Constitution & Gameplay

To guide the participation and evolution of SEEDS, a platform for:

Sowing
Ecological
Equitable and
Decentralized
Societies

A Conscious Currency for Regenerative & Thriving Global Cultures

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DO NOT MAKE EDITS DIRECTLY TO THIS DOCUMENT - COMMENTS AND DISCUSSION ONLY.

Co-crafted with love, joy, and play by the SEEDS community

Disclaimer:

This is a living document.

As such, it acts as the basis for ongoing dialogue between all those people in our evolving community who are passionate about how we make decisions together in alignment with our shared mission and values.

It will never be perfect nor complete.

So, we invite you to read its contents with an open mind and heart and to contribute your observations, comments, and suggestions in the spirit of playful solidarity.

This will be evolved directly by the Citizens of SEEDS using decentralised governance and sensemaking.

For Part 1:

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SEEDS guidebook overview

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Key terms and definitions

A full list of terms and definitions can be found in the Glossary of Terms section of this guide. To get started, here are some quick-reference definitions of key terms that are useful to understand from the start:

- **SEEDS:** the collective name for the protocols, accounts and smart contracts that make up this new ecosystem.
    - Also the aforementioned acronym of ***S**owing **E**cological, **E**quitable and **D**ecentralized **S**ocieties*
- **Seed:** the unit of currency (a blockchain utility token) used within the SEEDS economy.
- **Passport:** a port to pass through to enter this new world. Also one of the many mobile applications (app) for accessing the SEEDS ecosystem.
- **Member:** any individual account within SEEDS.
- **Visitor / Resident / Citizen:** the journey a member goes on once joining. From a new member (Visitor), to earning and receiving rewards (Residents), to being eligible to take part in governance (Citizen).
- **Bioregion**: A natural and physical regional space that certain Citizens/Members are connected to, and are engaging in its regenerative transformation.

How to navigate this guidebook

The *SEEDS Constitution & Gameplay guidebook* contains details of the **governance, economic and financial systems** that are used within SEEDS, as well as the protocols for **participation, earning rewards, and influencing governance**. It also includes the **articles of the SEEDS Constitution**—the fundamental principles that all SEEDS members align to when joining this infinite game.

This guidebook is the definitive reference point for everything that happens in the SEEDS ecosystem. It is our roadmap to the modern (regenerative) renaissance!

Part 1 SEEDS Constitution: The intention of SEEDS

The Constitution is the foundation to the game-guide and is intended as a compass to guide the evolution of this game.

These articles, and any changes proposed to them, need to be ratified by the Citizens of SEEDS to be accepted. *If you'd like to propose changes or additions to the Constitution, you can find details of how to do so in section 2 "How you govern".*

Part 2 Game Guide: The current 'game mechanics' to fulfill the intention of the constitution

Throughout the guide, you will find certain terms which are highlighted, as such. These are protocols that are mirrored in the SEEDS code. The values in brackets [XXXX] are settings in the code that can be adjusted by the SEEDS community through direct governance.

The content is intended to be read straight through from beginning to end, but the sections are also logically organised so as to be easily referenced.

Welcome to the Regenerative Renaissance

Why is SEEDS called a game? Isn't it meant to have real-world impact and is much more serious than a game?

First, it is a game because... Why not!

Why not make a game out of building a more beautiful world? If we can do it, why wouldn't we do it?

Second, approaching it with this lens makes it easier to participate and join.

It's much easier to learn a new game then it is to learn a new economic, governance and financial system.

This perspective guides how we build the tools to support this transition, building tools that are joyful, exhilarating, activating, fun, cooperative and playful. When the act of participation is joyful in its own right (through being a game) the barriers to participate are lowered and we can truly invite the change we're collectively seeking.

Introduction to SEEDS

Our world is in crisis, yet simultaneously we are living through the modern renaissance, experiencing an explosion of potential; where humanity is co- creating, operating, and transitioning into radically new models for global coordination.

Humanities current socioeconomic systems dominate how we motivate, coordinate, and focus the majority of human will, thought, and action. Yet these systems are currently creating, incentivizing and financing the many crises humanity faces.

By most every meaningful metric, these systems are eroding the health of our society, our Earth and most life on it.

Put simply, the current socio-economic ecosystem does not bode well for Humanity or for the diversity of life on our Planet.

In reaction to this, initiatives, organisations and movements have dedicated themselves to exposing and addressing these issues. Despite significant progress, they remain within the confines of the current broken economic and political systems which as a whole is becoming increasingly destructive.

For whole systems transformation we need to address the root of these crises. Our financial, economic and governance systems.

In other words, we need to redesign how we coordinate as a global species.

Incremental progress can no longer be the norm as we head towards a planetary wide disaster.

We need new economic models that support the creation of a genuinely regenerative and thriving global civilisation.

Many radical ideas for alternative economic systems have emerged throughout history. However, these experiments either failed to get significant adoption, or have required violent enforcement.

Up until now, we lacked the technology and tools for people to voluntarily join, coordinate and participate in new economic models at a global level.

Further, humanity lacked the technology to have sovereignty to run these experiments.

Today we have the capability.

These experiments are happening real-time in the decentralized ledger (otherwise known as blockchain, or cryptocurrency) movements.

What we're seeing is the ability for people to freely opt-into new economic experiments and what's even more exciting, is successful experiments see the participants heavily rewarded.

Never before have the common people been able to see such financial success through rethinking and rebuilding economic models.

Unlike many historical experiments, SEEDS is designed to be optimally accessible, by creating an experience very similar to what we are already accustomed to in the legacy socio-economic systems.

Ubiquitous tools like internet banking, voting, and online forums have already encultured people into the new tools of this economic renaissance. So, the benefit we have is that it will take minimal education for meaningful adoption.

SEEDS is a bridge from the old world to the co-created new world. Providing the foundation for evolving economic and governance systems that can fully support a regenerative and thriving global society.

Unlike many other historical economic changes, joining SEEDS is voluntary and open to anyone with access to the internet.

It is open-source, transparent, and consists of the leading edge protocols and tools of decentralized economics and governance. All this is designed to focus and align the fragmented, yet immense, power of our various global movements aimed at creating a healthier civilization.

It is a platform for a truly ‘conscious currency’; one that aligns the interests of funders, users, founders, beneficiaries, earth and contributors as we come together to co-create a new future.

What SEEDS is offering is an open platform to create regenerative ‘operating systems’ for humanity!

SEEDS is but 1 approach. Just like any healthy ecosystem, we need a diversity of unifying systems that facilitate knowledge, value and resource flows among all those engaged in creating a more beautiful future.

We need protocols that create healthy, free and connected global societies.

We need to give voice, influence and power to those prepared to genuinely steward the health of our Earth.

SEEDS exist to provide this foundation.

SEEDS is not a business or traditional organisation.

It is a decentralized financial and governance platform that has been designed to provide the foundations for us all to co-create the new systems we need to heal our society and planet. These forms have also been called “open value networks” and have yet to be taken to their full potential of serving as a foundation for a new type of global civilization.

An invitation to co-create

The many authors of this guide give credit to all those who have come before—the people who’ve enabled the convergence of these philosophies, ideas, and technologies—and all those who‘ve joined in the movement so far.

If for any reason you feel that what this guide conveys and includes will be inadequate in bringing forth a regenerative and thriving paradigm shift (the change in how we live that we so deeply need) then join the movement and share your ideas and perspectives.

Let us evolve and co-create this new future together.

A Citizen-evolved infinite game

Version 1 of the SEEDS Constitution was co-crafted by early members of SEEDS through countless hours of writing, rewriting, wordsmithing, discussion and harmonization.

This evolution process will continue as Citizens propose, discuss and ratify individual changes using the SEEDS governance processes (see Section 2: How you govern - how we evolve and enforce rules and incentives).

SEEDS is an infinite game, there is no end. The game, rules and economics are designed to evolve as the Citizens play and collectively change the game.

SEEDS exists to serve:

- **the global regenerative movement,** helping us **obtain economic, political and food sovereignty.** Use this foundation to co-create global regenerative cultures and **reverse our climate crises by;**
    - **uniting the myriad of global change-maker movements** into a co-created economic language, aimed at creating a more beautiful world;
    - **harnessing the power of wealth creation to regenerate our earth** and co-create Regenerative Global Cultures;
    - **leveraging exponential growth protocols and designs** to support this global transition by making it more financially rewarding to participate;
    - **growing value through shrinking existing (degenerative) economies,** not converting our natural world into money;

- **communities in obtaining economic and political sovereignty by;**
    - serving as an open financial and governance layer **for collective intelligence to emerge and co-create new global coordination systems;**
    - **providing communities with funding** to resource and coordinate around projects they care about and have a direct voice in how and where to direct collective wealth;
    - facilitating the first-ever “better-than-free” marketplaces that can **provide an asymmetric advantage for the local food, sharing economy, circular economy and peer-to-peer movements** by not requiring fees, subscriptions, selling data, or outside advertising to monetise;
    - **foster equality in our monetary system,** creating a currency that rewards use and more equitably distributes the benefits of money creation towards all life;

- **communities in obtaining regenerative food and economic sovereignty by;**
    - **subsidising and rewarding the transition to regenerative agricultural practices** that reduce carbon output and simultaneously increase carbon sequestration addressing our climate crisis;
    - **aligning business incentives towards regeneration**;
    - **providing grants for regenerative projects**;
    - **empowering local and circular economies** through subsidising the transition to regenerative industries.

SEEDS aligns with the 8 principles for a Regenerative Economy

Image from, Remaking the Economy: Indigenous Perspectives on Climate Justice

Human and planetary health are but derivatives of our global financial, governance, food, and economic systems. If we can create a new foundation for these systems, we can radically alter our global societies.

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Declaration

0.0.1 We, the People of Earth, do establish and commit to this living constitution for the wellbeing, thrivability, and evolutionary development of all life on Earth.

0.0.2 We commit to be in harmony with natural and cosmic laws by empowering the co-creation of regenerative cultures and thriving civilizations based on planetary stewardship, for ours and future generations.

Article 1 - Purpose

1.0.1 The purpose of SEEDS is to grow healthier cultures coordinated and united by systems that genuinely serve the wellbeing of humanity and the thrivability of life on Earth.

Key definitions:

- **purpose:** the reason why something is done.
- **economy:** the management and exchange of value (time, assets, money, etc) through time.
- **ecological:** relating to or concerned with the relation of living organisms to one another and to their physical surroundings.
- **economic:** relating to economics or the economy.
- **society:** the aggregate of people living together in a more or less ordered community.
- **ecosystem:** a complex network or interconnected system.
- **nature:** the phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth.
- **flourish:** grow or develop in a healthy or vigorous way, especially as the result of a particularly congenial environment.
- **steward:**
- **thrivability:**

Article 2 - Vision

2.0.1 The vision that guides SEEDS and its evolution is of a global society that:

- **2.1** honours all nature (humans are nature) as life and consciousness happening, being interdependent and interrelated , and
- **2.2** recognises the role of humanity as stewards of our planetary ecosystems and designing for thrivability and future wellbeing, and
- **2.3** choses activities based on the benefit to the most number of beings, and
- **2.4** fosters healthy, free, empowered, and connective communities, and
- **2.5** applies the natural fractal patterns to foster a more beautiful, thrivable future for all life.

Key definitions:

- **healthy:** in a good physical or mental condition; in good health.

- **free:** able to act or be done as one wishes; not under the control of another.
- **empower:** the state of having been given the authority or power to do something.
- **connective:** brought together in continuous contact so that a real or notional link is established.
- **thrive:** (of a living being) to grow or develop well or vigorously and in harmony with other beings.

Article 3 - Principles

3.1. Governance

Through our shared and explicit consent to this Constitution, we recognize essential mutual rights and responsibilities, among these being the rights of Life, Diversity, Co-Creation and Evolution, which inform our collective responsibility as planetary Stewards.

3.2. Diversity through Evolutionary Coherence

We celebrate, encourage, and promote diversity through evolutionary coherence.
Evolutionary coherence enables our systems to diversify while remaining unified. This forms the basis for how we empower evolution, encourage meaningful feedback, and learn from our activities and initiatives.

3.3. Stewardship

We affirm our role as stewards of our Earth and future. We recognize it is our personal and collective responsibility to care for the health and wellbeing of our ecosystems and the wellbeing of all life on our Earth.

3.4 Decentralized Arbitration

We recognize that violation of these principles may cause damages to the rights of other SEEDS members. We agree that when one Member causes harm to the Rights of another they shall be responsible to initiate healing and restitution to restore the right relationship with the affected Member, as directed by decentralized arbitration and implemented through the protocols laid out in the following game-guide. 3

Article 4 - Our Moral-Compass

Key definitions:

- **harmony:**

4.1 Our Values

We agree to collective govern our decision and actions following the values of our living and evolving Moral-Compass:

- **4.1.1 Care**
- **4.1.2 Responsibility**
- **4.1.3 Reciprocity**
- **4.1.4 Trust**
- **4.1.5 Integrity**
- **4.1.6 Stewardship**
- **4.1.7 Generosity**
- **4.1.8 Passion**
- **4.1.9 Play**

4.2 Our Priorities

Our priorities guide how we make decisions and set our goals.

