The Asia Foundation
66	Chin Yi Pin	FiiiPay Technology
67	Ashraful Alam	UNCDF
68	Rosalia Gitau	EverEx
69	Araya Poomsaringkarn	Resonance Global
70	Robin Gravestejn	UNCDF
71	Fakhrul Islam	UNCDF
72	Alberto Isgut	UNESCAP
73	Richard Last	UNCDF
74	Khobar Rassul	DeeMoney

Day 3 Participants		
	Name	Company
75	Desire Baca Livelli	UNCDF
76	Ayako Kubodera	UN Women
77	Ashley Kemball-Cook	Qadre
78	Shahmina Isha Mannan	The Federation of Bangladesh Chambers of Commerce and Industries (FBCCI)

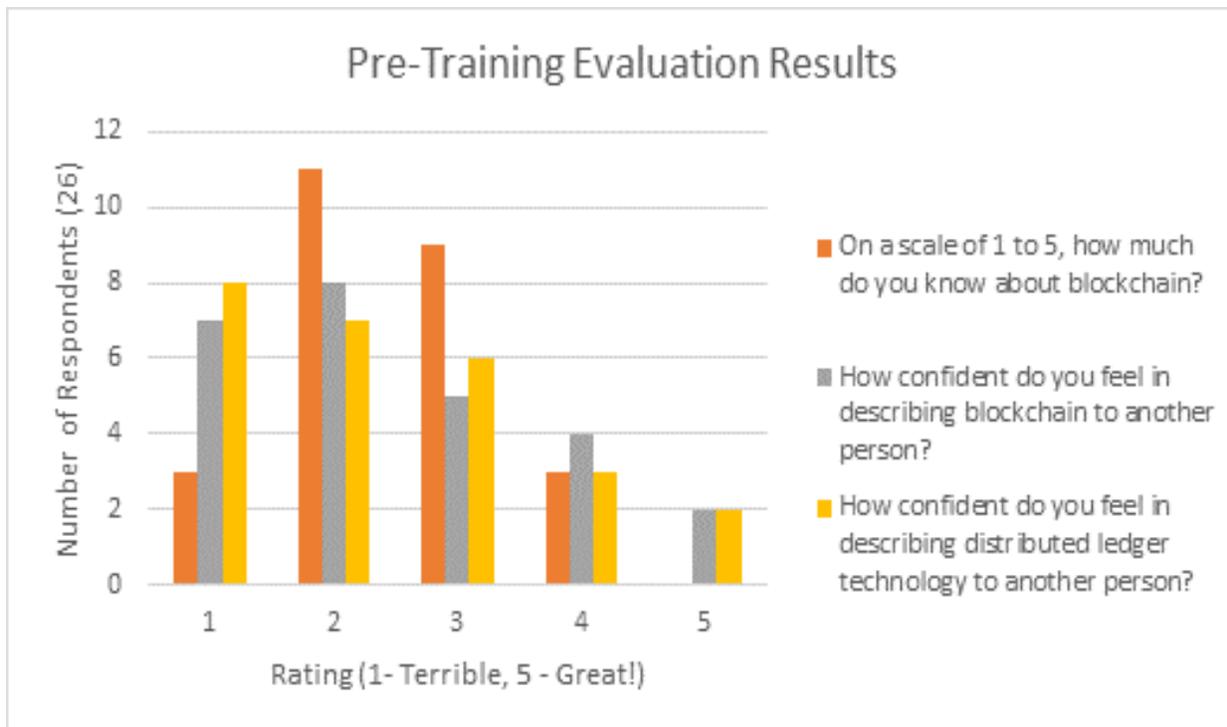
ANNEX 2: LEARNING MATERIALS

Presentations, and resource materials generated from the trainers and invited speakers and were compiled into a resource kit, which is available at this link:

<https://sites.google.com/site/Blockchain4id2018/workshopmaterial/presentations-I>.

ANNEX 3: PARTICIPANT EVALUATION RESULTS

DAY 1 EVALUATION RESULTS



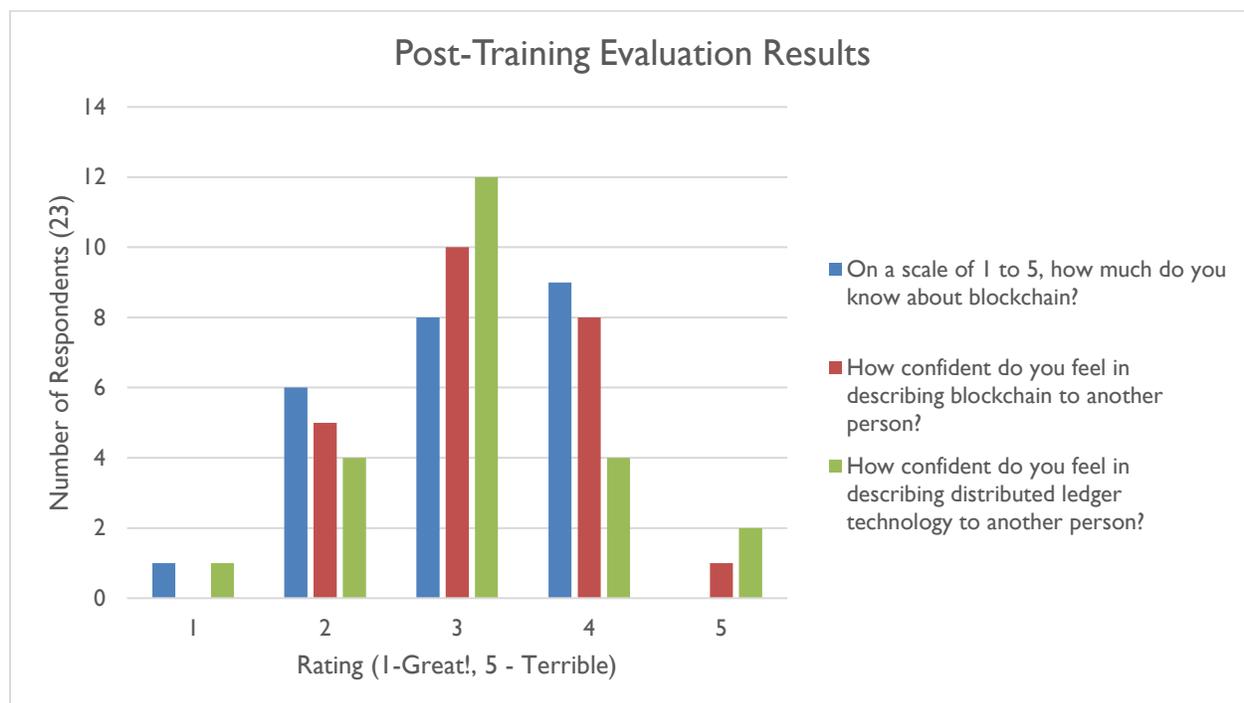
Pre-Training: Why do you believe development programming can use Blockchain technology? Respondents: 23
Because people have more agency with its use.
Blockchain can deliver inclusion and new economic/social systems.
Immutability and decentralized nature help circumvent problem related to lack of trust in government and traditionally untrusted parties.
I believe Blockchain could help improve financial inclusion - which is an important concern for Bangladesh.
Issue of trust, verifiability come up in development programming.
I believe it can be used in some areas of development programming, possibly, but also worry it might be over applied.
data cannot be changed + is accessible - i.e. identity for refugees etc.
Many people whom I trust have told me so.
Don't know enough about it.
To rebuild trust in the gov institution which have lost it.
Because of its transparency and low cost.
Development needs to use efficiency, transparency.
I am not sure if infrastructure (internet etc.) is good enough for people living in rural areas.
I'll find out.

