Stories of Impact

Part I: Web3 Blockchain-enabled Impact Stories

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STORIES OF IMPACT

Blockchain technology is enabling innovative approaches to social and environmental impact, from financing unbanked farmers to protecting rainforests. Blockchain technology is enabling innovative approaches to social and environmental impact, from financing unbanked farmers to protecting rainforests. Measuring and demonstrating impact is critical for impact investors, international organizations (e.g. the UN), ecosystem funders like the Ethereum Foundation, and project developers. However, impact measurement in Web3 projects remains challenging[1], as seen in Ethereum's recent Retroactive Public Goods Funding rounds, where both project teams and evaluators struggled to assess impact. In addition, it remains a mystery to the larger ecosystem how blockchain can help deliver impact.

This report presents five case studies of blockchain-based impact projects – EthicHub, Giveth, GainForest, and Octant Labs – highlighting their missions, achievements, and the methods used to measure impact. The information conveyed is gathered through surveys, interviews, and desk research. Each story is followed by key lessons and recommendations to provide an overall framework for guiding impact delivery, measurement, and funding strategies.

EthicHub: ReFI for Smallholder Coffee Farmers

EthicHub is a Regenerative Finance (ReFi) platform that connects smallholder farmers in developing countries with crowdfunding from global crypto-lenders[2]. As noted by its co-founder Gabriela Chang, the problem is imminent:

> *"In coffee alone, there are 25 million micro farmers missing access to finance and markets – they produce 80% of the world's coffee, but banks and microfinance institutions don't serve them."*

This lack of credit traps farmers in a cycle of poverty, leaving an estimated $450 billion credit gap for smallholder coffee farmers[3]. EthicHub's solution is a blockchain-based marketplace that universalizes access to affordable loans for these unbanked farmers via on-chain loans and a crowd-collateral system:

[1] https://ethglobal.com/showcase/ief-impact-evaluation-framework-caf4j
[2] https://solve.mit.edu/solutions/29590#
[3] https://www.youtube.com/watch?v=PAOwy22fPNo

- **Crowdlending Platform:** Investors finance productive loans for farmer cooperatives, typically at lower rates than local banks[4].
- **Crowd Collateral/Compensation System:** A smart contract-based blended finance system where a community-backed collateral fund (powered by smart contracts) helps secure otherwise uncollateralized loans[5]. It enables community members to stake Ethix tokens[6] to secure borrower defaults.
- **EthicHub Green Coffee Shop**[7] connects smallholder farmers with roasters, increasing profits and visibility of coffee beans produced through an ethical supply chain.

The core idea is that all stakeholders contribute capital, services, or oversight in a way that aligns incentives[8]:

1. An **originator**, who typically serves as a farmer's service provider, proposes an agro-project (for farming, processing, export, etc.) and selects a community of farmers to be involved. They stake collateral as a commitment.
2. **Auditors** then check the project and the originator's trustworthiness. They are typically entities with a proven public reputation (NGOs, AgTech Accelerator, development agencies, etc.). They refer and audit the originators that are aligned with EthicHub's priorities and mission, and stake collaterals (Ethix) on their behalf. In exchange, they get a 2% fee on the paid loans. As a result, it contributes to a more resilient ecosystem.
3. Once approved, **lenders**[9] (regular investors, who can be anyone) supply stablecoins to fund the loan. Meanwhile, **collateralizers** provide collateral (via pooled resources) to back the loan and reduce perceived risk. In exchange of their role as risk mitigators, they benefit from a higher yield than lenders
4. After the funding goal is met, smart contracts (on blockchain) transfer the funds to the farmers (via the originator's wallet or representative), who then use the capital to finance their agricultural activities.
5. When farmers repay their loans (with interest), the funds flow back through the smart contract. Lenders receive their capital and interest; collateralizers receive a higher yield; auditors receive referral fees; originators (if structured that way) maintain relationships and may be involved in future projects; farmers build a

[4] https://www.ethichub.com/en/what-is-it-and-how-does-it-work
[5] https://chainforgood.org/news/detail/0f2e51d7-316b-4770-a3c0-bae3a56c4ad2
[6] https://ethichub.gitbook.io/ethichub/en/financing-and-guarantee-mechanisms/ethix
[7] https://greencoffee.ethichub.com/en
[8] https://ethichub.gitbook.io/ethichub/en/key-components/stakeholders
[9] https://www.ethichub.com/en/invest-in-ethichub

credit history and improve their livelihood.

In summary, EthicHub creates a ReFI loop, where farmers have access to fair loans, investors receive returns, and risk is mitigated through collateral and auditing, resulting in a mutually beneficial outcome that advances financial inclusion and multiple UN Sustainable Development Goals[10]. Their partnership with auditors, such as Heifer exemplifies working with development experts to assess and amplify impact[11, 12].

The Role of Blockchain

EthicHub launched on Ethereum in 2018, leveraging blockchain to transcend borders in crowdlending[13]. They started on the Ethereum Mainnet, then implemented DAI and xDAI (Gnosis), and now they run on Celo[14]. They utilize blockchain to enable traceable, fast, safe, and practical value transfers. They use smart contracts to create an incentive loop and a shared value generation model. Such that, Ethix tokens and collateral mechanisms [15] redistribute the risk and benefits:

- The auditors' stake (collateral + auditing reputation) ensures that originators and farmers meet their obligations.
- However, risk is inherent to smallholder farming; if something goes wrong (default, non-repayment), the pooled collaterals (including possibly tokens, depending on the mechanism) act as a guarantee to protect lenders and reduce loss.