- **4.2.1** Stewardship for our planetary and future wellbeing, including our evolutionary development in the right relationship with all of life.
- **4.2.2** To develop and grow SEEDS in harmony with the natural and cosmic laws of our universe.
- **4.2.3** To empower regenerative and distributive economies of life by expanding the possibility for regenerative currencies to the greatest number of people.
- **4.2.4** To generate benefit and value for life as a whole, distributed through a fair and just regenerative economic system in line with our vision and principles.
- **4.2.5** To foster and spread the conditions for life to thrive.

4.3 Implementation - how we apply our values

SEEDS, its members and its representatives seek to:

- **4.3.1 Make accurate representation:**
    - 4.3.1.1 Align with the stated purpose of SEEDS to co-create a flourishing, thrivable world and future.
    - 4.3.1.2 Authentically represents SEEDS in all its diversity.
    - 4.3.1.3 Represent capabilities, capacities, expertise and opportunities clearly and accurately.
- **4.3.2 Act with passion and integrity:**
    - 4.3.2.1 Demonstrate a passionate commitment to SEEDS' stated vision.
    - 4.3.2.2 Honour agreements made and fully own responsibility for decisions taken.
    - 4.3.2.3 Optimize the overall generative impacts on nature, society, community and individuals.

- **4.3.3 Demonstrate empathy and consideration:**
    - 4.3.3.1 Support ever greater inclusion, empathy, recognition, and interdependent freedom.
    - 4.3.3.2 Acknowledge and appreciate the opinions, expertise, and experience of others
    - 4.3.3.3 Represent a calm, consistent, and generative response to emerging situations
- **4.3.4 Pursue transformative growth and evolution:**
    - 4.3.4.1 Treat differences as an opportunity for evolving new perspectives, insights and understanding
    - 4.3.4.2 Expand, deepen, and evolve the knowledge and understanding of all those involved
    - 4.3.4.3 Shift all rights-holders towards deeper connection, joy, and mutual understanding

Article 5 - Stewardship Responsibilities

5.0.1 We commit to co-create regenerative zero-waste economies of life, at local and bioregional scales.

5.1 Responsibility as Planetary Stewards

5.0.1 We acknowledge our role as planetary stewards to maintain a living harmony and balance with nature and the Cosmos.

5.0.2 We commit to our actions being regenerative by design, to consider the thrivability of all life for at least 7 generations in the actions we take. In the context of:

- ### 5.1.1 Personal Responsibility
    - 5.1.1.1 We consider our personal relationship with earth and strive to foster a deeper connection with the web of life that we're embedded in.
- ### 5.1.2 Collective Responsibility
    - 5.1.2.1 We recognise our interdependence within the bioregions in which we belong. Our personal health is a function of our planetary and collective health. We commit to healing the vital ecosystem flows and services locally, bioregionally and globally.

5.2 Voice to Earth Guardian Council

5.2.1 We acknowledge and honor the indigenous stewardship of a place that has been demonstrated by the myriad cultures that had effectively stewarded their bioregions for millenia.

5.2.2 We commit to give a minimum of [20%] of each SEEDS' bioregion's voice to a 'Earth Guardian Council'. This council is charged with speaking for nature and making decisions that are aligned with bioregional wellbeing for at least 7 generations.

Article 6 - Property Rights

6.0.1 Property rights are defined by the intent of the smart contracts as inferred by this Constitution and game guide.

6.0.2 We recognise software bugs may cause contracts to operate in unpredictable or unexpected ways. Those who come into possession of Rights or assets intended for another Member shall take reasonable actions to restore those Rights or assets to the rightful owner.

6.0.3 We will take reasonable measures to secure our accounts. We shall give public notice within a reasonably short period of time if we discover the keys to either our "Citizen" or "Resident" accounts have been misused. At which point the community can demote these accounts and allow the member to promote to a new Resident or Citizen status with a new account.

6.1 Visitor Rights

As a visitors, we have a right to:

1. A share of the network bandwidth equal to their Planted Seeds as defined in "Section 1".

6.2 Resident Rights

As a Resident, we retain the same rights as Visitors, as well as:

1. A share of the Harvest relative to their Contribution Score as defined in "Section 1".

6.3 Citizen Rights

As a Citizen, we retain the same rights as Visitors and Residents, as well as:

1. A share of the Trust Tokens to participate in governance as defined in "Section 2".

6.4 One Human - One Resident/Citizen

We acknowledge the importance of fair and accurate representation. As such, no human or entity is permitted to be the owner of more than one Resident or Citizen account. Members who vouch for a proxy, or duplicate Resident or Citizen account are held liable for reputation losses.

6.5 Steward Roles and Responsibilities

Stewards are elected accounts/Citizens charged with enforcing and implementing complex arbitration or governance outcomes that cannot be automated, until such a time as all governance outcomes can be automated with code.

6.6 Multi Signature Accounts

6.6.1 We recognise our right and responsibility to have multiple members control the keys to our accounts. Members can assign other accounts at selected thresholds (e.g.3 of 5 friends set to recover an account if lost) to be able to control their account and create new keys.

6.6.2 We recognise it is our sole responsibility to manage which members we share control of our accounts with. Any actions taken by these multisignature members is considered the same as if you made the action yourself.

Article 7 - Approach

7.0.1 We recognise that it is impossible for all Members to directly determine the Rights of all other Members; therefore, we implement amongst ourselves decentralised and evolutionary software to automate the evaluation and assignment of Rights and Responsibilities according to the software contracts (aka smart contracts) created and entered into with mutual consent of various Members.

7.0.2 We further agree that software development is an imperfect art and will occasionally fail to mediate Rights among Members faithfully; therefore, it is necessary to establish processes for collective, ongoing, and decentralised governance.

Article 8 - Governance Process and Rights

8.0.1 As Citizens we recognise our right to collective governance and commit to bringing our wisdom to this process.

8.0.2 Each Citizen may obtain voting rights through receiving Trust Tokens relative to their Contribution Scores. These Trust Tokens are distributed as defined in "Section 2: How you Govern" of this constitution.

8.0.3 Voting happens in cycles following the rhythms of the *lunar cycle - starting on each new and full moon.

**Lunar cycles are consistent and don't bias a particular time zone, this provides an equitable and harmonious scale for tracking global economic cycles.*

8.0.4 Proposals submitted during a voting cycle will be displayed in a "staging area" and submitted at the start of the next cycle.

8.0.5 Citizens have a grace period in which to cast their vote without penalty. If votes have not been cast during this period, their Trust Tokens will start a linear deterioration until they reset by the next voting cycle. These periods are defined in "Section 2: How you Govern".

8.0.6 Each Citizen earns Trust Tokens to spend on the following decentralised governance operations:

1. Global Referendums (G-DHO)
2. Global Proposals (G-DHO)
    a. Alliance Shares
    b. Campaigns
    c. Hypha Milestone Requests
3. Your bioregional Referendums (B-DHO)
4. Your bioregional Proposals (B-DHO)
    a. Each major category has a unique governance process and token. *E.g. housing, healthcare, education, food, etc*

8.1 Delegation Rights

Citizens may delegate voting rights to another Citizen.

8.2 Decentralized Governance Agreements

8.2.1 Citizens agree not to cast any vote that would support the breach of this Constitution.

8.2.2 Voting for a permissible change to the Constitution is not considered a breach.

8.2.3 Changes to this Constitution, Community Contract Specification, allocation of new Seeds, updating the SEEDS smart contracts, the SEEDS harvest protocols, and Seed Bank shall be subject to Citizen voting and evolution.

Article 9 - Arbitration and Enforcement

9.0.1 We agree to settle all disputes with any Member through community or pre-determined arbitration under the Rules of Dispute Resolution Section 2: Decentralized Arbitration.

9.0.2 We agree that the costs of arbitration shall be initially borne by the individual Member who raised the dispute and later apportioned by the Arbitrator.

9.0.3 We agree that the Arbitrator's or decentralised ruling is final and binding.

9.0.4 We agree that the precedent of prior arbitration outcomes shall not be used as the basis of future rulings.

Article 10 - Amendments

10.0.1 We recognise that this Constitution, Gameplay and other Key Documents may only be amended or replaced with explicit approval voting under Article 3 and "Section 2: How you Govern" of this constitution.

10.0.2 All changes to the Constitution require the highest Quorum and Unity requirements as detailed in "Section 2: How you Govern" of the Game Guide.

10.0.3 Any proposed amendments to this constitution should be made in the spirit of this constitution to improve its evolutionary value for the goodness of all life, in line with the core values and moral compass.

Article 11 - Collective Wisdom

We commit to the development of our collective wisdom capacities as an evolutionary community of planetary stewards. We dedicate the fruits of this wisdom to empower the future humans of a thriving civilization.

11.1 Holarchic Governance and Wisdom

- Develop collective capacity to act
- Provide pathways and tools to give those with the appropriate domain wisdom the...
-

11.2 Fractal Governance for Bioregional Cultures

We don't instill control over other cultures but provide tools for communities to co-create their own governance pathways.

Harvest:
- Reach out to the other conscious projects to provide bridges... A commitment to bridge building (The Mycelium network)...

- in order to share the same vision and purpose, we help people raise their level of consciousness to ensure inclusion but not through force. Always leave a door open for second chances

- raising human consciousness ensures that we are including others as ourselves and the earth as ourselves and we will organically be drawn to our essence

- Magic - Joker article -- Constantly morphing to meet the latest needs!

- Individual self (remembering the collective but our individual cells) / self-work

- bigger than just the planet earth (multiplanetary species)

- Space for vulnerability - fireside chat - getting together in the smaller groups to find out the inner workings of the organism

- logo gate harvest to be stored here

- balance of inner and outer space

- Right now humanity is increasingly heading off into space and actually in the process of trashing near space, and ultimately endangering our visual space and can have consequences that directly affect life on Earth

Article 12 - Legal Jurisdiction

We acknowledge and validate the jurisdiction in which this constitution is enforced as it exists within the SEEDS governance, network and arbitration framework. It is not required that other legal systems find this agreement valid, as those systems are not required to enforce arbitration and governance outcomes within the SEEDS ecosystem.

Article 13 - Miscellaneous

13.1 Seeds Token

13.1.1 Seeds, (also called the SEEDS Token) is designed as a utility token granting access to the SEEDS network and its services.

13.1.2 Owning Seeds confers no rights to revenue, profit or governance of SEEDS upon the owner. It is what an owner does with that token and a wide variety of other behaviours that influence those rights as defined in the SEEDS Game Guide.

13.1.3 Owning Seeds does not give a person or account ownership over SEEDS itself - as SEEDS is open-source code owned by no one - and everyone - on Earth.

13.1.4 Owning Seeds gives a Member access to the SEEDS dapps (decentralised applications) and apps (applications), ability to access bandwidth to conduct transactions and access decentralised contracts and services of SEEDS (the network).

13.2 Copyright - Open Source

We agree that any information published to the Blockchain (or other distributed ledgers) is irrevocably placed into the Public Domain to the fullest extent possible. Any Member may use any information, ideas, patents, or other documents in the Blockchain without restriction, fee, attribution, or warranty. We agree that we will only publish information to the Blockchain that is within our Right to publish.

13.3 Personally Identifiable Information (PII)

All data published to the blockchain is publically available. Members understand that if they choose to publish their personal data on the blockchain that they are freely providing this information to anyone who wishes to access it. It is not possible to revoke, censor or restrict access to the blockchain. As such, members are encouraged to not publish their PII on the network unless they are absolutely certain they want this information publicly available indefinitely.

13.4 Developer Liability

We further agree not to hold software developers accountable for unintentional mistakes made in the expression of contractual intent as software whether or not said mistakes were due to actual or perceived negligence.

13.5 Electronic Signatures

13.5.1 All Members, whether natural human, legal person or other entity, agree to this Constitution any time they transact in Seeds. By doing so you sign your consent to this constitution.

13.5.2 Once signed you are deemed a Member, bound to the terms of this Constitution, and entitled to access SEEDS according to your standing with the Community and any arbitration rulings.

13.6 Termination of Agreement

A Member is automatically released from all revocable obligations under this Constitution [3] years after the last transaction signed by that Member. After [3] years of inactivity, an account is put up for auction and the proceeds distributed to all Members by removing Seeds from circulation (burning the Seeds).

13.7 Severability

If any part of this Constitution is declared unenforceable or invalid, the remainder will continue to be valid and enforceable.

