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Digitizing farm balance sheet: RWAs and future of agri-finance

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Jon Trask discusses how tokenized real-world assets (RWAs) are transitioning from speculative blockchain experiments into institutional-grade financial infrastructure for agriculture. Drawing from Dimitraâ??s work across emerging markets and its collaboration with MANTRA, Trask highlights how verified farm data, MRV frameworks, and blockchain technology can convert agricultural production, carbon credits, and supply-chain outputs into investable digital assets. He explains that tokenization can address agricultureâ??s historic paradox of being asset-rich but liquidity-poor, enabling farmers and cooperatives to access new capital pools while improving transparency for investors.

The interview also explores the operational realities of scaling agricultural RWAsâ??from satellite monitoring and IoT-driven data validation to governance structures required for institutional compliance. Looking ahead, Trask argues that tokenized agriculture will likely become part of the core financial infrastructure of global food systems, enabling climate-aligned capital and more efficient, data-driven agricultural markets.

At Consensus Hong Kong, industry heavyweights signaled that tokenized real-world assets have crossed from speculation into structural utility. From your vantage point in agriculture, what evidence convinces you that RWAs are entering a long-term institutional cycle rather than a hype-driven one?

The clearest signal we see is the replacement of speculative interest with structural pressure, but in agriculture that pressure is now tied to a very specific outcome: turning physical production into an investable, financeable digital asset. Traceability and MRV can exist without an RWA, but an RWA becomes the bridge between â??proofâ• and â??capitalâ?• by packaging verified production, performance, and delivery rights into a standardized instrument that institutions can underwrite.

Tokenized agricultural RWAs backed by verifiable data help in three concrete ways.

First, they make financing underwritable: when the asset is linked to auditable farm and supply-chain records, investors can price risk and deploy capital against real collateral or forward flows (inventory, receivables, offtake agreements), rather than relying on informal guarantees.

Second, they improve enforceability and transparency: the same data that supports traceability becomes the evidence layer for covenants, performance triggers, and monitoring, reducing fraud risk and transaction costs for lenders and development finance.

Third, they broaden access: producers and cooperatives can use standardized, data-backed RWAs to reach new pools of capital like institutions, development banks, and corporates seeking measurable climate and supply-chain outcomes, without requiring each financier to rebuild due diligence from scratch.

Conversations in this space have also shifted. Now, instead of focusing solely on token mechanics, investors want to know about MRV (Measurement, Reporting, and Verification) standards, risk frameworks, legal enforceability, and alignment with emerging carbon and sustainability regulations, because those are the prerequisites for financing at scale. This shift tells us the market is maturing: less about short-term trading incentives, and more about building the infrastructure that converts verified agricultural activity into long-term institutional-grade investment products.

Agriculture has always been asset-rich but liquidity-poor. How does bringing farmland, inputs, harvests, and carbon credits on-chain fundamentally alter capital formation for producersâ??especially in emerging markets?

Agriculture has historically been asset-rich but liquidity-poor because the real economic value of land, inputs, outputs, and ecosystem services is difficult to quantify, verify, and transact, especially for smallholder farmers operating under strained and unpredictable conditions. By bringing agricultural assets on-chain, we can capture, verify, and mobilize that value in ways traditional systems have struggled to do, particularly for farmers.

When farmland, inputs, harvests, and carbon credits are recorded on-chain, they become trusted and verifiable digital assets that can be tokenized, used as collateral, traded, or tied to performance-based financing. This on-chain asset representation enables farmers to monetize not only what they grow, but how they grow it, unlocking new pathways to climate finance and scalable capital formation. This is particularly true in emerging markets, where producers often lack formal credit histories.

It also moves agriculture beyond a financing model tied only to yield and land value. For instance, carbon credits become liquid climate assets. This, in itself, allows producers to diversify their financing. So, while investors are presented with the opportunity to fund climate-positive agriculture, producers are rewarded for adopting sustainable practices that generate verified, tradeable value.