In fact, EthicHub aims to transition towards on-chain DAO voting using Ethix stakes to give local stakeholders a stronger voice[16].

Impact Delivery, Measurement, and Evaluation

EthicHub provides a model of ReFi-enabled blended finance with explicit risk-sharing and repayment-backed evidence. This model demonstrably breaks the poverty cycle. Over the past five years, as stated in our survey, EthicHub has financed more than $6 million in microloans to 700 farming families across five countries, with a 97% repayment rate, as noted in our survey. In addition, EthicHub has also traded over 300 tons of specialty coffee by connecting producers directly to international buyers[17]:

[10] https://drive.google.com/file/d/1CH7ag_vxRAH_sl2qRdHE6-11czIk3XhS/view
[11] https://www.heifer.org/press-release/heifer-international-ethichub-invest-420000-to-improve-financial-access-for-smallholder-coffee-farmers-in-mexico
[12] https://chainforgood.org/news/detail/0f2e51d7-316b-4770-a3c0-bae3a56c4ad2
[13] https://ethichub.gitbook.io/ethichub/en,
[14] https://ethichub.gitbook.io/ethichub/en/financing-and-gu.aantee-mechanisms/ethix#mainnet
[15] https://app.ethichub.com/lending
[16] https://www.ethichub.com/en/blog/originator-hub
[17] https://chainforgood.org/news/detail/0f2e51d7-316b-4770-a3c0-bae3a56c4ad2

- **Affordable financing:** EthicHub's loans have a single-digit interest rate, and provide finance to those who were otherwise unbanked[18].
- **Increased income and financial security:** By cutting out middlemen in the supply chain, farmers earn more for their crops. EthicHub reports that its farmers saw a 15% increase in earnings[19] from coffee sales once they could export globally.
- **Environmental Stewardship:** All participating farmers sign EthicHub's sustainable practices certificate[20] and commit to agrosforestry and environmental standards for coffee production.

Importantly, these positive changes can be attributed in part to blockchain: without crypto-based lending, these farmers would not have had timely and affordable access to capital or global markets. There have been few neutral or negative effects reported. Farmers do not interact with the blockchain directly (local nodes handle the technology), so there is little risk of a technological burden.

EthicHub acknowledges that, as a small team, it has limitations in conducting comprehensive impact measurement and evaluation. Much of the *implicit* impact (e.g. improved quality of life, environmental stewardship from agroforestry) is understood from the context rather than continuously quantified. Still, practical impact metrics, like total funds lent, communities reached, and repayment rates, are routinely measured as indicators of economic impact. However, by teaming up with NGOs (like Heifer) and impact investors, they enhance both their reach and their ability to measure social outcomes: a 2023 independent survey by 60 Decibels found that 100% of farmers reported they would have had no other financing alternatives without EthicHub (and its partner NGO, Heifer International)[21]. In other words, it reaches excluded communities and enables them to invest in their productivity. The project's alignment with SDGs provides a guiding framework for delivering impact[22].

Lessons Learned

EthicHub's experience underlines the value of partnerships between blockchain innovators and traditional development organizations. By teaming up with NGOs (like Heifer) and impact investors, they enhanced both their reach and their ability to measure social outcomes. They suggest forming partnerships and alliances with development entities for measuring, delivering, and assessing impact.

[18] https://app.ethichub.com/lending
[19] https://chainforgood.org/news/detail/0f2e51d7-316b-4770-a3c0-bae3a56c4ad2
[20] https://drive.google.com/file/d/1mIqZ7ShGWnvy36Y2PHf46Ib4-aoAZwO0/view
[21] https://ethichub.gitbook.io/ethichub/en/social-impact-assessment-and-recognition/impact-assessment
[22] https://drive.google.com/file/d/1CH7ag_vxRAH_sl2qRdHE6-11czIk3XhS/view

For impact investors and agencies, EthicHub shows that well-structured crypto lending can advance financial inclusion – but to verify impact, on-the-ground data (e.g. farm productivity, borrower feedback) must complement on-chain metrics. Blended finance models (combining smart contracts with community organizations) can be a powerful tool to meet 2030 SDG targets, provided stakeholders move quickly to support and scale these solutions.

For project developers and partner organizations, EthicHub's model addresses a global problem: the financing gap for smallholder farmers. The approach has already expanded from a pilot in Chiapas, Mexico, to communities in Brazil, Colombia, and Honduras. It is inherently replicable across many developing regions and various commodities. Similar conditions exist in much of Latin America, Africa, and Asia, suggesting wide replication potential. For instance, small tea growers in Kenya or cocoa farmers in Ghana could similarly benefit from crowdlending backed by a blockchain collateral fund.

Giveth: Decentralizing Philanthropy with Transparency

Giveth is one of the earliest and most influential Web3-native public-goods funding infrastructures. Founded in 2016, it operates as a borderless, multi-chain donation platform enabling grassroots organizations, open-source teams, and community-driven initiatives to access transparent, censorship-resistant funding. Unlike traditional philanthropic platforms, where donors often lack transparency into where their funds are allocated or whether their donations make a difference, Giveth's online platform (Giveth.io) addresses the issue of "low trust and visibility" in charitable giving by offering verified projects, on-chain transparency, and incentive mechanisms that reward impact.