13.8 No Partnership, Joint Venture or Agency

Nothing in this Constitution and no action taken by any Member shall constitute, or be deemed to constitute a partnership, joint venture or any other association between the Members, and no action taken by any Member pursuant to this Constitution or otherwise shall constitute, or be deemed to constitute a legal partnership, joint venture or similar agreement. SEEDS is a decentralised financial system, not a joint venture.

Part 2: How to play the game

The following are the game mechanics detailed in non-code language to reflect the intention of the SEEDS code and design. If the code and outcome may differ from these rules, we'll refer to these rules to make arbitration decisions and code upgrades/corrections.

In SEEDS, code is not the law, this document is.

In this game, it's humanity and the planet versus the mindset and systems of depletion.

It's not "us" versus "them".

No human alive today designed the foundations to the game the majority of humans are born into. It's our privilege, opportunity and obligation to co-create new games for humanity to play that better serve life on this planet.

SEEDS is a new financial, economic and governmental game for global cooperation to co-create a regenerative culture.

The object of this game is global cooperation to regenerate our planet, create healthier local food systems, more equitably distribute value to people, give people more voice, and raise the collective quality of life, of not only humans but all life on our planet.

We succeed when our lakes and rivers are drinkable again, when our food is local, tasty and nutritious and when our forests and ecosystems are thriving. We win when our systems are in full support of the thrivability and diversity of life.

We succeed when we create a society worthy of our grandchildren's great-grandchildren.

Better-Than-Free | The People's Economy

EOS.IO revolutionised the blockchain world by creating an operating system for fee-free transactions. SEEDS takes this one step further: not only are there no fees, but members are rewarded the more they contribute (in which transactions play a role). This creates the first "better-than-free" (that is free of financial fees) financial system.

SEEDS provides a direct and transparent share of the economic surplus and growth that the people generate in their economy (Detailed in Section 4).

Today the surplus from the people's economic activity concentrates at the top of our economies, disproportionately rewarding a handful of people. SEEDS aims to make that model obsolete by distributing the value transparently and directly to the people who create it. Further, it provides a framework for this value distribution to be evolved directly by the Citizens to better meet their needs.

In addition, SEEDS provides revenue for organisations and applications to reduce or eliminate fees to better serve their communities.

SEEDS doesn't depend on altruism or goodwill to entice participation in a regenerative economy. SEEDS is designed as a superior and obvious financial choice by being a cheaper and more rewarding method to exchange value.

Section 1: How to thrive - game theory and optimal strategy

We all win when we create a healthier global society. This is achieved by aligning individual incentives toward global regeneration and collaboration through direct governance.

Section 1: How to thrive- game theory and optimal strategy **23**
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Key Terms

Cycles

Cycles are programmed to lunar cycles (~29.5 days). Lunar cycles were chosen for three primary reasons:

1. Not biased to a particular time zone (variable transition times).
2. Fixed and equal time periods (months aren't fixed).
3. Aligning with natural patterns and cycles.

See appendix for all terms

1.1 Individual Accounts: Becoming a Visitor, Resident and Citizen

1.1.a Like any society today, when you first arrive,, you're considered a visitor. The same is true for SEEDS. Visitors, Residents and Citizens are the three types of individual accounts in SEEDS. You move through this process by learning about and contributing to SEEDS, unlocking benefits as you go.

1.1.b SEEDS first attracts adoption by providing organisations and people a currency for making and taking fee-free digital payments. However, in order to obtain "better-than-free" exchanges, you need to become a Resident or Citizen.

Note: There are ample benefits of staying a Visitor, and it's not mandatory to progress to play and gain the other benefits.

1.1.1 Visitors

Visitor Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
1.1.1-0	Plant Seeds	Plant N Seeds in the account	5	vis.plant		

You become a visitor when you join SEEDS. Visitors are required to “plant” (analogous to a minimum balance in a bank account) [5] Seeds to cover the cost of their bandwidth use and blockchain account creation.

1.1.2 Residents

Resident Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
1.1.2-0	PlantSeeds	Plant N Seeds in the account	50	res.plant		
1.1.2-1	Gain Reputation	Obtain **Reputation Points** of at least N	50	res.rep.pt		
1.1.2-2	SendSeeds	Conduct N transactions ~~with Reputable Organizations &/or other Citizens~~	10	res.tx		
1.1.2-3	ReferMembers	Invite and have at least N accounts become a Visitor	1	res.referred		

To progress to Resident,, you complete a small questionnaire after you:

1. Plant: [50] Seeds
2. Gain Reputation: Gain [50] Reputation Points through being “vouched for” by other Residents and Citizens
3. Send: [10] transactions ~~with Reputable Organizations &/or other Citizens~~
4. Refer: [1] Visitor account

Note: Residents earn a share of the “Harvest” based on their “Contribution Score”.

1.1.3 Citizens

To progress to Citizen, you complete a questionnaire after you:

Citizen Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
1.1.3-0	Plant Seeds	Plant N Seeds in the account	200	cit.plant		
1.1.3-1	Gain Reputation	Obtain a **Reputation Score** of at least N	50	cit.rep.sc		
1.1.3-2	Send Seeds	Conduct N transactions ~~with Reputable Organizations &/or other Citizens~~	10	cit.tx		
1.1.3-3	Refer Members	Invite and have at least N accounts become a **Visitor**	3	cit.referred		
1.1.3-4	Refer Members	Invite and have at least N accounts become a **Resident**	1	cit.ref.res		
1.1.3-5	Account Age	Have an account age of at least N cycles (29.5 days per cycle)	2	cit.age		

1. Plant: [200] Seeds
2. Gain Reputation: Obtain a ranking of [50]
3. Send: [10] transactions ~~with Reputable Organizations &/or other Citizens~~
4. Refer: [3] Visitor accounts
5. Refer: [1] Resident account
6. Account age: [2] cycles (~59 days)

Contribution Scores

You gain a greater share of the harvest (new Seeds) when you grow your individual or organisational "Contribution Score". This score is intended to track how much an account is contributing to the overall health of our planet, community and economy.

These metrics are designed to evolve to better track and compensate members for whole systems contributions.

The contributions of an account determine the Trust they receive for governance decisions (for Citizens) and the share of the Harvest (new Seeds) they receive (for Residents and Citizens).

This means you earn more money and voice when you contribute more to the health of our planet, communities and economy.

Contribution Score - Points and Scores

For each metric, an account earns points for contributions. These point totals are then ranked against all other accounts to receive a rating called a score. This score is based on a scale between 0-99 where that account is placed along with other accounts in that percentile.

Contribution Score - Percentile ratings

SEEDS is designed to distribute wealth and influence through placing individuals, businesses and bioregional communities on a more equitable percentile scale of 0 - 99.

Instead of having an infinite degree of separation in our society, a percentile distribution reduces this to a finite boundary.

*Example: If there are 200 (positively ranked) accounts - the **top 2** accounts will share the ranking of 99 regardless of how much they have each contributed.*

"Whale" resistant - More equal distribution of voice and value

In our legacy corporate and governance context, the most powerful people in the world control 99% of the decisions and in our companies, one person can earn up to 300+ times more than the average person. Many blockchain projects have exaggerated this inequality with top projects like Bitcoin and Ethereum displaying greater inequality than the most unequal countries like North Korea.

Percentile ranking limits the degrees of inequality within the SEEDS economic system while still providing room for advancement and healthy competition to drive cooperative success.

Rewards from ranking provide a number of benefits. It fosters:

1. a “whale” resistant economic system where the holders of vast wealth in our current economies will be limited in how much value they can obtain from this new system, while still providing incentives to join.
2. feedback loops towards economic equality. Over time as rewards are equitably distributed the inequality between members and communities within SEEDS will decrease. The reverse is true of our current dominant economic paradigm. This also creates feedback loops to increase decentralisation.

The importance of this can not be overstated. Extreme global inequality is a primary crisis plaguing our current systems and threatens to destabilize our global civilisations. A steady equalising effect could make this transition possible while being fair to all participants.

Total score = Rank from 0-99

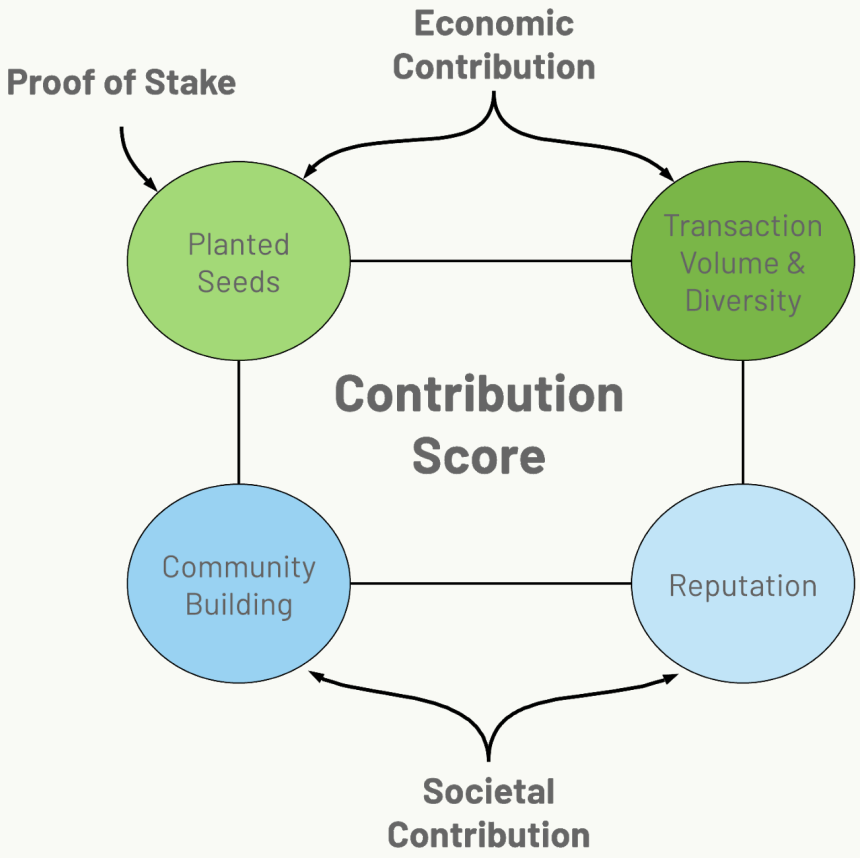
For example, if the most wealthy person in SEEDS has planted 100,000,000 Seeds, then she will be positioned at 99 on the ranking for Planted Seeds. If the 2nd most Planted person has only Planted 100,000 Seeds, he will still be positioned at 99 (assuming at least 200 people) for Planted Seeds as he is the 2nd most committed.

Waning contribution rankings

Ratings are given in relation to other members - when a member stalls or reduces their point totals, their ranking will fall over time as other members increase their scores. This structure more accurately represents those who are currently contributing over those who have contributed in the past - while still acknowledging all contributions.

Individual Contribution Scores

These scores determine how many Seeds Residents or Citizens earn of the Harvest and how many Trust Tokens Citizens earn for use in governance.



Planted Seeds

Planting in SEEDS is similar to "staking" tokens in other blockchain protocols, to a term deposit in a bank account where people restrict their access to money in exchange for greater rewards or, banks requiring a minimum balance to have an account.

When you Plant Seeds you're restricting your access to them in exchange for:

1. increased "Planted Seeds Points";

   [# Planted Seeds = Planted Seeds Points]

2. increasing the number of transactions you're able to make;
   a. You can make an average 1 transaction per week per planted Seed.

      [1] Planted Seed = [1] Weekly Transaction Quota

3. Meeting the requirements to become a Resident or Citizen.

Unplanting Seeds

To gain access again, you need to “Unplant” your Seeds. This process takes [3] lunar cycles (12 weeks) releasing [8.33%] of your total unplanted Seeds each week (lunar phase).

This means that you never have to pay SEEDS for access to the network. Just commit value to the network for the bandwidth you’re accessing. This is how Seeds is able to offer fee-free transactions while avoiding spam on the network.

Community Building Score and Points

Individuals earn community-building points (CBP) for referring new accounts, hosting events and an increasing variety of behaviours that the SEEDS community deems “community building”.

Referring Accounts (Sowing Seeds)

When you refer another account, and they progress through SEEDS, you earn points.

For individual accounts, this occurs when an invite you sent is accepted and that account becomes a Resident and Citizen.

For organisation accounts, this occurs when an account you invited opens up an organisation account and becomes a “Reputable Organisation”.

This provides incentives and rewards for existing community members to engage and assist new members in understanding SEEDS.

Local Events

Members can request community-building payouts for any event. This metric is available to be expanded in a wide variety of ways that the SEEDS community directs.

Example: A member could request to host a local SEEDS event to build community. As a reward, the host would receive 1 point for each attendee, and each attendee will receive 1 point.