To mitigate/anticipate disputes about the sources/distribution of resources to underserved populations.
I have heard about an application using "Tree coin" for mangroves in Burma.
-Records Management (Immutable/Secure) - Smart Contracts - Trustless Transactions
I think this can take care of proper traceability in the Ag. Food chain.
Improve transparency, accountability of development projects.
Yes, though question whether our regulation/risk-averse nature can fully accept this.
Trust, certainty, big data, transparency, traceability.
I have not read any specific use cases of Blockchain/DLT in dev programming.
Mitigate corruption disintermediate

Pre-Training: What do you hope to learn from this training? Respondents: 25
How Blockchain can be used for public health.
More understanding about opportunity for development use of Blockchain technology.
How to explain BC to USAID people.
Learning /sharing knowledge what is happening in the region. How we can get started.
Concrete examples and best practices around Blockchain implementation for development.
I would hope to learn about business-friendly solutions to financial inclusion using Blockchain in the context of a developing nation in transition.
What it is really. When it can be used, when it can't. Practical info past the hype.
I want to understand if I can apply Blockchain to my work, I want to be able to speak fluently about Blockchain.
Improve my understanding of Blockchain + distributed ledger tech. + identify concrete uses for Blockchain in international dev.
Strengthen my understanding of this technology.
What is Blockchain? How does it work? How can I use it?
Use of smart contracts (automatization).
How Blockchain really works.
Unsure but interested in land tenure.
Well understand it and able to apply it in the field as appropriate.
What is Blockchain? What's its potential application to development community?
More about how to educate people who are not informed or are skeptical.
I want to understand Blockchain & how to apply in our development work.
*In depth use cases * Security & Privacy Mgmt * Writing requirements statements/SOW for Blockchain in projects or for consulting
Look forward to some specific examples so that I can think about applying this in my work.

<ul style="list-style-type: none"> - More understanding of Blockchain technology - Understanding of development applications.
Development potential of Blockchain.
<p>Why is Blockchain a movement?!</p> <p>Why is Blockchain "profound"</p> <p>(in the words of one of the speakers, or is it how is Blockchain more than a technology? How is it a movement?)</p>
I want to learn more on the potential of DLT/Blockchain current status of use cases and future prospects.
Myths & true potential of because as applied to my work. Then next steps.

DAY 2 EVALUATION RESULTS



Post-Training: Why do you believe development programming can use Blockchain technology? Respondents: 21
1. For development programs to scale and successful outcome and impact with more better and efficient and showing proof
2. How Blockchain can bring and open other funding models to this sector and making the impact needed
Because many dev. projects deal with government which gradually goes online.
There's a good enough set of possible applications that something ought to stick...
Still unclear exactly how it can be integrated in.
Blockchain can definitely be beneficial on the programming of USAID. But cost-analysis will need to be considered.
I'd like to see more use cases.
Governance applications are clear and we are falling behind China here clearly
To bring transparency & cost & time efficiency
I see the potential for increasing efficiencies.
It is a community-based model and can be applied in a range of applications and solutions to many problematic development challenge.
To amplify the impact of their work and facilitate/ maintain trust with donors AND vulnerable populations
To bring efficiency and transparency. Also cost efficiency.
The future is digital trust. Transparency in supply chains. Financial systems.

Because Blockchain will help to register all info that then could be shared and diffused to increase collaboration and efficiency
Opportunities to increase trust, efficiencies
- Transparency of government - Immutable records - Fintech solutions
Development programming can use BC for improving implementation, monitoring and partnership management.
More efficiency / transparency
Missed day one Technology has the potential to include under-served
Large opportunity for development objectives.
Not in all cases but great to hear specific cases i.e. land titling, ID funds disbursement, where it is applicable.

Post-Training: What was the most useful part of this training? Respondents: 23
Working group discussion on problems and potential use cases for Blockchain and also understanding this sector more on how private sector can work with development.
To share experience and learn things anew.
More discussion-oriented sessions on Tuesday.
Examples, especially when there was time to walk through it slowly enough that we could ask questions about how it actually works.
Group work and thinking through the implications of Blockchain. The roles of different sectors and how we could do better.
Private sector engagement
Case studies & tangible examples
Understanding basics, terminologies, use cases, group discussions
The use case examples, as they make the tech more tangible, and separate the reality from the hype.
Examples of actual project implementation was really important. Group building exercises were really important.
Concrete use cases
Group discussions
Examples of implementation and use cases discussion.
Being around smart people. The format was overall effective. The thought exercises in small groups.
Tech company interacting w/ donors
1st day -> practical modelling of a situation using Blockchain
Case studies, what Blockchain is not. Excellent grouping of private sector experts.
Broad coverage of issues; knowledgeable facilitators; practical focus; private sector dialogue
The linking of technology for development impact and interfacing Dev. and private sector was the most useful part for me.