As the team emphasized, their mission is to "support grassroots efforts" and ultimately "complement governments in supporting nonprofits" by creating a global, decentralized, and transparent giving economy. Giveth is explicitly designed to minimize gatekeeping: anyone can create a project profile, donations flow directly from donor to recipient on-chain, and Giveth charges zero fees.

The Role of Blockchain

Giveth is built on blockchain to leverage its global, transparent, and permissionless nature for philanthropy. The platform is notably multi-chain, supporting donations on the Ethereum mainnet and several EVM-compatible chains, including Gnosis (xDai), Polygon, Arbitrum, Optimism, Base, as well as non-EVM networks such as Celo, Solana,

and Ethereum Classic. This multi-chain approach was chosen to allow donors to donate on their preferred chain, thereby reducing friction and increasing the number of contributors. Technically, Giveth deploys smart contracts that manage project registries and handle donation accounting. When a donation is made, the transaction is peer-to-peer (e.g., sending DAI or ETH directly to the project's address) without any platform fees.

However, Giveth's interface and contracts log the transaction to update the project's total and to trigger any rewards (GIVtokens) that constitute GIVeconomy[23, 24, 25]: an incentive layer designed to reward altruistic behavior, signal trustworthy projects, and cultivate regenerative ("regen") economic behavior. Below are its core components:

1. GIVbacks — Rewarding Donors: Donors to verified public-benefit projects receive GIV tokens proportional to their contributions. This acts as a borderless, decentralized alternative to tax deductions, making giving non-sacrificial.
2. GIVstream — Continuous Vesting of Rewards: A mechanism that continuously "streams" GIV tokens to active participants over time, rewarding long-term alignment, not just one-time donations.
3. GIVpower — Stake-to-Signal & Project Curation: Users stake GIV to gain GIVpower, which they use to boost projects. Boosted projects gain higher visibility and their donors earn increased GIVbacks—making curation a public-good action.
4. GIVfarm — Yield Farming for Public Good: Users stake GIV or liquidity tokens in yield pools to earn more GIV. This strengthens token liquidity and channels DeFi incentives directly into public-goods funding.
5. GIVdrop — Distributing Ownership to the Community: A major airdrop that rewarded early Giveth users, donors, builders, and public-good contributors—bootstrapping grassroots ownership of the ecosystem.
6. GIVgarden — Decentralized Governance and Decision-Making: GIV holders create and vote on proposals, allocating resources and shaping ecosystem rules. This turns public-good supporters into co-governors of the funding infrastructure itself.

Smart contracts facilitate direct donations from donor to beneficiary, and every transaction is publicly viewable on Ethereum or compatible blockchain networks, ensuring transparency and accountability. On the other hand, tokens enable incentivization of certain behaviors, signal community trust, and affect reward

[23] https://giveth.io/giveconomy
[24] https://linktr.ee/givtoken
[25] https://docs.giveth.io/giveconomy

distribution. Another key mechanism is the Quadratic Funding (QF) rounds[26]. Giveth periodically runs matching campaigns where a central pot of funds is distributed to projects based on the number of unique donors each attracts (favoring broad grassroots support). In sum, Giveth's solution mechanism is "donation + DAO" – it merges crowdfunding with token-driven community engagement. This addresses low trust (through verification and transparency) and donor fatigue (through rewards and fun funding mechanisms) to ultimately channel more reliable funding to grassroots projects.

Impact Delivery, Measurement, and Evaluation

Giveth is implemented globally as a borderless Web3 platform, operating in the sectors of digital public infrastructure, open-source tooling, and transparent philanthropy. As of November 2025[27], it has facilitated over USD 5 million in donations, supporting more than 7,000 projects from 25,000+ donors with zero platform fees, across Ethereum Mainnet and multiple EVM-compatible networks—such as, Gnosis Chain, Optimism, Base, Polygon zkEVM, Arbitrum, and also non-EVM chains such as Solana, Stellar, and Celo. Their work aligns with SDG 9 (innovation and infrastructure), SDG 16 (trust and accountable institutions), and SDG 17 (global partnerships), as they build transparent funding systems that strengthen collaboration and public goods ecosystems worldwide. However, Giveth does not conduct formal impact assessments or require project-specific assessments. As a platform enabling others' impact, Giveth's approach to impact measurement is twofold: measuring the platform's own performance (how well it delivers funds to projects), and facilitating projects to demonstrate their impact to donors without imposing rigid frameworks. They track:

- Platform Level KPIs
    - Funding statistics through Giveth Analytics Dashboard[28]:
        - number of donors
        - number of donations
        - total volume of donations
        - chain-level distribution
        - categorical distribution
- Project statistics:
    - Divided under Project Cause Areas[29]
    - Total amount raised & Number of donors

[26] https://giveth.io/qf
[27] https://stats.giveth.io/
[28] https://stats.giveth.io/
[29] https://giveth.io/causes/all

    - Project verification statuses binary (verified, Givebacks eligible)[30]
    - Givpower boosts[31]
- Project-driven reporting:
    - Project details (Description, links, category, impact orientation)
    - Updates (At least quarterly to remain active)
    - Optional Milestone reports
    - Narrative-based evidence (optional)