Local Economy Points

Accounts earn points for purchasing with other accounts in their bioregion. This is designed to reward and promote local exchanges.

Supporting Regenerative Organisation Points

Accounts earn points for exchanging with “Regenerative Organisations”. This is designed to support organisations with a dedication to regeneration as this supports our local and global communities. This bonus may encourage people to buy from regenerative organisations over alternatives.

Community Building Points Table

Community Building Points Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Vouched Resident	When you vouch for a member and they become a Resident. *Note: All invites are automatic vouches.*	2 CBP	vou.cbp1.ind		
	Vouched Citizen	When you vouch for a member and they become a Citizen. *Note: All invites are automatic vouches.*	2 CBP	vou.cbp2.ind		
	Referred Reputable Org	When an account you invite, creates an org account and it becomes a “Reputable Org”	8 CBP	ref.org1.cbp1		
	Local Gathering	When you’re with a Citizen and scan their QR code. One award per lunar cycle.	1 CBP			
	Local Exchange	When you buy from an organisation in your Bioregion. One award per lunar cycle.	1 CBP			
	Support Regenerative Org.	When you buy from a Regenerative Organisation. One award per lunar cycle.	2 CBP			
	ATM Market Making	~~When you provide an offer in the SEEDS ATM and another member takes your offer. *E.g. you sell your USD for Seeds to other members.*~~				
	To Be Created					

QualifyingTransaction Volume

A signature benefit of SEEDS is its “better-than-free” payments. When Residents and Citizens make payments and exchange with other Citizens and Organizations you're building your “Transaction Score”. This metric tracks the volume of Seeds that your account is moving and compensates you for growing the SEEDS economy.

This benefit is limited to Residents, Citizens, Reputable Orgs and Regenerative Orgs. Only the difference between accounts is tracked - so there is no benefit of sending transactions back and forth.

These preceding limitations won’t affect the majority of routine and everyday transactions. They bias tracking everyday and routine purchases over one-off large purchases and limiting abuse vectors.

These transactions are then multiplied by the reputation of the receiving account.

Qualifying Individual Transaction Points Table						
Index	Name	Description	Setting / Calculation	Setting ID	Impact	Contract
	Transaction Points Cycle Length	Transaction balance between accounts in the preceding N lunar cycles	3	tx.cycle		
	Qualifying Transaction Cap	Maximum of [N] Seeds per transaction. N= ~ $101 USD in Seeds. Until average volumes can be obtained in the SEEDS economy itself	1,777	i.trx.max		
	Total Counted Qualifying Transactions	N total counted top transactions between 2 accounts	2	i.trx.div		
	Reputation Multiplier	Every transaction multiplied by the receiving accounts Reputation from [-2 to +2] **[currently 0 - 2]**	(Rep Score / 99) * 2	-		https://github.com/JoinSEEDS/seeds-smart-contracts/blob/1d74ae4042294165325a85c87244d0732344b4cd/include/utils.hpp#L58

	Local Economy Multiplier	N multiplier for exchanging within Bioregion	1.5	local.mul		
	Regenerative Organisation Multiplier	N multiplier for exchanging with Regenerative organisations	1.5	regen.mul		
	Daily Points Calculation Between Two Accounts	Top 2 transactions * volume ≤1777 Seeds) * Receiving account Reputation *Bioregion Bonus (1.5, if present) *Regenerative Org Bonus (1.5, if present) = An AccountsTransaction Points (TP) for the day				
	Total Transaction Score Points	The aggregate of all TP with 1 account and all the other accounts it has transacted with				
	Reputable Transaction Score Rating	Previous [3] cycles transaction points ranked on a scale of 0-99 amongst all other Residents and Citizens				

Transaction Volume Limit

Average value of transaction per credit card worldwide in 2016, by brand

(in U.S. dollars)

	Value of transaction per card in U.S. dollars
UnionPay	164
American Express	141
Visa	80
JCB	80
MasterCard	75
Diners/Discover	67

SEEDS caps the volume of a transaction that's considered at the average transaction amount for transactions. Pulling data from global credit card brands we see that the average transaction is roughly $101 USD.

The above Seeds values will be adjusted to be in-line with these targets until averages can be pulled from the SEEDS economy itself to reference.

Reputation Multiplier

Multiplying the transaction by the reputation of the receiving account provides a number of key benefits.

1. Gives more rewards and incentives to make purchases with more reputable organisations and individuals.
2. Reduces benefits from attack vectors as proxy accounts will have low to negative reputation. If transacting with a negative reputation account (likely flagged as a proxy account) this action would lose transaction points for doing so.

Local Economy Multiplier

Accounts earn a multiplier for purchasing with other accounts in their bioregion. This is designed to reward and promote local exchanges.

Regenerative Organisation Multiplier

Accounts earn a multiplier for exchanging with “Regenerative Organisations”. This is designed to support organisations with a dedication to regeneration. This bonus may encourage people to buy from regenerative organisations over alternatives.

Reputation Points Table

Members earn reputation points for a diversity of actions.

Reputation Points Table						
Index	Name / Action	Description / Calculation	Setting /	Setting ID	Impact	Contract
	Flag Reputation Loss Limit Before Effect	Loses reputation when flagged it. A minimum of N flag points are required before there is any impact on the account	(-) 50 Rep	flag.thresh		
	Flag Base Points	Each flag comes with N negative reputation points	Resident = (-) 10 Citizen = (-) 20	flag.basept		
	Flag Calculation	Base Points * Reputation of Account Flagging = Reputation Removed				
	Cast Your Trust Tokens	Earn reputation for participating in any governance proposal during a cycle	1 Rep	voterep2.ind		
	Cast Your Trust Tokens	Earn reputation for voting Trust, Distrust or Abstain on all active proposals for a cycle	5 Rep	voterep1.ind		
	Delegate Your Trust	Earn 80% of the reputation when you delegate your Trust (governance token) to another account and they vote for you	80% Rep	votedel.mul		
Index	Name / Action	Description / Calculation	Setting /	Setting ID	Impact	Contract
	Representative Votes	Earn 20% of the reputation from every account that has delegated their Trust (governance token) to you and you vote	20% Rep	(1 - votedel.mul)		
	Successful Proposals	Earn reputation when a proposal you submit passes	10 Rep	proppass.rep		

	Terminated Proposals	Lose reputation if a passed proposal was distrusted after funding	(-) 50 Rep	terminat.rep		
	When Referred Becomes a Resident	When you invite a new account and they become a Resident you earn reputation	1 Rep			
	When Referred Becomes Citizen	When you invite a new account and they become a Citizen you earn more reputation	1 Rep			
	Vouched Flagged Account	Lose reputation if an account you have invited or vouched for is fully flagged	(-) 50 Rep			

Vouching

Vouching is achieved when one member vouches for another member. Sowing Seeds (sending an invite/referral) automatically vouches for the new account.

When being “vouched for” the reputation you gain is determined by the reputation and status (Resident or Citizen) of the account vouching for another.

Accepting a vouch

After an account has “vouched” for another account, the receiving account needs to accept the vouch. *This is to prevent accounts vouching for people they don’t actually know in an attempt to earn community building points.*

Reputation Points Table						
Index	Name/Action	Description / Calculation	Setting	Setting ID	Impact	Contract
	Vouch	Earn reputation by performing decentralized identification by vouching for other humans and their singular account	(Status) * (Reputation Multiplier) of account vouching = Reputation points received			
	Max Points	Maximum points an account can gain from being vouched. After which no more accounts can vouch for that account	50 Rep			

	Status Base Points	The base reputation points when vouching based on an accounts Resident or Citizen status	Resident = 10 Citizen = 20			
	Max Vouches	Maximum times an account can vouch for other accounts	432			

Web of Trust

The vouching process is how SEEDS grows its “web of trust” as an accounts reputation is based on the reputation of accounts who vouched for it.

Retroactive Reputation Loss

Reputation gained by vouching is updated routinely. If the reputation of the account that vouched for another decreases then the reputation of the account that was vouched is also decreased.

Example:
Account X is a Citizen with a 99 rep score (multiplier of 2) when it vouched for Account Y.

See above calculation

This would give 20 reputation points to Account Y. However, if after the update Account X’s rep score were to drop to 0 then those 20 points would be removed from Account Y. If the reputation drops to a negative reputation then it could take points from the vouched account.

While an account can not gain more than 50 reputation points from being vouched for it can lose those points if the reputation of the accounts that vouched for it are reduced.

Defending against fraud

Let's say several bots were able to become Citizens and they were able to vouch for other bots. If one of the initial bots were to be flagged by enough members to have its reputation removed, this would create a cascading effect and remove reputation from all the accounts that bot vouched for. The bot that vouched for it, would also have it’s reputation removed, and start a further cascading effect. This web would allow entire pockets of fraudulent accounts to lose reputation if just a single part of their web is impacted.

Further, we could use the web of trust to trace this bot to the initial account that brought them in. This makes policing bots, proxy and fraudulent accounts significantly easier.

SEEDS Forum Points Table

Earn reputation when you participate in the forum and other users upvote your ideas and comments

SEEDS Forum Points Table						
Index	Name / Action	Description / Calculation	Setting /	Setting ID	Impact	Contract
	Forum Vote Base Points	Base forum points of each down/up vote in the forum	7	forum.vpb		
	Forum Vote Multiplier	Base points * Reputation of Account				
	Full Power Votes	How many full powered votes an account can give each day	10	forum.maxp		
	Max Forum Points	How many forum points an account can deliver in a day	Full Power Votes * Base Points * Reputation of Account			
	Available Reputation Points to Give	Active members in the forum multiplied by N to obtain the max number of reputation points available that week	.1			
	Reputation Points Earned by Active Accounts	All members who participate in the forum are ranked from 0-99 based on their forum points earned and given a share of the available reputation points based on their ranking.				https://github.com/JoinSEEDS/seeds-smart-contracts/issues/109

Reputation Score Table				
Index	Name / Action	Description / Calculation	Impact	Contract
	Reputation Multiplier	The Reputation Score is delivered as a multiplier from [0] - [2] representative of the accounts rank from [0-99]. This is using the same spline curve. Total Reputation points = rank from 0-99		Link

Reputation as a Multiplier

Total Reputation Points ranked on a scale of 0-99 amongst all other Residents and Citizens

Reputation acts as a multiplier against the other individual contribution scores. This disproportionately affects the total Seeds and Trust Tokens (governance token) an account earns.

Reputation has the ability to zero out any rewards. **In this way SEEDS is able to defend itself against a variety of proxy and economic attacks from unreputable actors.**

Regardless of how wealthy (economic volume and planted Seeds) an account is, if they have a negative or 0 reputation score they would earn no rewards (Harvest) and gain no Trust Tokens (governance tokens).

Individual Accounts Total Contribution Scores

Individual Accounts Final Contribution Score (CS) Table				
Index	Name / Action	Description / Calculation	Impact	Contract
	Planted Seeds Score **(PSS)**	Total Points ranked on a scale of 0-99 amongst all other Residents and Citizens using an spline curve	High	https://github.com/JoinSEEDS/seeds-smart-contracts/blob/1d74ae4042294165325a85c87244d0732344b4cd/include/utils.hpp#L17
	Reputable Transaction Score **(RTS)**	Total Points ranked on a scale of 0-99 amongst all other Residents and Citizens using an spline curve		
	Community Building Score **(CBS)**	Total Points ranked on a scale of 0-99 amongst all other Residents and Citizens using an spline curve		
	Reputation Score **(Rep)**	Total Points ranked on a scale of 0-99 amongst all other Residents and Citizens using a spline curve and given a relative multiplier of 0-2.		
	Contribution Points **(CP)**	[(PSS+RTS+CBS) * Rep = Total Contribution Points] from 0-600		
	Total Contribution Score **(TCS)**	Total Contribution Points ranked on a scale of 0-99 amongst all other Residents and Citizens **(not using the spline curve)**		

See the on-chain contract here

Organisational Accounts: Creating an Organisation Account and Gaining "Regenerative Organisation" Status

Organisational accounts are "multisig" (multiple signature) accounts. This means that several individual accounts can control that account. Owners are able to set a diversity of thresholds for how many accounts are required to make transactions with this account.

For Example: 3 out of 5 Individual accounts that comprise that organisation account are required to sign an action with the multisig organisation account to conduct an action.

Initiate Organisation Account

How to use these tables:

Index - for referencing when making a referendum

Action - What a member is doing

Description - What it does

Setting - What the current setting (number of Seeds, status, etc) is set to (this can be changed with a referendum)

Setting ID - Use this to find where in the code this is located

Impact - This level (low, medium, high) determines the unity and quorum requirements to change this setting

Contract - this is a link to the blockchain where these contracts can be viewed

Organisation Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Plant Seeds	Plant N Seeds in the new organisation account with your account as a sponsor	200	org.minplant	Med	https://telos.bloks.io/account/orgs.seeds

Reputable Organisation

Reputable Organization status is required for organisations to begin earning a Harvest and various other benefits outlined in this guide.