Meet Blockchain private sector & other organizations
Concrete examples shared discussion with private sector / developers
- Practical view on Blockchain, good presentations - small audience which facilitates group work.
The group work was helpful since together we could all rotate to that.

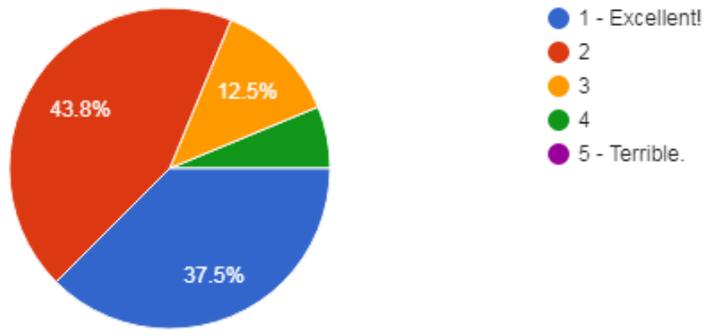
Post- Training: Is there anything you would change or add to this training? Respondents: 22
Structure, understanding more your audience better match Blockchain champions closer to USAID programming/objectives.
-Monday afternoon exercise didn't really do so much -More basic explanation of BC mechanics - how it actually works
Add a simple stylized walk through starting with problem (statements).
A foundation of Blockchain would be useful for a person who barely have any knowledge about Blockchain before diving into the context. Or even giving a hand out as a pre-reading as Blockchain 101 would be useful.
More group discussions -> well organized group discussions
May be some optional intro exercise, more case studies & examples how it works from start to finish to make it tangible.
I think we need to have real life cases where block chain is used in the sectors where and works.
* Have people read the Blockchain primer before attending. * I would add 1 or 2 examples of operational / internal application of Blockchain to illustrate how it can improve business operations -> not just project performance. * Also, keep the AID people on track -> they get bogged down in circular discussions too easily.
Would appreciate more refreshers post lunch just to get the mind juggling. Problem solving exercises to really integrate the learnings.
Better ideation facilitation
- More intentional matching during breaks and lunch - Primer on basic terms and concepts
- More time for Q&A about actual implementation. - Details of pre and post scenarios.
The "pitches," which I guess were meant to be case studies, were too long and a bit like sales pitches.
Presentations/Discussions had a bit too much jargon
More practical -> to visualize the whole picture. More cost oriented -> w/ practical cases and investment evaluation.
I think a survey of your audience could have helped hone your materials. More interactive, structured exercises around development of problem statements& how trust can be built with or without Blockchain. Maybe also an exercise on developing a simplified smart contract.
- Shorter presentations - More hands-on discussion
Some more theoretical ref, and more emphasis on how development partners can facilitate development impact through use of technology

More time to talk outside seminar
Not - thanks much - good intro to topic costing/timeframes/sustainability
We didn't get the answer to transaction cost volatility of crypto currency. But was explained partly by Blockchain expert.
A little bit more Blockchain 101, when it is NOT applicable early on, but trainers did recognize this and adjust.

DAY 3 RESULTS

How was your experience at the Blockchain for International Development Workshop?

16 responses



Would you recommend a workshop like this to a friend? Why? 16 responses

Not sure, it was rushed. The venue was too small.
Yes. It is a very informative and interesting workshop.
Yes. The workshop gave us an opportunity to learn about Blockchain and where it is currently being used.
Yes - the content was very on topic and the right people in the room
test
Yes
Yes, an excellent mix of participants
Yes because eye opening to understand how Blockchain can support social/environmental impactful projects.
yes, as this platform and work shop are great centers for knowledge gain exchange and an excellent platform for making relationship among various industries.
Yes - one of the few I have seen where participants were so diverse and engaged
Yes; for putting people you would not normally meet in the same room

Yes, I think that there needs to be a greater familiarity (the minimum standard) with Blockchain among development professionals (actually everyone) that obliterates the "Isn't that Bitcoin?" mentality that seems to pervade the current space. Also, not everyone wants/needs to be an expert--get more enthusiasts--Blockchain is technology, and generally, "informed" tech enthusiasts are a good thing.
Yes but also depends on level of details, specific topics re. Blockchain, etc.
Yes. Such a workshop would help in understanding first hand knowledge on Blockchain in development
Yes - it's the intersection of innovation and development/humanitarian aid, which many people in my sector are reluctant to comprehend and to incorporate in our areas of work. Also, it gave me first-hand understanding from various tech companies, which was very stimulating.
yes, gain updates on Blockchain real life application

What is the most useful thing you gained during this event?

16 responses

Contacts with who I could follow up
Concrete examples of how Blockchain can work for development problems.
I got a clear idea on its usefulness and the areas/sectors where Blockchain can be used to further development outcome.
The questions from the attendees about how Blockchain can be relevant to their respective fields.
test
Networking and hearing about work done by other development partners and tech companies
Differing viewpoints
Examples of Blockchain-based projects that drive social/environmental projects. Also interesting insights on the regulation and how regulators have to address Blockchain challenges.
Knowledge about Blockchain and its various usage in agriculture
Different use cases and solutions
There is still so much to learn about Blockchain but this was a very good start/continuing point
Tangible examples from Blockchain use cases.
Being able to meet key players and providers
Gained understanding of how Blockchain technology works, understand the basic steps required to implement Blockchain in a development project, discuss potential challenges and limitations, and examine case studies on the various potential use-cases in the international development sector including: financial inclusion, agriculture, land tenure, health, cash payments, and other areas
I found it refreshing that attendees were cautious about the use of the Blockchain technology in the development/humanitarian sector; it may be useful in some areas, but not in others. It's not the silver bullet, and ultimately, the change doesn't come from the Blockchain technology (or rather, any kind of "innovation") itself, but the change in people's perception and human behavior. Also, long-term vision, buy-in and commitment at the high-level are required to make that change happen.
group discussion and brainstorming ideas

What is something that you had hoped to gain during this event, but didn't?