This emphasizes that Giveth is infrastructure and a mediator giving guidance on best practices, not an evaluator, similar to how many UN blockchain pilots operate as digital backends rather than assessment engines. Giveth's own survey response highlights that *"the process may be different for each project to serve that specific project's niche needs"*. Giveth leans into that by not dictating impact metrics across the board. Giveth has raised thousands of dollars for different impact projects by mobilizing the crypto community:

- **Efficiency and cost savings:** Because Giveth charges 0% platform fees, an estimated $250k+ (5% of $5M, compared to typical charity platform fees) has been saved and redirected to causes instead of intermediaries. Even accounting for minor blockchain transaction fees, the cost per dollar delivered is extremely low.
- **Empowerment of grassroots projects:** The platform's openness and low barriers to entry mean that many small, volunteer-driven projects have received their first funding through Giveth. Over 1,500 projects have been "Verified", gaining credibility and exposure, which sometimes leads to additional support off-platform.
- **Community-building:** Giveth has cultivated a community of altruistic crypto users. The existence of GIV token rewards keeps donors engaged.
- **Positive outcomes for funded projects:** While Giveth doesn't centrally aggregate each project's impact, many success stories have emerged.

Most of these results can be attributed to the blockchain elements with a high degree of certainty. Without crypto, Giveth likely wouldn't exist in its current form – the zero-fee model is feasible because smart contracts and token incentives replace the need for a traditional paid intermediary. The global reach (projects and donors from dozens of countries) was enabled by the borderless nature of cryptocurrencies. Additionally, innovative outcomes, such as Quadratic Funding rounds on Giveth, were only possible using Ethereum-based matching contracts. A traditional platform could not easily

[30] https://docs.giveth.io/projectverification
[31] https://giveth.io/givpower

replicate the QF mechanism across multiple currencies with such low overhead.

Lessons Learned

Operating since 2016 (with major relaunches around 2020), Giveth has learned several lessons about merging blockchain with charitable giving:

1. **User experience is paramount:**
    a. Meet users at their comfort level (hence, multi-chain donations in the token of their choice).
    b. Simplify onboarding – for example, by providing clear guides for projects to set up wallets or convert cryptocurrency to fiat. Over time, the interface was improved to resemble familiar crowdfunding sites, hiding blockchain complexity unless a user wants to delve deeper.
2. **Incentives need balance:**
    a. The introduction of GIV token rewards taught Giveth about striking a balance between generosity and sustainability. Too high rewards could attract exploiters or drain the treasury, too low and they don't motivate.
    b. Gamification can boost engagement, but it must be tuned carefully.
3. **Community governance is powerful but messy:**
    a. Giveth transitioned to a DAO model, allowing its community to vote on many key decisions. However, it can lead to lengthy debates on topics such as verification criteria, or fund distribution and governance could be dominated by a few voices. To counteract, provide clear proposals and educate the community to make informed decisions.
4. **Not all projects are equal – curation helps:**
    a. Initially, Giveth allowed anyone to post any project (even anonymously), trusting the crowd to vet the content. They discovered this could lead to donor confusion or skepticism, and that having a curation layer (verification and featured rounds) was important. Now Giveth proactively curates thematic rounds (e.g., climate-focused or local community rounds) and highlights high-impact projects, which improves the overall impact per dollar donated. The lesson: Central curation or segmentation can enhance the effectiveness of a decentralized platform.

GainForest: How GainForest Uses AI and Blockchain to Democratize Nature Conservation

Deforestation and land degradation account for nearly a quarter of human greenhouse gas emissions; yet, the communities best positioned to protect these ecosystems often lack the resources to do so (Dao et al., 2019; Solana Foundation, 2023). The global fight against climate change and biodiversity loss faces a critical bottleneck: a lack of trust.

A Significant Data Gap: While the Amazon rainforest hosts 15% of the world's biodiversity, it accounts for only 0.5% of the global biodiversity data collected (Dao, 2025). 82.7% of all biodiversity data comes from North America and Europe. This imbalance hinders accurate impact measurement, while traditional carbon markets have been marred by scandals involving "phantom credits" and baselining errors, which alienate donors and fail to reward effective stewardship (Stuit et al., 2022; Solana Foundation, 2023).

The Trust Gap & Exclusion of Communities in Conservation: Traditional conservation finance is often plagued by high administrative costs, slow processing times, and a lack of transparency. Donors are uncertain whether their money reaches the intended recipients, while frontline communities—Indigenous peoples and local stewards who protect 80% of the world's biodiversity—are often excluded from decision-making and funding due to bureaucratic hurdles (GainForest Association, 2020, 2022).

Humanity faces a dual crisis of biodiversity loss and climate change, yet the financial mechanisms designed to address them are failing. GainForest, a Swiss-based non-profit, addresses these systemic failures by deploying a "Self-Improving Sociotechnical Loop" (SISL). The solution features multiple integrated layers, designed in collaboration with local communities (forest stewards), to ensure both effectiveness and fairness. At its core is the concept of an “Ecological Impact Certificate”, or “ecocert,” which is essentially a quantifiable claim of environmental impact (like hectares of forest protected, biodiversity recorded, etc.) packaged into a unique digital certificate.