Reputable Organisation Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Plant Seeds	Plant N Seeds in the account	400	rep.minplnt	Med	https://telos.bloks.io/account/orgs.seeds
	Gain Reputation	Obtain a **Reputation Score** of at least N	60	rep.minrank		
	Exchange Seeds	Conduct N transactions ~~with Reputable Organizations &/or other Citizens~~	10	rep.mintrx		
	Refer Members	Invite and have at least N accounts become a **Visitor**	10	rep.refrred		
	Refer Members	Invite and have at least N accounts become a **Resident**	5	rep.resref		

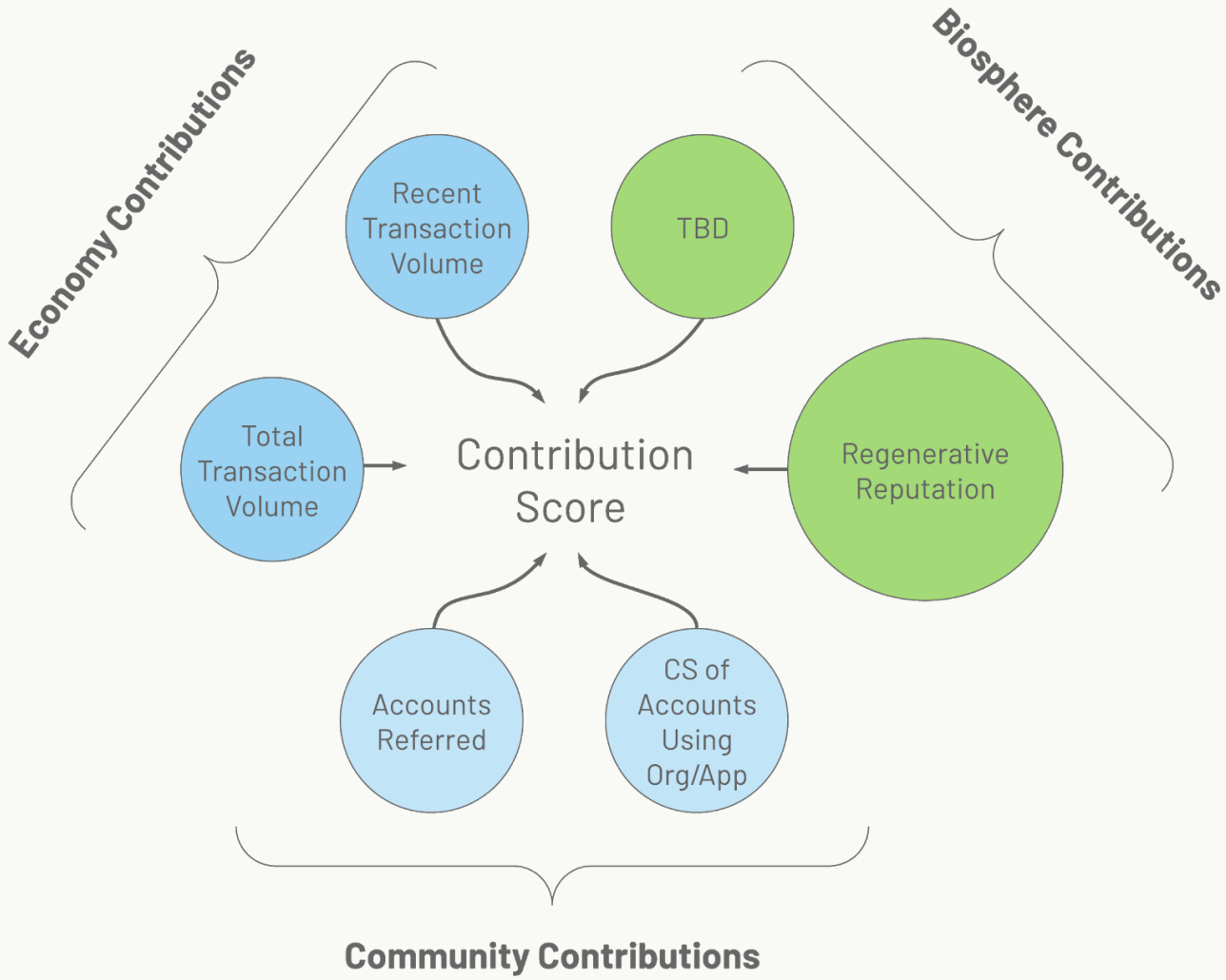
Regenerative Organisation

Regenerative Organization status is where organisations and their communities start earning extra rewards for supporting these organisations dedicated to creating a healthier world. This is decided by the higher reputation required to gain this status.

Regenerative Organisation Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Plant Seeds	Plant N Seeds in the account	1000	rgen.minplnt	Med	https://telos.bloks.io/account/orgs.seeds
	Gain Reputation	Obtain a **Reputation Score** of at least N	80	rgen.minrank		
	Send Seeds	Conduct N transactions ~~with Reputable Organizations &/or other Citizens~~	50	rgen.mintrx		
	Refer Members	Invite and have at least N accounts become a **Visitor**	50	rgen.refrred		
	Refer Members	Invite and have at least N accounts become a **Resident**	25	rgen.resref		

Organisational Contribution Scores

The following Contribution Score provides revenue for organisations in ways that our current economies have never done before. This creates new possibilities for business models to thrive in SEEDS that were once financially impractical.



SEEDS creates the foundations for the first ever "better-than-free" business model.

Organisations within SEEDS have different contribution scores than individuals do. So, the optimal strategy for your organisation is different than you as an individual. Contributions for organisations are broken down into 3 main parts: Biosphere contributions, community contributions and economic contributions.

Biosphere Score

The primary purpose of SEEDS is to create a regenerative culture. For this reason biosphere contributions are a multiplier for organisations. If an organisation is not serving (or if they are harming) our planet they deserve no rewards regardless of their other contributions.

Regenerative Reputation

Organisations are rated by Residents, Citizens and other organisations on a scale of [-7] to [+7] and these ratings are multiplied by the reputation of the member giving them. This prevents proxy accounts from providing meaningful false ratings (as the reputation of a proxy account is likely near 0).

The SEEDS community will self-determine by what metrics (what is “regenerative”) they will base their ratings on. Alliance members within SEEDS may provide recommendations to the community.

Individual giving points:

Rating [-7] to [+7] * [Reputation] = Regenerative points taken/given Organisation.

Organisations need to receive a minimum of [1000] (Setting: org.regen.min) points before they’re given a Regenerative Reputation Score.

After which organisations are ranked by their [average] of points received by individuals.

This secondary method of ranking is to not bias the rankings based on popularity of ratings given (total points).

Further, this removes any benefit of organisations creating proxy accounts to rate themselves as this would only reduce their overall standings as these proxy accounts would have a low Reputation and reduce the average.

Federation of Aligned Regenerative Ratings Organisations

Many non-for-profit organisations have taken on the noble task of defining and measuring metrics that determine how beneficial (Benefit Corporation) or regenerative (Global Thresholds and Allocation Council) an organisation is. SEEDS will align with the ratings these organisations give and provide added weight to their assessments when they rate an organisation. This way, organisations' scores aren’t entirely defined by public opinion.

Ratings Organisation Badge

This is an NFT token that is issued to an organisation when 3 organisations who hold this token vouch for another organisation to be a “Rating Org”. When an organisation holds this token (badge) and they rate another organisation their rating is multiplied by [10].

Intended Evolutions

For how to reward proven regeneration and evolve beyond the financial incentive for planned obsolescence see appendix.

Total Biosphere Score

(If greater than 1000 points) Average points received ranked among all members= Regenerative Reputation Ranking 0 - 99== 0 - 2 (RRR)

RRR = [0] - [2} = Regenerative Reputation Multiplier

Note: What we have with this multiplier is a micro rivalrous dynamic (organisations competing with each other to be more Regenerative) that leads to macro symbiotic behaviours (a more regenerated and thriving global system). This evolves on the zero-sum rivalrous mechanics of our current economic models while utilizing a similar competitive drive. However, this drive is tapered by the overall drive for alliance members within SEEDS to cooperate and grow the health of the whole system (increasing the size of the Harvest, while also aiming to increase their share of it).

Community Score

This metric is to track the value that the organisation is providing to the overall health of the SEEDS community and members.

Community Building Score

This metric simply tracks the number of accounts referred by the organisation.

When invited members progress through SEEDS the organisation earns points.

Community Building Points for Organisations Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Invite Resident	When an org invites a member and they become a Resident.	2 CBP	refcbp1.org		
	Invite Citizen	When an org invites a member and they become a Citizen.	2 CBP	refcbp2.org		

Daily Active Users (DAU) Score of Residents and Citizens interacting with an App

First step create an app (call registerapp on the org.seeds contract to do so).

Second step each time the app is used, add an appuse action (org.seeds) to the transaction - this tracks DAUs for this app. An app can be a website or mobile app or any other means by which users interact with Seeds.

This metric tracks the number of Resident or Citizen accounts interacting with an application.

This provides rewards for organisations who are providing applications and tools to members of SEEDS without only tracking economic transactions. These rewards could provide enough revenue to developers that there would be an incentive to build apps that charge no fees for use. *For example - governance or forum applications.*

1. Count Residents and Citizens that use an app each day and give the org a score for that day. Each account is only counted once a day.
2. Count the total points for all days of the previous cycle.
3. Rank the application based on their total DAU and give a ranking 0-99 relative to other applications.

Total DA Residents and Citizens from previous cycle ranked among all apps on a scale of 0-99

Total Community Score

To get the total community score for your organisation:

Community Building Ranking 0-99 (RAS)

Daily Active Users Ranking 0-99 (DAUS)

Total is weighted towards community building over daily active users score.

((RAS*4)+DAUS)/5 = Community Score

Economic Score

Qualifying Organisation transaction Points Table						
Index	Name	Description	Setting / Calculation	Setting ID	Impact	Contract
	Transaction Points Recent Cycle Length	Transaction balance between accounts in the preceding N lunar cycles	3	tx.cycle		
	Transaction Points Total					
	Recent vs Total Weights		80% Recent 20% Total			
	Qualifying Transaction Cap	Maximum of [N] Seeds per transaction. N= ~ $101 USD in Seeds. Until average volumes can be obtained in the SEEDS economy itself	1,777	org.trx.max		
	Total Counted Qualifying Transactions	N total counted top transactions between 2 accounts	2	org.trx.div		
	Reputation Multiplier	Every transaction multiplied by the sending accounts Reputation from [-2 to +2] **[currently 0 - 2]**	(Rep Score / 99) * 2	-		link
	Local Economy Multiplier	N multiplier for exchanging within Bioregion	1.5	local.mul		
	Daily Points Calculation Between Each Account	Top 2 transactions * volume ≤1777 Seeds) * Receiving account Reputation *Bioregion Bonus (1.5, if present) = An AccountsTransaction Points (TP) for the day				
	Total Transaction Score Points	The aggregate of all TP with the org account and all the other accounts it has transacted with				

SEEDS not only tracks the transactions an organisation makes, but the transactions an organisation facilitates through its applications and platforms.

These rewards may provide enough revenue for an organisation for them to be able to maintain an application without charging any fees. Fees are a primary hurdle for “sharing economy” and peer to peer applications - especially in the local food sharing economy space. If users were charged fees for buying dinner from their neighbours (through an app), it’s very likely they will avoid the app for routine transactions. If applications were rewarded for transactions they facilitated (and not fees taken) there would be an incentive to create this app and allow those neighbours to meet and exchange without taking a fee.

This will potentially drive the rapid adoption of Seeds and the expansion of the economy - further fueling the Harvest and generating even more rewards for the organisations providing these “better-than-free” services.

Waning Total Transaction Volume

This metric tracks total Seeds volume moved through and by an organisation, platform or app. This biases economic rewards to a waning [lifetime] metric to give more rewards to organisations who joined SEEDS early. This is an added incentive for organisations to adopt SEEDS early on. Half-life is applied every [13] cycle.

Recent Transaction Volume

This metric tracks recent volume within the last [3] cycles. This allows organisations who are just joining SEEDS to start seeing rewards based on their recent economic activity and levels the playing field for incoming organisations.

Total Economic Contributions Score

Total Transaction Volume Ranking 0-99 (TTV)

Recent Transaction Volume Ranking 0-99 (RTV)

(TTV*.20)+(RTV*.80) = Total Economic Contributions Score

Total volume is weighted at 20% and recent volume at 80% giving more weight to recent actions and making the playing field more equitable for new entrants.

Organisation Accounts Total Contribution Scores

Biosphere Contributions Score (BC) = Multiplier 0-2

Community Contributions Score (CC) = Ranking 0-99

Economic Contributions Score (EC) = Ranking 0-99

[(CC+EC) * BC = Total Organisation Contribution Points]

Note: Total points range from 0 to 396. Organizations are given a final "Contribution Score" from 0-99 when compared among other organisations.