16 responses

Key discussion on where Blockchain could be used in Agriculture
More clarity about details. The presentations covered a large spectrum of issues. This was great, but the trade off was less depth.
I was expecting to learn few more use cases in agriculture supply chain. Because my perception is that this is the area where we can apply this technology for establishing a full end-to-end traceability and thus take care of the food safety in the chain, from farm to fork.
Where each Agency could be in terms of exploring the potential of Blockchain technology - a clear commitment so to speak.
test
n/a
More detailed understanding of some of the legal and regulatory challenges
Clearer understanding on technical features of Blockchain applications.
importance of Blockchain for agriculture and information about the latest work being done in this areas.
Networks and details about similar events
I pretty much got what I wanted
I didn't have too great of expectations as I am still learning about Blockchain.
Insights/concrete steps on how to start a proof of concept
More focused theoretical background in non technical terms
I was hoping to hear more insights about how to make Blockchain technology more "inclusive"; it is "inclusive" and "public" for those who have access and capacity to use them, and also where the funding/service is available. From listening to the tech companies, I found that the services/technology are not available to the groups of people who are out of those scope (e.g. people with no internet access or no digital literacy, and countries where the developers decide not to offer the service, and etc.). I was hoping to hear how it can make the technology/services truly inclusive, i.e. aligning to the concept of Leaving No One Behind, but I didn't hear sufficient responses at the workshop.
practical Blockchain application on apparel and footwear industry

How are you planning to use Blockchain technology in your work?

16 responses

Agriculture
Not sure yet. I need to work more on understanding it more. Your workshop provided great material, but I'll need to go back to it at a slower pace.
I'm still learning to understand how Blockchain can be used in my work. Besides, sensitizing fellow colleagues on the Blockchain is an important first step. We also need to know 'why Blockchain' before

we recommend this say, in place of traditional traceability. However, I think I'll try something as pilot in future.
Not applicable for me.
test
we already have 2 projects running in Vietnam and this even provided me with useful connections to some tech firms and we plan to work with them on exploring possible partnerships.
Yes
Partnering with Blockchain tech companies for supply chain/energy trading applications
We are planning to use the technology for financial management in agriculture value chain and also develop a end to end effective traceability solution.
Cloud
Research first and then after a lot of consultations, find the right way to use it
I think it has high potential for application, but our procurement processes and information security considerations will need be addressed as this is explored further.
For traceability in fisheries
Blockchain could potentially revolutionize the payments in international trade and along the supply chains which is central to the interest of private sector in Bangladesh. Furthermore, it is an important part of expanding digital financial services to rural and marginalized communities.
I think there are potential areas that we can use Blockchain technology but will need to brainstorm with other program colleagues.
to be determined

Do you think Blockchain technology can address gender disparity issues in the Asia region? If yes, how?

15 responses

Using technology to address gender disparity is trying to belittle the very serious issue of gender disparity
Yes, by opening opportunities in financial inclusion.
I don't have a clear idea. I think this is also a problem when we try to put this question in an eco-system where according to a Stanford paper, "Blockchain initiatives dedicated to social impact are still early-stage — 34% were started in 2017 or later, and 74% are still in pilot / idea stage. But, 55% of social-good Blockchain initiatives are estimated to impact beneficiaries by the end of 2018." People who are trying to use Blockchain for ease, efficiency, and cost savings in remittance didn't venture this to serve any particular gender. We should be cautious about narrowing benefit of new technology, innovation, and practice at the initial stage of its life cycle. When tractor was introduced for land preparation people didn't think how this is going to benefit a particular gender. We should put effort on how Blockchain can facilitate ease of doing business and what are the policy and regulatory bottlenecks to scale. A lot of effort will be required to establish its benefit with evidence and sensitize stakeholders accordingly.
Yes - because the technology is gender agnostic,
test
Yes, it can provide opportunities that were not present before and provide a more convenient tool - especially in financial inclusion and access to finances

Meaningless question - Blockchain is a tool not a solution so whether or not it is an appropriate tool depends on the type of solution / problem
Definitely it can address, provided we input the data effectively and record all transactions.
Yes - its very new technology where no one is an expert and all can join the development
Again, not sure
I'm not a gender expert, but I would assume as with most other applications, the use of digital identities and immutability of data collected could help better inform decision makers across the broad spectrum of gender issues.
Yes and tech providers need to be trained on how to create tech for gender equity
Yes I think so. Blockchain technology can be used to mainstreaming gender disaggregated data generation.
As mentioned above, I think the utilization of Blockchain technology itself requires changes in human perception and behaviors. I think there needs to be conscious effort to increase the number of women and girls to have access and utilize the Blockchain technology, in order to address potential unconscious bias and gender issues that may arise. Otherwise, Blockchain technology can exacerbate inequality, whether it being gender, social or economic inequality issues.
no clue

What would you change to improve this event?