The Role of Blockchain: From "Measure-to-Earn" to Direct Conservation Finance

At the heart of this system is Conservation Data Income (CDI), a "measure-to-earn" model that pays local communities directly for collecting high-quality ecological data. Instead of relying on volatile carbon credits or slow grant cycles, communities receive immediate payments for uploading verifiable data—such as 1 cent per minute of bioacoustic recordings or 5 cents per megabyte of drone imagery (Dao, 2025; Ma Earth, n.d.).

GainForest uses blockchain technology (primarily the Celo blockchain, an Ethereum-compatible chain) as the backbone for issuing and transacting its impact certificates. The blockchain solution comprises several components: tokenized impact certificates, smart contract marketplaces, crypto payments to communities, and integration with other technologies and Web3 tools.

- **Technological Framework:** The platform integrates satellite imagery, drone data, and bioacoustics to monitor forest health (Solana Foundation, 2023).
- **Smart Contracts:** GainForest uses smart contracts to remove intermediaries. Funds are held in escrow and released automatically to local stakeholders once specific reforestation or protection milestones are verified by AI analysis of the data.
- **Measurable impact and evidence:** Communities are paid for the act of monitoring itself—for example, 1 cent per minute of bioacoustic recording or 5 cents per megabyte of drone imagery.
- **Payment for Data:** Communities are paid for the act of monitoring itself—for example, 1 cent per minute of bioacoustic recording or 5 cents per megabyte of drone imagery

Impact Delivery, Measurement, and Evaluation

GainForest decentralizes nature finance and research through an open, equitable infrastructure built on blockchain and AI. Founded in 2017, now in its scaling phase, GainForest empowers local communities to monetize verified conservation efforts via Ecocerts—digital environmental impact certificates—sold on the Ecocertain marketplace. Complementary platforms include the GainForest App for data upload and visualization, Nature Guild for education and onboarding, and AI-driven impact evaluation tools through “DevGov” AI agents (Gainforest, 2025; Hamzah, 2025).

1. Impact Packaging: Communities create Ecocerts representing measurable conservation outcomes. Nature stewards package their impact inside a digital environmental impact certificate (ecocert) and then sell it on an ecocert marketplace[32].
2. Marketplace Access: Ecocerts are listed on Ecocertain, enabling direct funding

[32] www.ecocertain.xyz

from global donors.

3. Data Transparency: IoT sensors, drones, and bioacoustic devices feed real-time data into GainForest's platform. The data upload platform and visualization platform[33] allow communities to upload data relevant to their project's ecocert.
4. Smart Contracts: Funds are locked in a decentralized escrow and released upon the verification of milestones.
5. Education & Inclusion: Nature Guild trains local stewards in digital literacy (onboards them into web3) and ecological monitoring.
6. Impact evaluations on the quality of each ecocert is conducted through broad listening[34] and simocracy[35]. They also allow external impact evaluators to evaluate the impact of each ecocert.

GainForest explicitly focuses on SDG 15: Life on Land (as the primary goal, given forest conservation) and also touches SDG 4 (Quality Education, via its Nature Guild training) and SDG 8 (Decent Work, via paying communities for stewardship). So we can infer an implicit Theory of Change: if communities are paid and empowered to protect forests using transparent data tools, then deforestation will decrease and biodiversity will improve, leading to climate mitigation and livelihood benefits. GainForest has moved beyond theoretical frameworks to generate concrete, verifiable impact across its pilot sites. As of the last reporting (Gainforest, 2025):

- A blockchain-based marketplace of ecocerts has generated over $30,000 in community-generated funding from more than 360 donors.
- Won the *XPRIZE Rainforest Bonus Prize* — transferring $250K into an Indigenous Science Endowment Fund to disburse continuous micro payments to locals for patrolling the Amazon, replanting trees, etc.
- There are 29 Global conservation projects listed on the platform.
- They co-created the *Nature Guild* — giving conservation leaders at the frontline the decision-making power over priorities and shared resources.

GainForest employs a rigorous "Proof-of-Care" methodology. Impact is evaluated using a combination of bottom-up data and top-down monitoring (satellite imagery)[36], including (as noted in our survey): Species richness (eg, through audiomoths, field measurements, drone image analysis, photos, eDNA), tree cover (through satellite and drone images),

[33] www.gainforest.app
[34] https://www.combinationsmag.com/the-art-of-broad-listening/ https://www.broadlistening.org/
[35] https://beta.fileverse.io/files/fea41dd3-6085-4311-bec6-02e02d25bf95
[36] https://github.com/GainForest

funds distributed (number of community members and projects receiving funding through our platform). Communities are incentivized to upload data regularly (possibly with modest rewards or because it increases the credibility of their certificate). Satellite monitoring is continuous (with remote sensing, you can get updates monthly or even weekly in some cases). This high-frequency monitoring enables GainForest to detect issues early – for example, if a patch of forest is suddenly cleared, it will appear in the data and could trigger an alert or prompt community action. GainForest leverages AI models that ingest the data and output impact metrics or flags. For instance, AI can analyze drone images to count trees and detect illegal logging activities. It can process acoustic data to count species or detect anomalies (like chainsaw noises). These AI models effectively automate part of the evaluation, providing near-real-time measurement and evaluation. The outcomes and metrics can also be viewed in their impact report[37] (Gainforest, 2025).