Bioregional Accounts: Boundaries by nature and emergence

Bioregion: a region defined by characteristics of the natural environment rather than by man-made divisions.

Each Member and Organisation can choose which Bioregion they belong to. This is what SEEDS considers "local".

Activating a Bioregion Requirements Table						
Index	Action	Description	Setting	Setting ID	Impact	Contract
	Planting Seeds	This creates and proposes a bioregion. After this point other Citizens and organisations can select this bioregion as their home.	1000	bio.fee	Med	https://telos.bloks.io/account/bio.seeds
	Citizens Represented	Number of Citizens required in a bioregion to activate it	144	bio.cit		
	Bioregional Ambassadors Required	The number of Bioregional Ambassadors required to sign for a new bioregion	3	bio.amb		

Creating a Bioregion

Proposing a Bioregion

Any member can create a "Proposed Bioregion" by:

1. Naming the bioregion
2. Planting N into that bioregion.
3. Declaring the central GPS coordinates

Activating a Bioregion

A “Proposed Bioregion” becomes active when:

1. N Citizens have selected it as their bioregion
2. When the above conditions are met N Bioregional Ambassadors are required to sign a multisig contract to activate the new bioregion

Benefits of an Active Bioregion

1. **Local Economy Bonus:** Rewards for members conducting transactions with other Residents, Citizens and Regenerative Organisations within a Bioregion.
2. **Bioregional Harvest:** Bioregions receive a share of the Harvest. This Harvest is managed through a B-DHO (Bioregional - Decentralized Holonic Organisation) by all the Citizens of that Bioregion. Citizens of that bioregion get the benefit of collectively deciding how these funds are spent. See *Section 4 Bioregions for Harvest details* and *Section 3 for Bioregional Governance*
3. **To be co-created.**

Bioregional Contribution Scores

Bioregions are ranked on a scale of 0-99 based on their contribution scores. This determines the Bioregions share of the Harvest. *See Section 4 Bioregions for Harvest details.*

Bioregional Contribution Score Metrics

1. The aggregate Contribution Score Points of all members of a Bioregion.

[Total Contribution Scores of Bioregion Members = Total Bioregional Contribution Score]

2. To be co-created. *Exploring ideas around tracking objective regeneration metrics to reward bioregions based on their proven history of regeneration and effective use of the Harvest to regenerate their bioregion.*

Joining a Bioregion

When a member becomes a [Resident] in SEEDS they choose which Bioregion they belong to.

Changing Your Bioregion

There is a [1 full cycle] delay when changing a bioregion. If a member changes bioregions during a voting cycle they will need to wait until that cycle is finished and the next full cycle has passed before they can vote on proposals.

Section 2: How you govern - how we evolve and enforce rules and incentives

How do we create a new form of collective intelligence system that is in service to evolution and whole systems thrivability? A collective intelligence system that increases in complexity, responsive to our exponentially changing environments. We need the foundation of this system that is complex enough to give rise to this new ordered intelligence, yet simple enough we can begin today.

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Governance Introduction

Just like in many nations today, when you're a Visitor or Resident you're not allowed to participate in governance. Governance is limited to Citizens to encourage better decisions and ensure that those voting are committed, have had time to understand SEEDS and have added value.

Only Residents and Citizens are permitted to submit a Funding Proposal.

Only Citizens are permitted to submit a Referendum Proposal.

Beyond Plutocracy

Vote weight determined by Contribution Score - which includes a reputation. This is superior to the majority of Crypto Economic governance protocols as Trust (governance tokens) cannot be obtained with wealth alone (owning tokens). By this end most Crypto Economic governance systems are exaggerated forms of plutocracy (governance by the wealthy). SEEDS aims to give a more equitable and distributed voice to its participants through tracking a wider diversity of participation beyond equity token holdings.

B-DHO's VS G-DHO

The G-DHO (Global Decentralized Human/Holonic Organisation) is a single entity that governs the rules of the SEEDS economy as a whole, while each B-DHO (Bioregional Decentralized Human/Holonic Organisation) represents a physical bioregion of Earth.

SEEDS is envisaged as a global human operating system, applicable to the human species in its entirety. This is governed by the G-DHO. While B-DHO's allow for regional and cultural differences and experiments to evolve. The diversity of B-DHO's will accelerate our knowledge capture for optimal ways to govern and manage finances in a decentralized and equitable way.

Ecological boundaries are chosen to assist in organising our efforts for local regeneration. A local boundary that only comprises a portion of a river is impotent at regenerating the whole river.

For this reason bioregions were chosen for the boundaries of a B-DHO and what is considered local “local”. These natural boundaries provide a better frame for regeneration over artificial boundaries such as nations, states or cities.

A B-DHO - Bioregional Coop is activated once [144] Citizens comprise that bioregion.

Trust Tokens Distribution

Trust Token Distribution Table						
Index	Name	Description	Setting	Setting ID	Impact	Contract
	Voting Cycle	The length of a voting period. Each cycle is a lunar cycle (~29.5 days). If the setting is set to 1 it is a full cycle (starting each new moon) if 0.5 it’s a half cycle (each new and full moon). Etc.	0.5	prop.cyc.len	High	

Each Citizen may obtain voting rights through receiving Trust Tokens relative to their Contribution Scores. These Trust Tokens are distributed at each [New] and [Full Moon].

A member immediately receives Trust Tokens upon evolution to a Citizen to use during that cycle.

Each Citizen earns Trust Tokens for each category of governance operations in the G-DHO and B-DHO in which they are members. DHO’s are encouraged to not create new categories unless there are sufficient proposals to merit a split. The initial categories are laid out in the Harvest Distribution.

Some examples include, but are not limited to:

1. The Global “G-DHO” Referendums
2. The Global “G-DHO” Funding Proposals
    a. Global Campaigns
    b. Alliance Shares
    c. Hypha Milestones and (Potentially) Ongoing Services
    d. Interest Free Loans
    e. Regenerative Grants
    f. Etc.
3. Bioregional “B-DHO” Referendums
4. Bioregional “B-DHO” Funding Proposals

a. Interest Free Loans
b. Regenerative Grants
c. Health
d. Housing
e. Local Food
f. Etc.

Voting Cycle / Trust Depreciation

[New] and [Full] moons trigger the start of a proposal period. All proposals submitted before this event will be put up to vote at the same time. Proposals submitted during a voting cycle will be displayed in a "staging area" and submitted at the start of the next cycle.

Citizens have [½] the voting cycle in order to cast their Trust Tokens without penalty. If Trust Tokens have not been cast by this time their Trust Tokens will start a linear deterioration until they reset by the start of the next voting cycle.

[15%] of total Trust Tokens removed every 24 hours following the ½ cycle mark.

~~If you cast a vote and do not use all your Trust Tokens they are saved for a maximum of [3] cycles to be used on future proposals. Saved Trust Tokens are spent [first-in-first-out protocol.]~~

This protocol disincentives and reduces the ability to "swing the vote" at the end of the period.

G-DHO (Global Governance) Trust Token Distribution

Citizens earn Trust Tokens equal to their SEEDS Contribution Score.

B-DHO (Bioregional Governance) Trust Token Distribution

Citizens earn Trust Tokens equal to their SEEDS Contribution Score.

Delegate Trust

Citizens may delegate voting rights to another Citizen per each category of governing decisions.

This means that as a citizen you can choose your most trusted "permaculture practitioner" to delegate your voice to on local food proposals and your most trusted wellness practitioner for health decisions, etc. This way we can have collectively self-accessed topic experts having more weight in decision making and people can use their voice where they feel most inspired. This blends the best of direct and representative democracy.

This earns Citizens rewards as described in the Reputation section of this paper.

Delegations mimic the relative voting of the delegatee.

Example: If delegatee casts 1/10 of their Trust Tokens on a proposal it follows with 1/10 of the Trust Tokens of the delegator.

[%] of Trust Tokens cast delegatee = [%] of Trust Tokens cast of delegator

Multi Delegation (Proposed Evolution)

A Citizen may choose multiple accounts to represent them. The Citizen would choose which weight to delegate to each delegatee.

This is for each topic. So a citizen can choose their top 2 favourite permaculture practitioners to follow and give each one of them 50% of your Trust Tokens (voting tokens).

Voting Rewards

Citizens earn Reputation for participating in voting. For maximum rewards Citizens need to Trust, Distrust or Abstain on each proposal presented in the voting cycle, for voting at all a Citizen will still gain some reputation.

Distrusting / Down Voting

Distrusting a proposal does not count towards the quorum needed for that proposal to pass.

Inactive Citizens Devolved to Resident

If a Citizen does not vote for [3] cycles that account is reduced to a Resident account. At any time the member can evolve to a Citizen again and recover their Trust tokens for use during a governance cycle.

Quorum and Unity Thresholds for Referendums Table

Funding proposals will have their own unique quorum and unity thresholds. This table is for referendums (proposals to change the Constitution, Guide or Code).

Quorum and Unity Threshold Table for Referendums							
Index	Name	Description	Setting ID	Quorum	Unity	Impact	<
	High Impact	Foundational protocols and code with the greatest impact.	Quorum.high, unity.high	10%	90%	High	
	Medium Impact	Middle layer protocols and code with moderate impact.	Quorum.med, unity.med	7%	85%		
	Low Impact	Top layer protocols and settings (such as bank fees) with minor impact.	Quorum.low, unity.low	5%	80%		

When protocols are not in a table the following color coding represents the quorums and unity thresholds needed to change the proposals laid out in this document.

Green Highlight = High

Blue Highlight = Medium

Orange Highlight = Low

Staking Seeds for Proposals

Staking: The act of locking up your Seeds for a select period of time. For proposals, these are Seeds that are locked up during the proposal process and repaid if successful or burned if the proposal fails.

Referendums

G-DHO and Initial B-DHO Referendum Proposal Requirements					
Index	Name	Description / Calculation	Setting ID	Impact	Contract
	Staking Requirement	[1111] Seeds. These Seeds are [repaid] if the proposal passes.	refsnewprice		
	Quorum Requirement	Based on impact			
	Quorum Calculation	# of total Citizens available to vote / # of Citizens who voted			
	Unity Requirement	Based on Impact			
	Unity Calculation	# of Trust Tokens cast in favour (Trusted) ÷ Trust Tokens casted on proposal (Distrusted)			

G-DHO Referendums

The protocols and settings within the SEEDS ecosystem are open for evolution, modification and adjustment through the Referendum governance process.

B-DHO Referendums

B-DHO's inherit the default settings of the G-DHO. However, each B-DHO has the ability to evolve their governance as they see fit. B-DHO's are encouraged to make and maintain a constitution to reflect these changes.

Funding Proposals

The G-DHO and each active B-DHO recieves a Harvest distributed in various predetermined categories available for Citizens to make proposals into.

Note: Citizens can use the Referendum process to modify the distribution of these buckets.

See SEEDS Harvest section for current distributions.

For example, X% of the budget is reserved for Regenerative Grants, and Y% is reserved for Regenerative Loans.

Funding Proposals					
Index	Name	Description / Calculation	Setting ID	Impact	Contract
	Staking Requirement	3% of requested Seeds | 75,000 Seeds max			
	Quorum Requirement	0.9 ÷ # of campaign proposals | Minimum 5% Maximum 20%			
	Quorum Calculation	# of Trust Tokens cast in favour ÷ Total # existing Trust Tokens			
	Unity Requirement	80% (proportion of Trust Tokens in Favour vs Against)			
	Unity Calculation	# of Trust Tokens cast in favour (Trusted) ÷ Trust Tokens casted on proposal (Distrusted)			
	Reversing a Passed Proposal	If the Citizens who voted the proposal up reverse their votes afterwards to below the 80% unity threshold the payouts will be stopped and the proposer will lose reputation.			
	Payout Schedule	25% immediately upon a successful proposal. Then 25% each cycle for 3 cycles.			

~~Funding Proposal Thresholds~~

~~Funding proposals are subject to threshold relative to the Seeds they are requesting with a minimum of [60]% and a maximum of [90]% unity along with a quorum of [5]% to [15]% respectively.~~

~~This threshold is linear to the % of the total bucket the proposal is requesting.~~

~~[1]% of the bucket = [60]% Unity and [5]% Quorum && [100]% = [90]% Unity and [15]% Quorum~~

Funding Priorities

In the event more funding proposals passed than the budget can afford then proposals will be paid out prioritised by the number of Trust Tokens received.

Proposals that passed and were not funded

Citizens can have their stake returned and close their proposal. Alternatively, Citizens can opt to have their proposal repeated next month. This will reset all Trust Tokens gained. If the proposal fails to get funding in the second cycle, the proposal will be considered failed, and the Citizen will lose their proposal fee.