Your partnership with MANTRA aimed to verify carbon credits and tokenize agricultural assets across South America. What did that initiative reveal about institutional appetite for on-chain agricultural RWAsâ??and the operational hurdles of executing at regional scale?

The partnership with MANTRA revealed that institutional appetite for on-chain agricultural RWAs is real, but highly conditionalâ??and it is becoming more real as projects move from pilots into execution. Investors engage when assets are backed by verifiable data, clear governance, and measurable outcomes, particularly around carbon integrity and sustainability metrics. The conversation is no longer about tokenization as a concept; it is about whether the underlying infrastructure and the legal/financial structure are credible enough to support real-world adoption at scale.

It also made clear that, beyond technology, we must offer an opportunity where investors are willing to assume the risk in a way that fits their mandate. In practice, that means structuring investable products with clear risk allocation, enforceable rights, and monitoring-based controls, often combining traceability, MRV, and real cash-flow or collateral mechanisms. This takes time, and institutions typically require iteration on the structure, documentation, and governance as the project

advances, and adjustments are often needed along the process as field realities, regulatory requirements, and data maturity become clearer.

Executing at regional scale highlighted how operationally complex agriculture still is. Across South America, producers operate under different regulatory environments, data standards, and levels of digital maturity. Verifying carbon credits or tokenizing agricultural assets requires strong MRV frameworks, consistent data collection methodologies, and ground-level partnerships. Technology is only one part of the equation; alignment between farmers, cooperatives, regulators, and other stakeholders, plus the patience to refine the structure over time, is what turns on-chain RWAs into scalable, institutional-grade deployments.

Tokenization promises transparency and efficiencyâ??but agriculture is fragmented and analog. What infrastructure layers (data validation, satellite monitoring, IoT, local governance) are essential before RWAs in farming can meet institutional compliance standards?

The crucial piece of this puzzle precedes tokenization. Before real-world agricultural assets can meet institutional compliance standards, the underlying data infrastructure must be robust, verifiable, and transparent. Without reliable ground-truth data, on-chain representation can not withstand institutional scrutiny.

The next critical layer is multi-source validation. Satellite monitoring provides independent verification of land use, crop health, and deforestation risk. IoT devices and mobile agronomic tools contribute real-time insights into inputs, yields, and environmental performance. These data streams must be cross-referenced and time-stamped to create an auditable trail. Institutions require defensible MRV frameworks, meaning data must be consistent, tamper-evident, and aligned with emerging regulatory standards for carbon, sustainability, and supply chain traceability.

Finally, local governance and regulatory compliance are essential. Institutional adoption depends not only on technical integrity but also on legal certainty and local stakeholder alignment. With these three factors in place, agricultural RWAs become credible digital representations of real-world activity that can meet compliance expectations and operate at scale.

Carbon markets have faced credibility challenges. How does blockchain-based verification improve integrity, and can tokenized agricultural carbon credits realistically meet the scrutiny of global regulators and institutional buyers?

Blockchain-based verification improves integrity by ensuring that once key events and evidence are recorded, they cannot be altered retroactively. That immutability is essential, but on its own it does not solve the credibility problem. The real integrity comes from robust MRV made up of sound methodologies, high-quality field data, third-party auditability, and consistent monitoring. In that context, blockchain is the final credibility layer: it anchors MRV evidence, custody, and credit lifecycle events in a tamper-resistant record, reducing disputes and making reviews faster and more defensible.

At Dimitra, we build on that foundation by combining blockchain with AI, IoT, and satellite-based MRV systems so data is captured and validated as close to the source as possible and then permanently attested on-chain.

This creates field-level traceability and a practical verification trail that allows institutional buyers and regulators to interrogate the methodology, monitoring outputs, audit logs, issuance, transfers, and retirement records without relying on opaque, manually curated files.Â Tokenized agricultural carbon credits can meet global scrutiny, but only when they are issued under recognized standards, backed by rigorous MRV and governance, and structured to support independent auditing and regulatory reporting. In other words, blockchain is not the goal. It is the mechanism that makes strong MRV harder to tamper with and easier to trust at scale.