In a coastal community in the Philippines[38], a local mayor ordered the clearing of a protected mangrove forest to build a parking lot for a nearby festival. When confronted, officials denied the forest had ever existed in that specific location. However, the local community had recently begun working with GainForest. They produced time-stamped, geolocated drone imagery and satellite data that irrefutably proved the mangroves' prior existence and health. Faced with this undeniable evidence, higher-level institutions intervened, enforcing compensation for the destruction. This shows that data holds power. While we must wait for long-term data, initial indications from projects suggest positive trends. GainForest has shared anecdotes, such as the story of Nandutu, a beekeeper in Uganda, who increased sustainable honey production that preserves the forest, demonstrating that alternative livelihoods can thrive (Solona Compass, 2023). Another case involved the use of NFTs to prevent illegal deforestation (Solona Compass, 2023). These micro-level successes, when aggregated, contribute to reduced deforestation rates and improved biodiversity metrics in project areas. In addition, GainForest is moving toward Decentralized Science (DeSci)[39], aiming to empower indigenous communities to become the primary scientists and data owners of their land, outperforming traditional universities in data collection efficiency. Nature guilds enable typically marginalized individuals in global funding to directly interact with a high-tech platform, earning rewards for their knowledge and labor. Thus, a major impact of GainForest is empowering *local communities* as active participants in climate finance. The team shares regular updates on *karmahq*[40]. They signalled in our survey that they

[37] https://gainforest.earth/#impact-report
[38] https://youtu.be/9Ei-L_sBDSk?t=1952
[39] https://youtu.be/9Ei-L_sBDSk?t=1263
[40] https://www.karmahq.xyz/project/gainforest-2/updates

can explore a flexible but formalized impact framework approach by integrating existing frameworks in addition to what they already do.

Lessons Learned

GainForest transitioned from a top-down tech implementation model to a co-design approach. Initially, the team considered individual payments, but after receiving feedback from the Kayapó community in Brazil regarding their communal culture, they adapted the model to entrust elders with distribution, thereby avoiding the potential for unhealthy competition (Goethe-Institut, 2025).

- Co-Design is Essential: Top-down technological imposition fails. Success requires adapting the tech to local governance structures, as seen with the Kayapó.
- Data Privacy as Safety: Indigenous communities raised valid concerns that revealing the real-time location of endangered species[41] could attract poachers. GainForest adapted by creating "Treasure Boxes"—secure data vaults where communities can archive indigenous knowledge privately without public release.
- Balance high-tech with appropriate-tech: GainForest initially leaned heavily on advanced tools (AI, blockchain), which is their unique angle, but they also invest in capacity-building solutions.
- Quality of data over quantity: In early data collection, they encouraged communities to upload everything – lots of pictures, recordings, etc. They discovered that not all data is equally useful and sifting through it taxed their system. Now they emphasize key indicators (tree cover, species calls) and teach communities how to take standardized measurements (e.g., using a simple protocol for acoustic sampling).
- Incentives and Trust for Communities: GainForest's model centers on incentivizing local communities to protect nature while minimizing the need for blind trust between donors and stewards. Funds from donors are held in a smart contract "green fund" and released in staggered micropayments once milestones are verified, instead of as one-off grants[42]
- Regulation should differentiate different kinds of technology use and impact[43].
- A multi-modal verification approach[44]: ML model might flag tree cover loss due to seasonal variation or misclassify sounds/pixels due to training bias, combining various data sources (satellite data with drone photos, bioacoustic recordings, and

[41] https://youtu.be/9Ei-L_sBDSk?t=691
[42] https://docs.gainforest.earth/whitepaper/chapter-two
[43] https://youtu.be/dtrwyNCkRh4?t=2634
[44] https://medium.com/@ClimateCollective/gainforest-joins-climate-collective-battling-deforestation-with-ai-citizen-science-and-8bbf1e9c72a3

on-the-ground observations via a Telegram bot) is necessary to cross-validate findings.
- Scaling up operations while maintaining data quality and integrity requires collaboration: GainForest Data Council[45] enable regional representatives and experts to co-create data policies and oversee standards for all community projects.

Finally, GainForest understands that transforming conservation finance is a long game – one that requires patience and an inspiring narrative to bring on board large funders and align with global goals. The team emphasizes "we need $130 billion per year to halt deforestation by 2030"[46]. By situating their work in the context of this $130B/year funding gap, they speak the language of institutional donors (governments, development banks, climate funds) who operate at that scale, and communicate that sustainable, long-term impact can be achieved through investing in trust and systems. The successful pilots indicate that the core approach (community-driven data collection rewarded via blockchain) is not ecosystem-specific. The model can be readily applied to tropical forests in Africa, where many Indigenous and local communities face similar incentives to curb deforestation. Beyond forests, the measure-to-earn framework might extend to other natural resources: wetland or peatland conservation, wildlife monitoring in savannahs, or marine ecosystem restoration (like coral reefs or fisheries). To replicate this impact, engaging local communities and partner organizations with a genuine commitment might be the key. Anywhere local stakeholders can take actions to preserve biodiversity or carbon stocks, and where those actions can be monitored, the GainForest incentive system could be introduced through modular and contextual adaptation.