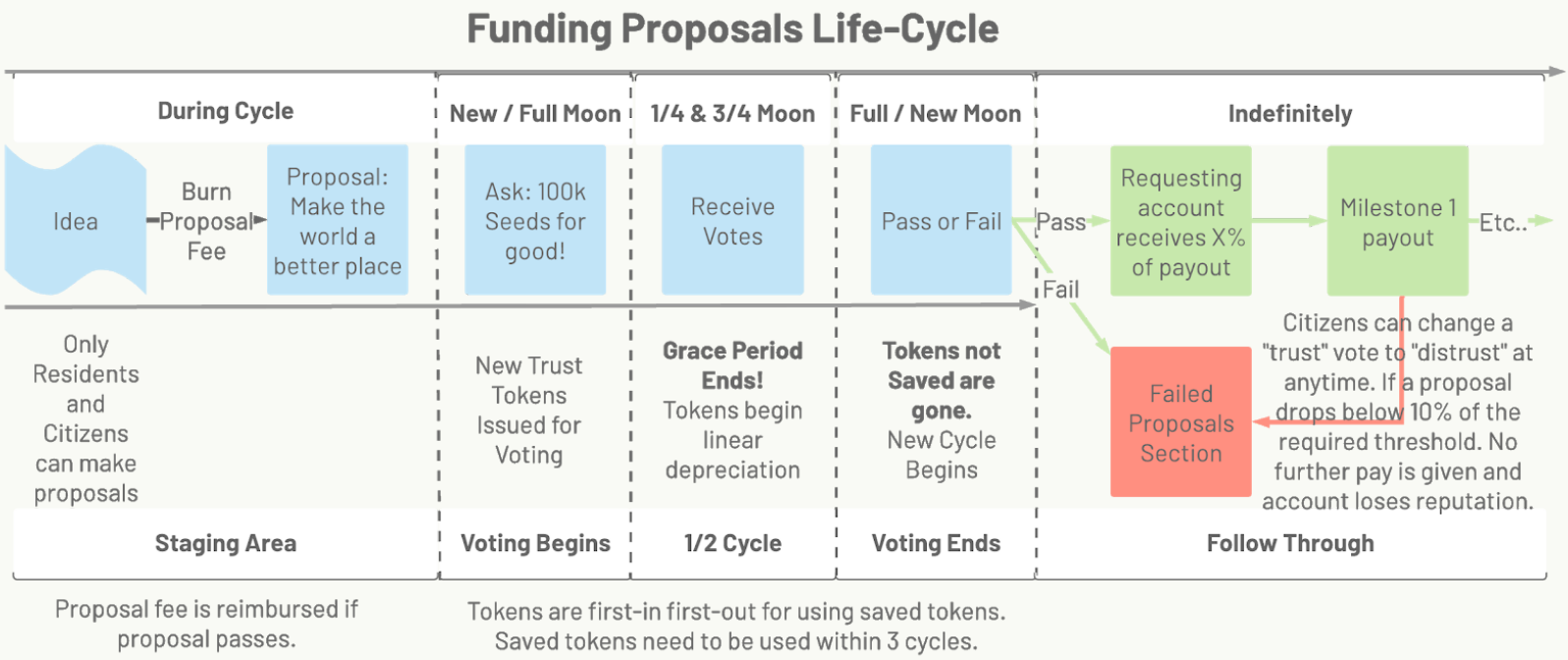
This encourages proposers to coordinate with their communities and budget accordingly.

Proposal Lifecycle

Funding Proposals Lifecycle

Follow through failure

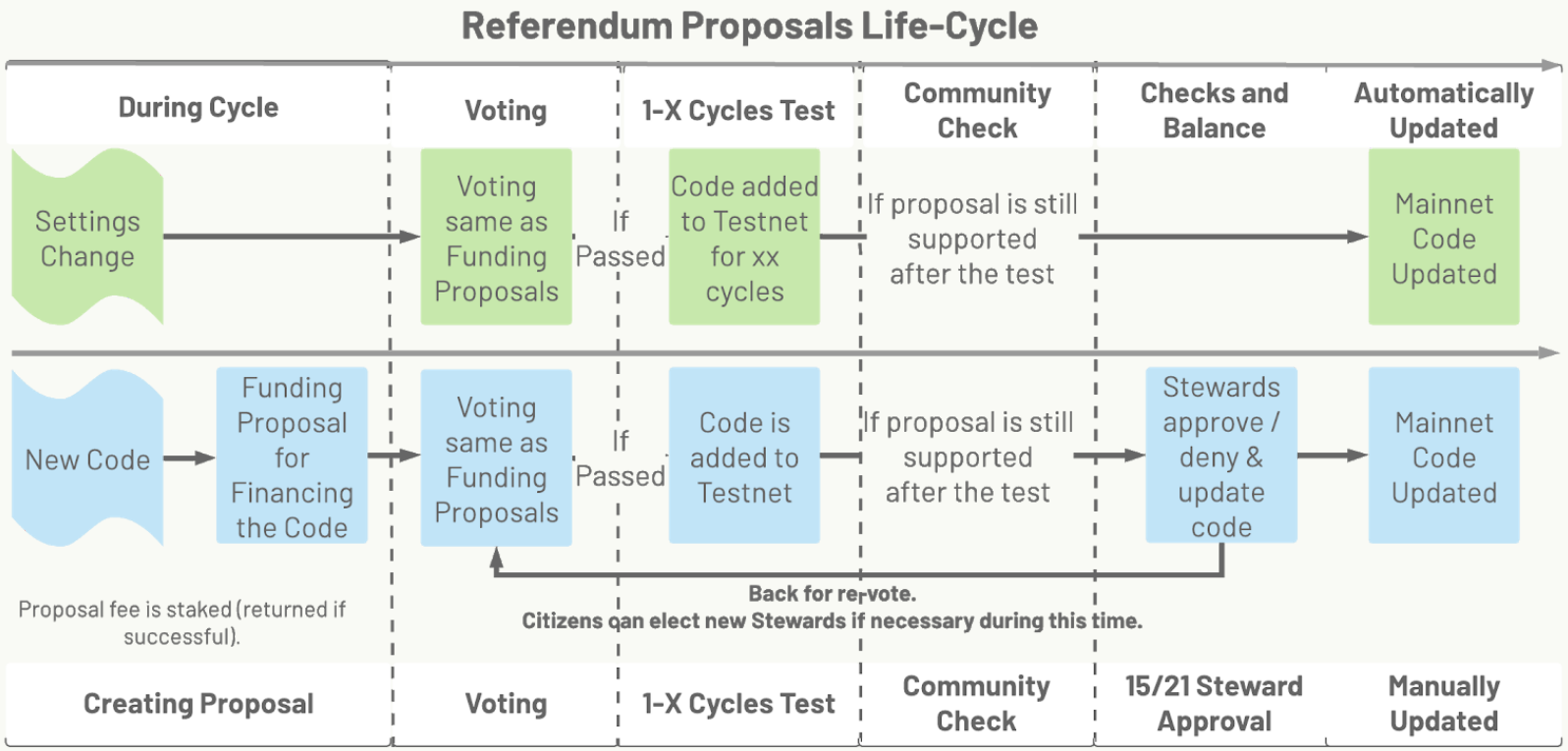
All passed funding proposals go in a section where Citizens who have Trusted these proposals can change their vote to Distrust. If the proposal falls [5]% below the Unity threshold, the owner of the proposal will lose reputation as detailed in the Reputation section.



Referendum Proposals Lifecycle

Code for referendum proposals needs to be completed before the proposal is submitted and encouraged to have been trialled in a test environment before being submitted. For funding to create the code, this process would start with a funding proposal request.

Proposers choose the testing lifecycle for the code change with a minimum of [1] cycle. This is a delay from when the proposal passes until the code reflects the change. This provides Citizens with a chance to trial the proposal in a test environment and reverse their decision to adopt the code.



Once the proposal passes the proposed code change will be applied to a testing environment.
In this way, Citizens can Trust a proposal in theory but change their mind after the code has been tested.

Testing failure

Citizens can change their vote from Trust to Distrust after the proposal has taken place and before the code has been submitted.

These proposals can be found in the Testing Referendums section of the Passport.

Campaign and Alliance Proposals

These protocols are only active while there is funds available for these categories. Once distributed these conditions are no longer valid.

Campaign Proposals					
Index	Name	Description / Calculation	Setting ID	Impact	Contract
	Staking Requirement	3% of requested Seeds | 75,000 Seeds max	prop.cmp.cap prop.cmp.pct		
	Quorum Requirement	0.9 ÷ # of campaign proposals | Minimum 5% Maximum 20%			
	Quorum Calculation	# of Trust Tokens cast in favour ÷ Total # existing Trust Tokens			
	Unity Requirement	80% (proportion of Trust Tokens in Favour vs Against)			
	Unity Calculation	# of Trust Tokens cast in favour (Trusted) ÷ Trust Tokens casted on proposal (Distrusted)			
	Max Request	250,000 Seeds for first time proposals | 20,000,000 Seeds afterwards			
	Reversing a Passed Proposal	If the Citizens who voted the proposal up reverse their votes afterwards to below the 80% unity threshold the payouts will be stopped and the proposer will lose reputation.			
	Payout Schedule	25% immediately upon a successful proposal. Then 25% each cycle for 3 cycles.			

Alliance Proposals					
Index	Name	Description / Calculation	Setting	Impact	Contract
	Staking	1% of requested Seeds | 15,000 Seeds max			
	Quorum Requirement	0.9 ÷ # of alliance proposals | Minimum 5% Maximum 20%			

	Quorum Calculation	# of Trust Tokens cast in favour ÷ Total existing Trust Tokens			
	Unity Requirement	80% (proportion of Trust Tokens in Favour vs Against)			
	Unity Calculation	# of Trust Tokens cast in favour (Trusted) ÷ Trust Tokens casted on proposal (Distrusted)			
	Max Request	1,500,000 Seeds			
	Reversing a Passed Proposal	If the Citizens who voted the proposal up reverse their votes afterwards to below the 80% unity threshold the deferred Seeds will be returned to the allies.seeds account.			
	Payout Schedule	Seeds are held in escrow and delivered to the account as liquid Seeds at the same schedule as all escrowed Seeds after “Go Live”.			

Template Proposals

Campaign Proposals

When a proposal for a campaign passes - the requested Seeds are sent into a campaign smart contract.

Example:
A “Plant Seeds Get Seeds” campaign giving 100 Seeds for each person who plants a tree up to 10M Seeds. These 10M Seeds go into the campaign contract.

Each campaign proposal requires two parameters

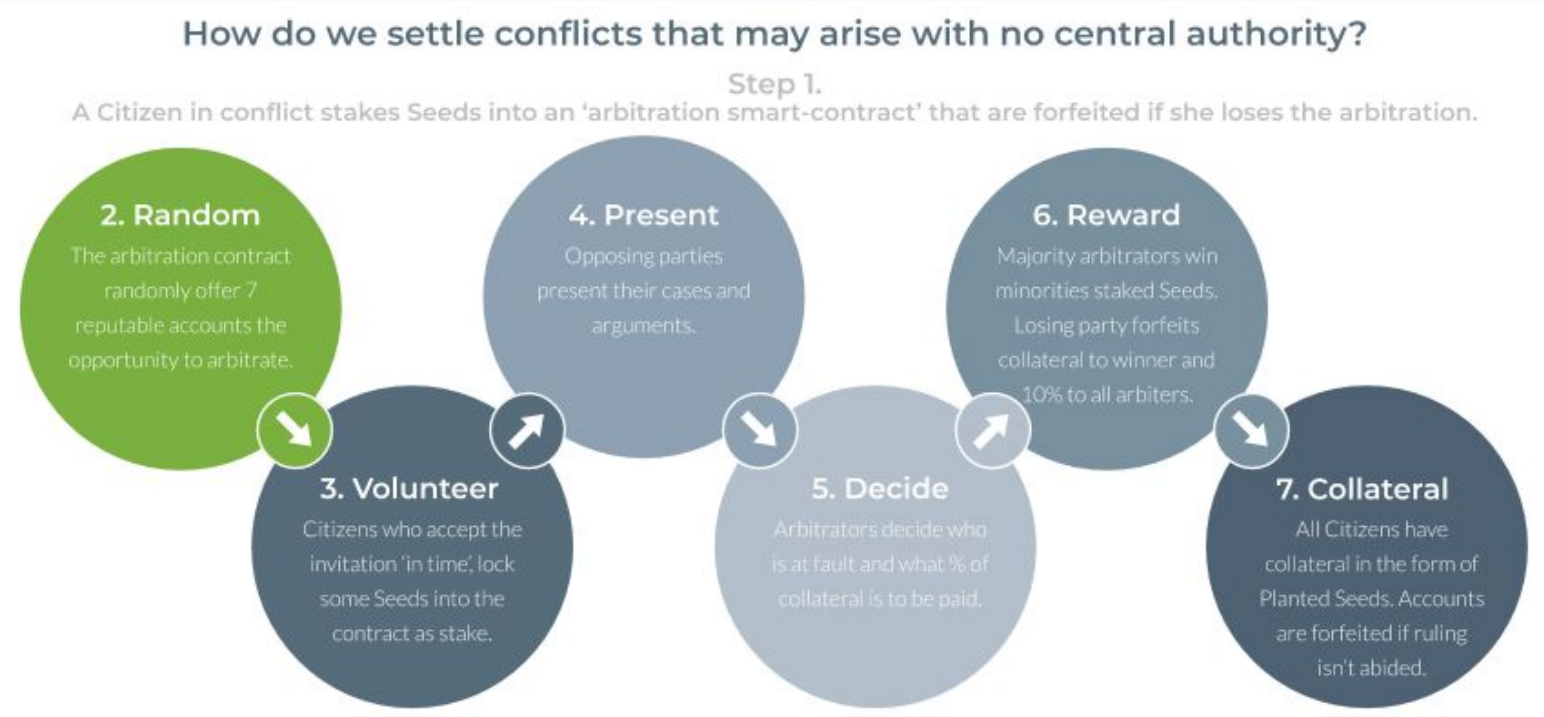
1. how many Seeds are being requested for the whole campaign.
2. how many Seeds an individual gets for completing the campaign.