Institutional investors are now seeking yield tied to real economic activity. How does agricultural RWA tokenization compareâ??on risk, volatility, and return profileâ??to traditional agri-finance instruments?

For investors, agriculture has always offered yield anchored in productive, real-world activity. However, traditional agri-finance instruments have historically relied on fragmented reporting, periodic audits, and opaque risk assessment.

In comparison, Tokenized RWAs, when built on verified field data, satellite monitoring, and blockchain technology, allow risk to be measured continuously. While this doesnâ??t mitigate the risks inherent to agricultural output (i.e., weather, disease, geopolitical tension), it facilitates greater transparency, which can reduce fraud risk and enable more dynamic risk pricing.

Especially in emerging markets, where perceived risk is often inflated due to limited data, structured digital verification can narrow the risk premium and create more accurate return expectations. Ultimately, tokenization connects stakeholders more directly to real agricultural performance, improving visibility into how value is created and how risk is mitigated over time.

Smallholder inclusion remains a central narrative. How do you ensure that tokenization empowers farmers with cheaper capital and better market accessâ??rather than concentrating value among platforms and global investors?

Smallholder inclusion is not a narrative at Dimitra; itâ??s fundamental to our architecture, and one of the hardest parts is simply reaching farmers and sustaining participation at scale. Thatâ??s why we donâ??t try to â??onboard farmersâ? in isolation. We structure projects through cooperatives, NGOs, and local organizations that farmers already trust and interact with, because those partners are essential for field operations, adoption, training, and ongoing data quality.

Our approach is designed to make the value farmers already create visible, verifiable, and measurable. It starts with farmer-owned data captured at the field level and transparent value attribution, so any tokenized asset, whether tied to harvests, receivables, or carbon outcomes, originates from and is traceable to the producer, with clear rules on how value is shared. Tokenization only makes sense if it is linked to real benefits, like cheaper capital through underwritable evidence and risk reduction, and better market access by enabling compliance and buyer-ready traceability.

By creating verifiable digital records at the farm level, we give farmers a structured way to document how they operate and what they produce, which lowers due diligence costs for lenders and buyers and reduces the information asymmetry that drives high financing costs. We also design governance and distribution so value doesnâ??t concentrate at the platform level through transparent fee structures, farmer-level attribution, and mechanisms that scale farmer upside as participation grows. The goal is a system where capital and market premiums flow back to farmers because their data and outcomes make the asset investable, not a system where tokenization becomes an extractive layer on top of their work.

Regulatory clarity around digital assets is still evolving. What jurisdictions are best positioned to lead in agricultural RWAs, and how critical is harmonized global policy for scaling cross-border tokenized commodity markets?

In order to achieve impactful adoption and scale effectively, we believe in evaluating each jurisdiction on an individual basis. This means taking the social, legal, political, geographical, and cultural context of each individual jurisdiction into careful, specific consideration, as opposed to broadly cross-comparing landscapes.

While we also appreciate that full global harmonization of policy would accelerate adoption, we are not naive to the fact that the probability of this in the short term is low and will probably take many years to achieve. In the interim, we must accept the current reality with patience and work within the confines of each countryâ??s legislative and regulatory boundaries.

Looking ahead five to ten years, do you see tokenized agriculture becoming core infrastructure for global food systems finance â??or a parallel alternative market serving climate-aligned capital pools?

I believe that tokenized agriculture will become part of the core infrastructure rather than a parallel alternative market. Agricultural systems are already moving towards greater transparency, traceability, and data-driven compliance. Tokenization is a practical way to make those systems more interoperable and verifiable. It wonâ??t replace existing markets overnight, but it will increasingly sit alongside them as a digital layer that improves how agricultural activity is recorded, verified, and exchanged across global supply chains.

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