13 responses

A bigger venue, more time for discussion
Systematize the use cases: classify them into specific types. And incorporate the classification in the introductory presentation. For instance, say that “there are a number of promising uses of Blockchain, including A, B, and C. In this workshop, we’ll consider the experiences of companies 1 and 2 in area A, company 3 in area B, and companies 4 and 5 in area C”.
I would say that the agenda should start with a very basic conceptual intro of Blockchain and how it works. From there we may go to use cases on the sectors/areas where development organizations are working. Cases should be clear enough so that an AID staff like me can clearly understand say, how Blockchain will be useful in establishing an efficient and trustworthy traceability protocol in any ag. value chain, why this is advantageous over the traditional protocols. I've studied a lot before going to the event. In the process I've come across many examples but none of those are clear enough to understand the 'how' part. Many write-ups on Blockchain quote Walmart-IBM pilot but we need to learn 'how' it was done. Without that knowledge and exposure it will be difficult for AID staff to promote this technology, evaluate proposals properly.
test
n/a
Have the broader audience at the three day event instead of just the one day
Less steps on the planning and more time for each step. More flexibility on the schedule, not interrupting people speaking and allow them 30sc to finish their sentence/reasoning.
its all perfect,
More details for different participants (speakers, panel , speed dating etc)
Include more "outsiders" in the main event (first 2 days)

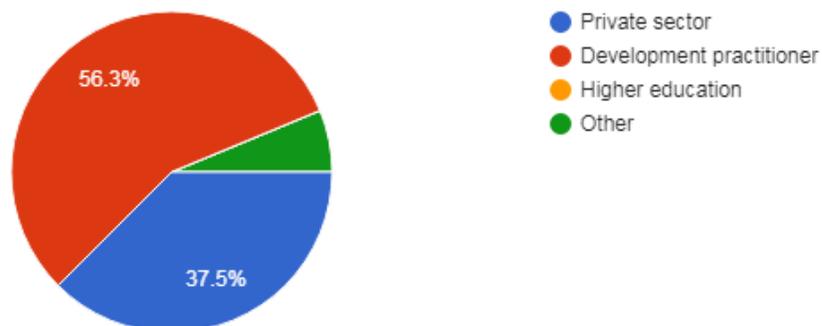
Have more use cases; drill home the understanding of when Blockchain is useful and when it is not/why it isn't a solution for everything; incorporate scope of work/requirements a bit more into the workshop, specific to Blockchain; if the speed dating session is done again, have presenters be more concise--they almost all ran over time, and there was confusion; have at least 1-2 use cases on internal operations of organizations, and be clear that the workshop is open to ALL USAID backstops (including management, finance, and contracts personnel).

Less on fintech application in Blockchain, more about other types of application; Sharing of lessons learned of other POC in development; Fair representation/discussion on private VS public ledgers because most (if not all) companies/providers are pro-public ledger

I think lightening pitch could've been done as a whole instead of presenters pitching the same lines 10 times to smaller groups. I'm thinking of something similar to Shark Tank, the TV show. Also, it would've been interesting to provide more space for UN agencies and donors to brainstorm a viable usage of Blockchain technology in a collaborative manner, so that the conversation/discussion can continue beyond the workshop.

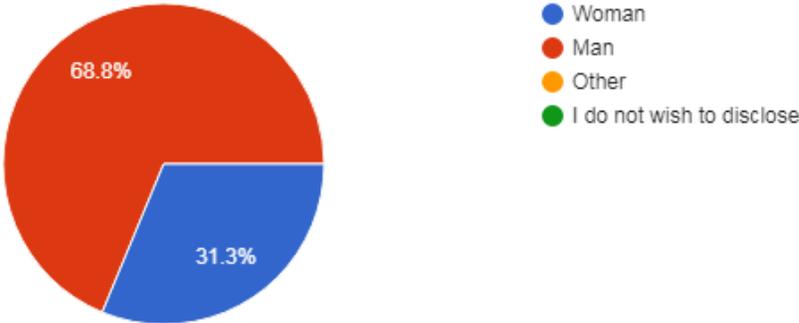
What sector did you represent at the Workshop?

16 responses



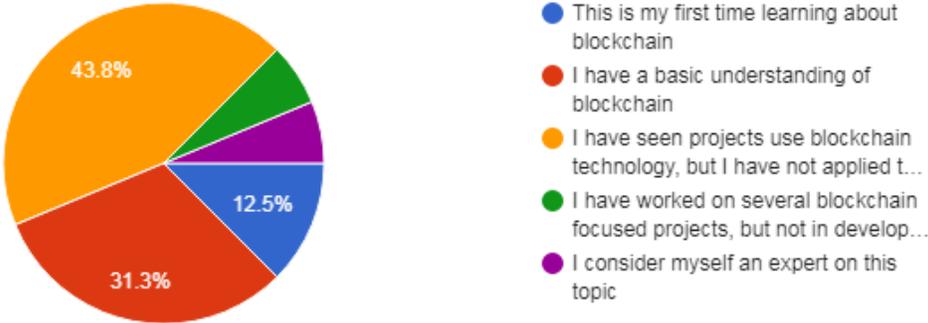
How do you identify yourself?

16 responses



How long have you engaged with blockchain?

16 responses



ANNEX 4: AGENDA

AGENDA

USAID BLOCKCHAIN TRAINING PROGRAM

June 18-19 Bangkok, Thailand

Day One – Setting the Foundations

8:00 – 8:30: Registration

8:30 – 9:00: Introduction and Expectation Setting

9:00 – 9:15: Blockchain and Development – the Big Picture

9:15 – 9:40: Introduction to Blockchain Technology – Myths and Realities

9:40 – 10:00: Comparison of Digital IDs

10:00 – 10:30: Tea Break

10:30 – 11:00: Case Study: Identity

11:00 – 11:30: Case Study Blockchain Land Registry

11:30 – 12:00: Case Study – Financial Inclusion and Remittances

12:00 – 1:30: Lunch

1:30 – 2:00: Case Study – Agriculture, Insurance and Supply Chains

1:30 – 2:00: Case Study: Government Registries

2:00 – 2:30: Case Study: Tracking Donor Funds

2:30 – 3:00: Tea Break

3:00 – 4:30: What Problems Could Blockchain Help Solve?