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Octant Labs: Staking-yield-backed Funding for Public Goods

Many open-source developers rely on one-time grants or donations, which are unpredictable and often insufficient[47]. Octant (led by Octant Labs under the Golem Foundation) is an experiment in sustainably funding open-source and public goods projects within the Ethereum ecosystem, addressing the lack of long-term, recurring funding for critical infrastructure and public goods[48]. Octant's solution is to create a self-sustaining funding pool by leveraging blockchain staking yields[49]. Octant's ecosystem involves several key stakeholder groups[50], each with distinct roles and incentives:

- **Dragons (Capital Providers):** These are entities or individuals with substantial capital who deposit funds into Octant vaults. Originally, Golem Foundation acted as the prime Dragon by contributing 100k ETH to seed the model. Dragons are motivated by impact (public goods funding) without loss of principal, and possibly by reputational benefits. They also appreciate that Octant's model could increase the value of their ecosystem (funding infrastructure that they themselves rely on).
- **Regens (Community Voters/Stewards):** These are community members who participate in allocating yield funds to projects. Often, they are token holders (e.g., of GLM or other governance tokens) who stake or lock tokens to gain voting power.
- **Project teams (grantees):** These are the developers, nonprofits, or organizations seeking funding through Octant.
- **Octant Core Team (Octant Labs):** These individuals are responsible for building and maintaining the Octant protocol and program.
- **External Partners and Auditors:** Octant doesn't operate in isolation. It collaborates with other public goods funding initiatives and research groups.

The Role of Blockchain

[47] https://forum.celo.org/t/introducing-octant/9561
[48] https://docs.v2.octant.build/
[49] https://docs.octant.app/en-EN/
[50] https://forum.arbitrum.foundation/t/introducing-octant/27607

Octant is built as an on-chain protocol that leverages Ethereum smart contracts to achieve trust-minimized funding flows. At its core are ERC-4626 yield vaults (a standard for tokenized yield-bearing vaults) and smart contracts for splitting and routing yield[51]. Blockchain staking is the process of locking up a cryptocurrency to help maintain the security and operations of a blockchain network. In return, stakers earn rewards, similar to the interest or dividends earned on investments.

1. In Ethereum's Proof of Stake (PoS) system, validators are chosen to propose and verify new blocks based on the amount of ETH they have staked (locked in the system). Staking replaces energy-intensive mining.
2. In return, Octant earns staking rewards, which are approximately 3–5% per year. That's roughly $13–18 million annually.
3. Those rewards are used to fund public goods, including open-source tools, Ethereum infrastructure, and education.

By staking 100k ETH, Octant not only helps secure Ethereum (contributing to the network's health) but also utilizes programmable yield distribution – a feature only possible in crypto finance. The entire flow of funds is on-chain: the staked ETH generates rewards, which are distributed transparently to grantees via smart contracts. Octant also introduced user incentives: community members who lock some of their Golem (GLM) tokens or participate in governance may receive a portion of the rewards, aligning individual incentives with public funding and aiming to create a virtuous cycle. Using blockchain here is vital for automation, transparency, and composability. Smart contracts enforce the rule that only yield (never principal) is spent, providing a transparent guarantee of capital preservation. Additionally, Octant has adopted emerging Web3 primitives, such as Hypercerts – soulbound NFT certificates that represent impact – as part of its stack. Hypercerts allow tracking of both financial contributions and non-financial support to projects, making them a "Web3 standard for impact certificates [52]".

Impact Delivery, Measurement, and Evaluation

Golem/Octant communications report that staking 100k ETH (approximately USD 333–390M, depending on the time) has enabled Octant to distribute millions of dollars in ETH to hundreds of projects over its first year, across multiple "epochs"[53]. Although Golem Foundation provided a financial base, Octant users retain decision-making power

[51] https://docs.v2.octant.build/docs/introduction/
[52] https://octant.build/en/blog/introducing-hypercerts-foundation
[53] https://gov.optimism.io/t/introducing-octant/9361

[54]. Octant runs funding rounds where Ethereum community members propose projects and vote (using quadratic voting or other mechanisms) to direct the available yield to those projects. The primary impact group comprises open-source builders and projects that keep Ethereum running (clients, development tools, etc.) or other public benefit initiatives. This included support for high-impact efforts like the Protocol Guild (a collective of Ethereum core devs), Ethereum Attestation Service (EAS), L2BEAT (layer-2 transparency tool), BuidlGuidl (developer onboarding), and even non-blockchain public goods like Tor Browser[55].

- By providing recurring funding, Octant helped improve the financial sustainability of these projects, many of which previously struggled with one-off grants.
- Another outcome is that Octant has sparked dialogues across ecosystems (Ethereum, Celo, Arbitrum, etc.) about replication: the Octant team actively reached out to other communities to share their approach[56]

Octant's approach to impact is two-tier:

1. **Measuring ecosystem outputs:** It tracks straightforward outputs like the amount of funds distributed, the number of projects supported, and milestones achieved by those grantees. They maintain a public metrics dashboard (octant.app/metrics) that lists all grants and provides follow-up information on each. For instance, they could measure how many Ethereum Improvement Proposals (EIPs) were implemented by funded teams, or the user growth of tools they supported. These are more performance metrics than social outcomes, similar to the many other on-chain funding initiatives.
2. **Broad Impact Goals:**
    a. As stated in our survey, Octant has started using a Theory of Change framework to articulate how its funding leads to long-term impact. For example, if core devs are sustainably funded, Ethereum remains secure and innovative, which in turn enables countless downstream social applications.
    b. They also have funding grants for research to improve their grant design and allocation systems (again stated in our survey). The Grant Impact Handbook is a result of this to guide impact-oriented grant design and

[54] https://docs.octant.app/en-EN/tips-for-beneficiaries.html#mobilizing-your-community
[55] https://octant.app/projects
[56] https://forum.celo.org/t/introducing-octant/9561

evaluation[57, 58].