4:30 – 5:30: Confirm Use Case to Build out

Day Two

June 19 Bangkok, Thailand

Day 2 - Deep Dive and Blockchain in USAID Programs

8:30 – 8:45: Summary of the Previous Day – Jane Thomason

8:45 – 9:00: When to use a Blockchain – Valentine Gandhi

9:00 – 10:00: Cyber Security and Regulation and Compliance – Valentine Gandhi and Lina Lim

10:00 – 10:15: Morning Tea

10:15 – 11:00 : Models For Procuring and Financing Technology Innovation – Jane Thomason, with group work led by Lina Lim, Jane Thomason and Valentine Gandhi

11:00 – 12:00: Tough questions in development – ethics, informed consent, elite capture – Jane Thomason

12:00 – 1:00: Lunch

1:00 – 2:00: Evaluation of technology in USAID programs – Valentine Gandhi

2:00 – 2:45: Blockchain Considerations – Risk and Challenges – Adam Lemmon

2:45 – 3:00: Afternoon Tea

3:00 – 4:00: Integrating Blockchain into USAID work – Next Steps – Jane Thomason – Group Work: USAID (2), Non-USAID Development, Private Sector

- What is the role of USAID in technology exponentiation?
- What can USAID/ Donors do now? (Policy, procurement, implementation, learning)
- Where is further exploration needed?
- What is needed to scale?
- How can USAID work with the private sector to accelerate?

4:00 – 5:00: Presentations from Group Work and Next Steps

5:00: Close

Agenda

USAID and UNCDF – 20 June 2018

Blockchain Practicum and Partner Workshop

Objective: This interactive workshop jointly hosted by USAID and UNCDF will include technology implementers, organizations working on Blockchain, and investors/donors with an interest in the intersection of Blockchain and international development. Its primary objectives are to:

(i) create a space where participants understand current trends, uses and risks of Blockchain technology, as well as learn from like-minded practitioners who are effectively making use of Blockchain to address development challenges

(ii) Provide a facilitated opportunity for participants to explore new ideas and partnership opportunities to expand the scale of Blockchain for international development efforts

8:00 – 8:30: Registration

8:30 – 9:00: Introduction and Opening Remarks

9:00-9:15: Blockchain and Development – the big picture – Dr Jane Thomason, Abt Associates

9:15 – 9:45 : Blockchain 101 - Alex Kosturas, Consensus

9:45 – 10:00 – Tea Break

10:00 – 11:15 – Blockchain Lightning Pitches – 5 minutes per pitch

- Ish Goel – Somesh
- Luis Buenaventura, CEO Bloom Solutions
- Rosalia Gitau, EverEx
- Lina Lim: Tempus Adventus
- Bob Reid, EverID
- Chami Akmeemana, Blocksacle
- Katrina Donahy, Civic Ledger
- Laura Bailey, Qadre
- Roy Lai, Oracle
- Josh Woodward, BitBank
- Larry Dohrs, iRespond
- Rajiv Unnikrishnan, Oracle
- Alex Kosturas, Consensus

11:15 – 12:00 Regulators Perspective (Panel) Dr Jane Thomason

- Mr. Roy TEO, Head, Financial Centre Development Department, and Director, FinTech & Innovation Group, Monetary Authority of Singapore
- Mr. Aktham AbuAssi Financial Inclusion Specialist, Payment Systems, Domestic Banking Operations and Financial Inclusion Department, Central Bank of Jordan
- Chami Akmeemana, former fintech advisor to the Ontario Securities Commission, Canada

12:00 – 1:00: Lunch (Athenee Hotel)

1:00 – 1:30: Evaluation Framework for New Technologies – Dr Valentine Ghandi, DevCafe

1:30 – 3:00: Workshops on Application of Technology to Development Programs (Please sign up)

3:00 – 4:00: Presentations from Workshop Dr Jane Thomason

4:00 – 4:45: Imagining the future – practical next steps - Dr Valentine Gandhi

4.45 – 5.00: Blockchain Demo from Blocksacle Solutions Inc.

ANNEX 5: SPEAKER BIOGRAPHIES



Adam Lemmon

Adam is a technology enthusiast and passionate engineer who has been very active in the Blockchain ecosystem for several years now. He has been involved in a wide range of initiatives, including training ventures with a global Blockchain education company to building real-world Blockchain products for global clientele. His experience includes leading the development initiatives for production-scale projects such as Decentralized Exchanges and Land Registries with companies such as Paycase, Oraclize and Blockscale Solutions. He is also an active educator and has led various development workshops and educational courses globally in Asia, Australia and North America with the

Blockchain Learning Group.

Alex Kostura

Alex Kostura is Product Manager and Site Lead of the ConsenSys Incubator in DC, where he is focused on enhancing government services and social sector outcomes through Blockchain-based solutions. In his current role, he has delivered Blockchain 101 and use case development workshops for numerous academic, non-profit, and government partners. As a former Partnerships Advisor with the Secretary's Office of Global Partnerships at the U.S. Department of State, Alex founded theBlockchain@State initiative to explore the foreign policy implications and possible applications of distributed ledger technology for diplomacy and development. He was also the 2016 Google Public Policy Fellow at the Center for Data Innovation where he researched issues at the intersection of data, technology, and public policy. Alex is passionate about applications of information and communications technologies as tools for inclusive economic growth, good governance, and social welfare. An amateur mapper, he is also particularly proud of his experience as an AidData GIS Fellow at USAID/Peru in 2015. He holds a Masters' degree from the Fletcher School of Law & Diplomacy with a focus on technology policy and international development, in addition to holding a B.S. from the School of Foreign Service at Georgetown University and a Certificate in Sustainable City and Regional Planning from UC Berkeley.





Bob Reid

Bob is a co-founder of EverID, a digital identity + financial services and eGovernment platform. Previously, Bob was an advisor to Kai Labs, a Singapore-based Blockchain accelerator focused on bringing investment capital to the development of distributed systems. As the General Manager at BitTorrent, and VP of Strategy & Business Development at Neulion and DivX, Bob built multiple business lines around the world that generated tens of millions of dollars in revenue. Born and raised in Silicon Valley with a background in comparative economic development & international trade, Bob has a keen understanding of the global digital landscape.

Chami Akeemana

Chami Akmeemana is the CEO of Blockchain Learning Group and Blocksacle Solutions. He is a Blockchain and AI Specialist. He pursued a Ph.D. in Bioceramic Engineering at Queen Mary, University of London, until deciding to forgo an academic career in favor of Law Enforcement. In 2002, he joined London's Metropolitan Police.