Notably, Octant's team is aware of the difficulty in getting grantees to report on impact: "People/grantees do not want to report, so incentives for that are important," they note in the survey. They attempt to design funding rounds such that reporting is either minimal or built-in (for instance, using on-chain progress updates or requiring a brief retrospective from projects to be eligible for future rounds). Octant also emphasizes that impact measurement must be considered at the design stage of funding programs, not as an afterthought[59]. By integrating hypercerts, Octant can issue or utilize tokens that represent a stake in a project's impact, which can later be redeemed or recognized if the project succeeds (for example, projects in Octant's rounds have created hypercerts to document the impact outcomes funded). Blockchain provides the verifiability layer for these certificates and for votes (on-chain voting records) and fund flows, ensuring all stakeholders can audit what happened.

Lessons Learned

Octant's approach to monitoring and evaluation is evolving, with an increasing emphasis on data and iterative learning. Each funding epoch in Octant is treated as an experiment with its own goals and metrics[60]. The Octant team notes that "each funding round has been different" – for instance, a creator-focused round tracked community engagement metrics, whereas a climate-focused round tracked real-world environmental impact metrics. This indicates Octant tailors indicators and KPIs to the context of the projects in that cohort. Technical performance is a common dimension measured (e.g., for open-source software projects, metrics such as usage, contributions, or integrations may be tracked). But beyond output metrics, Octant encourages projects to report outcomes over time. Between epochs, projects often provide updates on progress, which are shared with the community; for example, the Hypercerts Foundation (a grantee) reports metrics such as the number of hypercerts issued, users, and funds raised via hypercerts as a way to demonstrate impact and justify continued support. Octant's journey yield valuable lessons:

1. Sustainable funding might work, but it needs planning: Octant validated that a yield-based funding model can indeed generate steady resources for public goods. However, the team learned that this doesn't run on autopilot – careful planning is needed to select appropriate yield strategies and to adjust for market conditions.

[57] https://drive.google.com/file/d/1XsFDrX0Yh0i1X7I7BnKABPnVvKHLiQGA/view
[58] https://octantapp.notion.site/Octant-a-GLM-Governance-Experiment-e098d7ff9d55468db28b8b3584b5959c
[59] https://drive.google.com/file/d/1XsFDrX0Yh0i1X7I7BnKABPnVvKHLiQGA/view
[60] https://octant.build/en/blog/calling-eth-creators-epoch-9-applications-are-now-open-2

2. Giving the community a voice in allocation improved legitimacy and engagement, but Octant observed that decentralization alone doesn't guarantee optimal outcomes. Early on, they encountered instances of low voter turnout, with voters favoring projects of popular appeal over perhaps more critical but less understood projects. This echoes a point made in the Grant Impact Handbook: "Decentralization doesn't guarantee impact."
3. Impact Measurement Must Be Incentivized: Initially, Octant relied on grantees to voluntarily report their progress. It became clear that many teams, while well-intentioned, were slow or minimal in reporting – an understandable situation, given that they are busy building their projects. However, it is important to note that, many funded projects are infrastructure (e.g. client teams, privacy tools), where causal links to end-beneficiary outcomes are multi-step and highly mediated[61].

The lesson is that hybrid models (expert input + community vote + fun incentives) can yield better results than naive fully open voting. Octant's experience suggests that carefully curating the voting process and aligning incentives is key to avoiding governance apathy. Innovative funding models need equally innovative governance and impact measurement and evaluation strategies that are diverse.

ARCHIVE

VoiceDeck: A Marketplace for Impact Certificates → not a well developed idea

VoiceDeck tackles a niche but important issue in the social impact sector: "preventing double-selling of impact." In traditional fundraising, organizations might market the same impact story (e.g. the same success case or outcome) to multiple donors, essentially getting paid multiple times for one result. This can dilute accountability – donors each think they funded a specific outcome that, in reality, only happened once. VoiceDeck's solution is to use blockchain to log each impact outcome as a unique digital asset, so it can only be "sold" (funded) once.

The project stemmed from Devansh's experience as an investigative reporter. He has observed that, despite a tangible impact, some stories rarely generate revenue unless there is a strong marketing team in the newsroom. As a result, initiatives have to spend on marketing beyond the impact, which is then sold to as many funders as possible, rather than focusing on creating sustainable impact. VoiceDeck provides a marketplace

[61] https://www.cryptoaltruists.com/blog/trailblazers-of-octant-episode-3-protocol-guild-powering-ethereums-future-with-decentralized-funding

for impact certificates where nonprofits or social enterprises list outcomes they have achieved or aim to achieve. Each outcome is tokenized (for example, as an NFT or a similar unique token on Optimism, an Ethereum Layer 2 network). When a funder donates through VoiceDeck, they effectively purchase the token representing that outcome, locking in their claim to that impact. This model shifts the sector's focus from "marketing of past impact over new impact" to a cycle of impact creation => funding => more impact creation, with blockchain ensuring the integrity of claims.