Chami has had 4 successful exits over the last decade and is passionate about the intersection of technology, business and social good. His experience includes serving as Director of Regulatory and Government Affairs at ConsenSys Inc; Fintech Advisor to the Ontario Securities Commission; Managing Director, Fintech and Blockchain at the Global Risk Institute; and Regulatory Advisor to the Republic of Liberia. Chami is also the Chairman of the Blockchain Association Australia and an Advisory Board member of doc.ai.





Dr. Craig Jolly

Dr. Craig Jolley is a Data Scientist at USAID's Center for Digital Development. His work focuses on the potential of emerging technologies to end global poverty; recent projects have focused on machine learning, Blockchain technologies, biometrics, digital financial services, and rooftop solar energy. Craig tries to balance attention to the "in-the-weeds" technical aspects of new technologies with awareness of the broader social and political context in which they operate. Prior to coming to USAID in 2014, Dr. Jolley studied mathematical models of biological rhythms at RIKEN in Kobe, Japan.

When supporting USAID's overseas missions, understanding the biology behind jet lag is more useful than you might think.

Desarack Teso

Desarack ("Des") Teso joined Microsoft in Thailand in July 2009, and serves as the legal counsel for the Microsoft subsidiaries in Thailand, Myanmar, Cambodia and Laos. In his role, Des represents the company externally on issues relating to digital transformation including privacy, cybersecurity, artificial intelligence, intellectual property, among others. Currently, Des works extensively on regulatory compliance with commercial banks and the central banks to support the industry's digital transformation journey.



Des has had both regional and country roles in the Asia Pacific region for over 20 years, and was previously based in Hong Kong, Singapore, and Laos before moving to Thailand. Des attended Linfield College in Oregon on a tennis scholarship (BA Accounting). He is qualified as a Certified Public Accountant (CPA), and has a Juris Doctor (JD) degree from the University of Hawaii as well as a Masters' of Business Administration (MBA). Des is a member of the Hawaii State Bar Association.



Erik Zvaigzne

Erik is a project manager from Blocksacle Solutions who has extensive experience with IT solutions delivery and consulting with government organizations. A general technologist with an interest in the social impact of transformative technologies, he's always keen to explore the possibilities enabled by the usage of Blockchain.

Ish Goel

Ish Goel established the 'Blockchain Centre of Excellence' at Somish in 2016 after being invested in Blockchain technology for over two years. Through the Somish Group, he has worked with Governments, BFSI, Manufacturing, Retail, Agriculture and Logistics industry globally over the past one decade. Ish is one of the key Blockchain architects at Somish and has led delivery of multiple Blockchain products using platforms like Ethereum Blockchain globally. Ish founded GovBlocks in 2017 - an open, permission-less protocol for decentralized governance, after being adjudged as the Winner at London Blockchain Week 2017 Hackathon. He has also been involved as a key speaker at Blockchain conferences across the globe. Ish is also a passionate musician and a trained Tabla, Flute, and Piano player.



Josh Woodard

Josh has over ten years of experience in the international development space, primarily focused on helping people use digital technologies more effectively to achieve development outcomes. He is currently based in Bangkok, where he works on a number of different activities across Asia. Among those activities, he has been supporting Bitvalley to refine its pilot approach and enlist partners for Ibisa, a Blockchain-enabled crop protection product. He also leads an investment from USAID to support the digitization of merchant payments for low-income consumers in India and oversees a grant from the Rockefeller Foundation to identify and support the scale up of high potential digital technologies for positively impacting resilience outcomes.

He previously oversaw an effort in Bangladesh that helped to expand uptake of digital financial services in agricultural value chains, which resulted in the digitization of more than \$2.7 million in financial services, including payments and credit. He also served as a key technical expert with the FAO and ITU to develop a National e-Agriculture Strategy guide, which he has also helped the governments of Sri Lanka and Bhutan to implement. Josh is also the author of a soon-to-be-published module in the World Bank's ICT for Agriculture e-Sourcebook on 'Using ICT for Remote Sensing, Crowdsourcing, and Big Data to Unlock the Potential of Agricultural Data.' He previously led USAID's FACET project from 2009-2013, which focused on promoting the uptake of ICT in agriculture projects across sub-Saharan Africa. He is the author of numerous toolkits on using technology for development, including agriculture specifically, and has conducted trainings on using technology for hundreds of people across more than 10 countries globally.

Larry Dohrs

Larry Dohrs is the President, Asia-Pacific for iRespond Global, and resides in Bangkok. iRespond is a Seattle-based nonprofit biometric service provider which offers accurate and efficient confirmation of identity for humanitarian projects. Partners include the International Rescue Committee, Population Services International and the Royal Thai Government. Dohrs has spent three decades working in support of justice and human rights in SE Asia, is a national volunteer leader for Amnesty International USA's Business and Human Rights Program, and is a Visiting Scholar in Southeast Asian Studies at Texas Christian University.



Laura Bailey

Laura, Chairperson of Qadre and Spokesperson for the British Blockchain Association, is a leading entrepreneur in the field of Blockchain technology and a trailblazer for women in fintech. She has co-founded three successful Blockchain ventures and is currently developing Qadre into a global technology leader - working with UK Parliament, industry, and regulators alike to drive policy and cultural changes to technology. Laura is a regular speaker for domestic and international governments, regulators, and NGOs, promoting technology for good. Laura has an extensive background in finance and

began her career at HSBC across a variety of areas, including Leveraged Finance, Marketing, and Corporate Banking.

Lina Lim

Lina Lim is the Managing Director and Co-founder of Tempus Adventus, a start-up company that focuses on promoting and delivering Blockchain and Distributed Ledger Technologies in the financial market and services industry. She is actively involved in Blockchain for social impact, fintech, and promoting women in financial technology. She is fervent about adopting technologies to challenge and solve problems for the greater good and help distribute access to wealth; and her passion in social impact and value-aligned investing drives her currently in initiating a project to create a social impact investment platform with measurable outcomes and impacts. Lina also currently works as the Head of Technology at the National Stock Exchange of Australia (NSX), where she is responsible for the strategic direction on innovative product and technology adoption and overseeing business technology function. Being part of the executive management team, she provides strategic thought leadership to



transform and support corporate business initiatives and operations. Throughout her 20-year career in the financial industry, Lina has held several roles as a financial technology executive, with most years spent at Nasdaq, one of the biggest exchanges and fintech Fortune 500 companies. Recently recognized by CIO50 Australia 2017 as a rising star, Lina was included on the CIO50 Ones to Watch list.



Luis Buenaventura

Luis started working in the Bitcoin space in 2014 and, with his startup Bloom, focuses on creating practical Blockchain solutions for the developing world. In 2017, he authored the book "Reinventing Remittances with Bitcoin," which collects strategies and stories about the fast-growing Bitcoin remittance industry. He presented at venues that include the United Nations in New York, and he is a regular speaker at the International Money

Transfer Conference series. In 2018, he was selected as one of the Top 50 Most Influential Payments Professionals at the World Payments Congress in Mumbai. Luis has been building tech startups in the Philippines for over a decade, and he is a prolific illustrator.

Rajiv Unnikrishnan

Deeply experienced Cloud Architect and Evangelist, Mr. Unnikrishnan is a Global Product Manager, Technologist and Entrepreneur and expert in enterprise cloud platforms, Blockchain, IoT and AI.

He has vast experience in business development working across international borders and within multinational corporations to find innovative solutions for customer problems, be it enterprise or startups. He has started his own companies successfully and sometimes unsuccessfully - "nothing like learning from failure" - and supported start-ups in various capacities in India and Southeast Asia.





Roy Lai

Mr. Roy Lai has more than 20 years of financial technology experience with a wealth of expertise, including Blockchain technology, investment banking, foreign exchange trading and inter-bank payments. Mr. Lai started his career in investment banking and was previously the Global Head of the Royal Bank of Scotland (RBS) for the Fixed Income Research Technology team. While at RBS, he pioneered the bank's proprietary analytics solution for bonds and interest rates swaps analysis.

Currently, Mr. Lai is the founder of Sentinel Chain, a global Blockchain-based B2B marketplace for financial inclusion and CEO of InfoCorp Technologies, a Fintech company that provides the infrastructure to accelerate financial inclusion to unbanked communities and solve end-to-end supply chain logistics problems through the use of Blockchain technology. Mr. Lai is also a Senior Research Fellow at the Singapore University of Social Sciences where he teaches courses on Blockchain Programming and smart contracts. Mr. Lai was instrumental in leading the technical implementation and delivery of FAST, a national real-time payment network across 14 Singapore banks. He was also a Consultant to Thailand's clearing house ITMX in implementing Thailand's PromptPay national retail payment network in partnership with Vocalink Ltd, UK's national payment system operator.

Mr. Lai's expertise includes financial technology in the area of inter-bank payments, clearing and settlement technologies such as real-time gross settlement systems, retail payment networks as well as the adoption of ISO20022 universal financial messaging standards. Fixed Income Investment Banking. Mr. Lai has garnered extensive experience in the complexities of running large-scale, multi-regional enterprises through his past employment at MNCs such as Brunswick and Procter & Gamble.

WORKSHOP MODERATORS



Dr. Jane Thomason is a thought leader in the applications of Blockchain technology to solve social problems. She is a frequent commentator and blogger on Blockchain and social impact and in 2017 has spoken at Blockchain and disruptive technology conferences in London, Washington, Silicon Valley, Port Moresby, Jakarta, Singapore, Ottawa, Sydney and Brisbane. She has published peer-reviewed articles in 2017 on Blockchain for climate finance and the poor and on Blockchain as an accelerator for women's and children's health. She is an adviser to several Blockchain startups with applications that solve global

problems, and is currently working with collaborators to co-develop Blockchain POCs for financial inclusion, identity, government services and micro-grid solar energy in Papua New Guinea, Indonesia, and Chhattisgarh. She was a judge and mentor at London Blockchain Week, London Fintech Week and the Consensus Blockchain for Social Impact Coalition Hackathon. She is an advocate for the education and empowerment of women generally and #WomeninBlockchain and is part of the founding team for the #worldBlockchainacademyforgirls. Jane is Global Ambassador and Advisory Board member of the British Blockchain Association.

Entrepreneur and innovator, she built a \$50m revenue company, and merged with Abt Associates in 2013. Since the merger, Dr. Thomason has led the growth and diversification of the company to achieve a tripling of revenue and diversification into new sectors to \$200m+ revenue and 650 staff working on global problems across the world. She has held senior appointments including Queensland Director of Women's Health, CEO of the Queensland Royal Children's Hospital, Commissioner on the Commission of Inquiry into Child Abuse in Queensland, Chairman of the Wesley Hospital Board, Member of the Uniting Health Care Board, the International Operations Committee of the Red Cross, the Consultative Council of the Australian Centre for International Tropical Health and Nutrition and the Aid Advisory Council to the Australian Minister of Foreign Affairs and Trade (Alexander Downer), she has been a Member of the Burnett Institute Board, and an Adjunct Associate Professor at the University of Queensland.



Dr. Valentine Joseph Gandhi is an Implementation Scientist, Development Economist, Policy Advisor, Poverty and Livelihood Impact Evaluation Specialist, ICT4D and Knowledge Manager, currently based between Jakarta and Nairobi, with over 15 years of interdisciplinary, quantitative, and qualitative research, teaching/training and project management, M&E, Strategic consulting, knowledge sharing and capacity building and development experience at both field and policy level with various UN, CGIAR and Donor agencies. He has developed and led multi-country projects on Livelihoods, ICT4D, Health and Climate Smart Ag technologies. He is the founder of the think tank The Development CAFE. He actively promotes innovation in M&E and Research. Among other initiatives, he currently leads multiple projects that use Blockchain technology for refugees as well as IoT based climate smart agriculture. He is also a MEL and MIS advisor for DFAT projects as well as works on Big Data and AI.