Optional - to have a campaign have multiple individual tiers.

Example: Plant a tree get 100 | Plant a garden get 500 Plant a forest get 1M!

If voters wish to end the campaign early, they follow the steps outlined in the “follow-through failure” section and have the Seeds returned to the campaign bucket.

Decentralized Arbitration



Disputes can be handled on-chain through decentralized arbitration as detailed above or through the elected arbitrators of the Telos Blockchain.

Decentralized Arbitration Fees

[1]% of dispute amount paid to arbitrators: maximum of [7000] Seeds with a minimum of [350] Seeds.

[2]% of the disputed amount is burned: Maximum of [14000] Seeds with a minimum of [700] Seeds.

SEEDS Stewards (Interim checks and balances)

Stewards are [21] accounts within SEEDS who collectively have [15/21] (⅔+1) multi-signature authority to:

1. Enforce arbitration outcomes
2. Freeze accounts (for [72 hours] to await arbitration)
3. Freeze Protocols (for [72 hours] to await arbitration)
4. **Add or reject new code** as directed by the G-DHO or related B-DHO.

Stewards exist for each area of governance. So a set of Stewards will exist for the G-DHO (global ecosystem) and will exist in B-DHO's (each bioregion).

Steward Responsibilities

It is the Stewards' responsibility to push necessary code updates to SEEDS following referendum processes.

Stewards stand at the ready to defend against hacks and malfunctioning code and are given limited authority to freeze protocols and accounts to prevent further damage and allow arbitration to ensue.

Steward's role is to study, interpret and enforce the constitution and prevent any changes to SEEDS code that are not in line with the constitution.

Stewards also serve as the final check and balance in governance and can reject code upgrades that would harm SEEDS or not align with the constitution. This is defined by the values and protocols and intent laid out in the Constitution.

Stewards can lose their position if they abuse this power and are mandated to only freeze protocols or accounts that aren't abiding by the Constitution.

Steward Selection

To become a Steward a Citizen needs to:

1. Plant [11,111] Seeds
2. Have competency in SEEDS architecture and codebase
3. Apply to become a Steward (this process ensures condition 2 is met)

Once these conditions are met, Citizens will be ranked alongside the other applicants by [Reputation Points], and the top 21 candidates will be the sitting Stewards.

This ranking by Reputation over the traditional voting process removes the typical waste associated with politicking and elections and redirects it to motivate candidates to participate in the myriad methods to build Reputation (which benefits all Members).

Steward Removal

Stewards are removed when their reputation drops below the 21st highest ranking candidate, or, through a referendum where any Citizen can propose the removal (and six moon banning) of any Steward candidate.

Steward Compensation

Stewards receive a fixed salary from the G-DHO for any complete cycle that they were a Steward for.

Salary [xxxx} Seeds per [cycle]

Steward Interim Decentralized Governance Assistance

It's the intention of SEEDS to make this role obsolete through complete decentralization and automation of the governance process. However, a great deal needs to be learned about decentralized governance and protocols established to be able to quickly address critical issues before removing this position.

Section 3: How SEEDS encourages beneficial behaviours

Section 3: How SEEDS encourages beneficial behaviours **55**
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Intrinsic and extrinsic incentives over punishments

Our legacy and dominant organisational frameworks rely heavily on punishments to coerce behaviours. This is only possible as these institutions have a monopoly on legal violence.

SEEDS is an opt-in network. Not only would using punishments to coerce behaviours to result in minimal adoption, but there's also no room for violence as a driver for behaviour change in our future societies.

Just as violent parenting is sloppy parenting, using violence to promote behaviour change is a sign of sloppy game design.

SEEDS aligns the intrinsic motivations to create a healthier world with extrinsic rewards - so that these motivations are no longer at odds. SEEDS relies more on providing rewards for aligning actions as opposed to threats of punishment.

However, for clear and exaggerated abuses of the SEEDS commons, there are graduated sanctions and removal of rewards before finally administering punishments.

Accounts

SEEDS accounts are hosted on the Telos Blockchain which provides you access to all the services and products in the Telos Ecosystem.

Each Member may control only one Personal Account of Resident or Citizen status and Multiple Organization Accounts. Accounts record the ownership of various tokens and resources and are controlled by cryptographic keys. Accounts may publish smart contracts, including contracts that issue new tokens.

Proxy transaction accounts

Using bots or proxy accounts to gain Contribution Score in any manner is strictly prohibited.

Majority of transactions are verified with purchases on-chain with marketplaces using the SEEDS API's. However, for off-chain transactions (off marketplace transactions or peer to peer) members are encouraged to retain receipts of transactions in the event of a peer-directed audit if transactions appear fraudulent.

Abusers of the system risk being brought to arbitration by other Members.

Note: This will likely only occur for irregular, abnormally repetitive, cyclic or bot-like behaviours. For all regular economic behaviour, there will likely not be an inquiry.

Fines

Arbitration could result in a loss of Harvest rewards, arbitration fees, and/or freezing an account until fees are paid. Or, the forfeiture of Planted Seeds equal to the fees levied against the account.

Abuses or attempts to abuse the Contribution Score algorithms or unconstitutional actions may incur fines up to the Planted Seeds, and the Harvests received during the abuse [+ 2 cycles of future Harvests].

If fines are not paid the account will be frozen for [3 cycles] in which the fines can be paid to unfreeze an account before all Planted Seeds will be confiscated and burned.

Bounty Hunters

Accounts that notify an arbitration committee (see Decentralized Arbitration) of potential abuses can earn rewards for successful submissions and incur penalties for false claims.

Bounty hunters stake Seeds equal to the number of Planted Seeds of the defending account up to a maximum of [1,111] Seeds.

Once this claim is made the defending account will be temporarily frozen for a maximum of [48] hours while the dispute is resolved. If the account is cleared by arbitration, the bounty Hunter will lose their staked Seeds.

For false submissions, stake is distributed:

[20]% will be burned [60]% given to the defendant and [20]% given to the arbitrators.

For accurate submissions,Low-risk fines are distributed:

[10]% will be burned [70]% given to the Bounty Hunter and [20]% given to the arbitrators.

Section 4: How We Thrive - Economic Protocols

Section 4: How We Thrive - Economic Protocols **58**
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For more details on SEEDS current token economics see the tokenomics paper here.

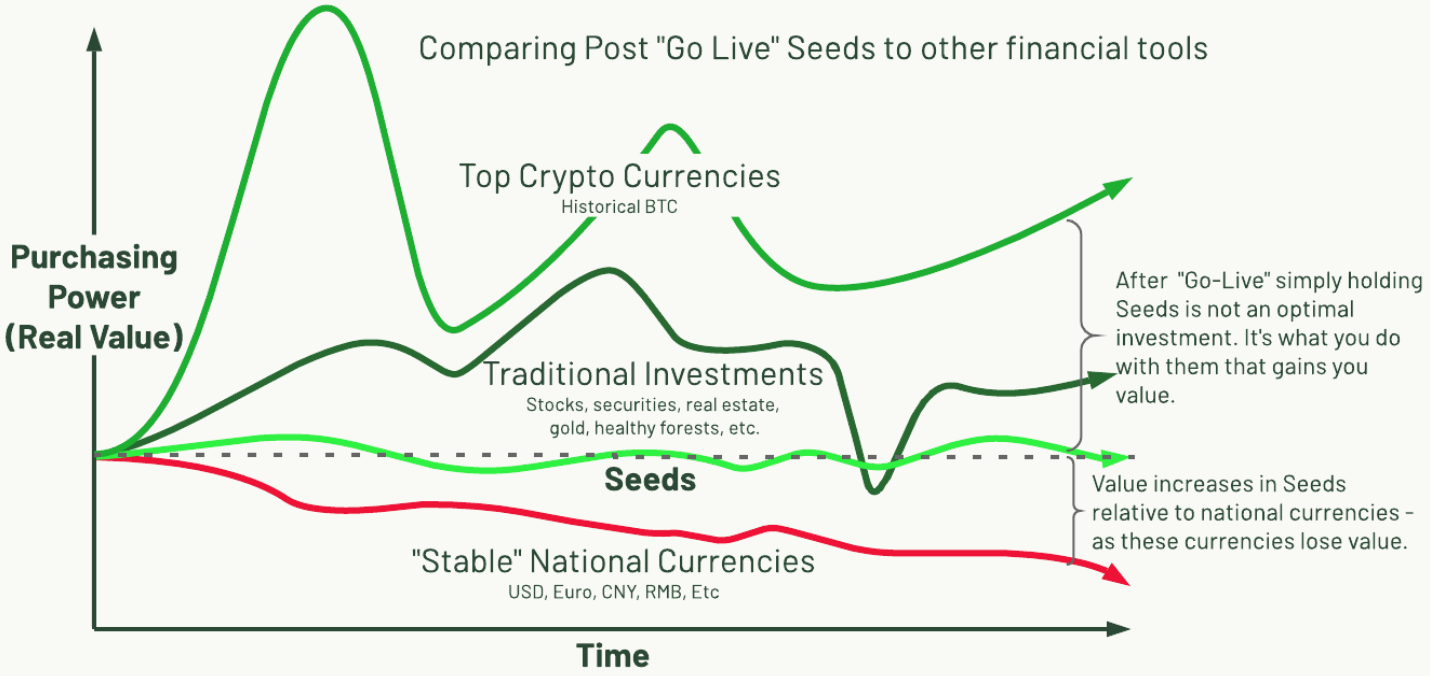
The Economics of SEEDS

Note: these protocols don't take effect until after "go live" has been triggered. before that event, seeds is a fixed supply currency.

This Harvest is a "Universal Earned Income" that redistributes all economic growth to all members, organisations, communities and our planet in a more harmonious and equitable way. The Harvest increases when the SEEDS economy is thriving - which is what ties all our financial interests together. It's this mechanic that unites our financial interests to reward cooperation.

Grow your share of the Harvest by increasing your Contribution Score.

Seeds: A more stable currency



National currencies consistently lose purchasing power (example: USD loses anywhere from **3-12%** per year). Seeds are designed to be a more stable currency. Relative to these other currencies, Seeds could potentially be going up in price each year, while remaining more stable.

The value of Seeds are stabilized through the Harvest protocols.

The intent of these protocols is to stabilize the purchasing power of Seeds within the economy. *Success means that average prices (when denominated in Seeds) will remain more stable, as opposed to the generally rapidly increasing prices (housing, school, burritos) of legacy nation-state economies.*

When a currency loses its value, all things that are priced in that currency lose value as well. Where this hurts people the most is in salaries and worker pay. If a workers yearly promotion does not exceed the currencies inflation rate, it's akin to that worker getting a demotion every year. So, what generally happens in these economies is the concentration of wealth, as those who can afford to invest beyond the interest rate (acquiring assets, such as housing and real estate) see their wealth grow, while those dependent on pay and salaries to meet their needs see their wealth decrease.

Balancing Circulating Supply

What's important is balancing the demand for Seeds with the supply of Seeds in circulation, as it's only these Seeds (opposed to the total supply of Seeds) that are available for trading and exchanging.

SEEDS tracks the change of seasonal volume to find the average growth (or degrowth) in the SEEDS economy. It uses this as the foundation for potentially creating new Seeds.

In this way, new Seeds are grown simply to meet a new demand for Seeds, neither being too scarce nor overabundant.

The "Harvest" and Stability Protocols

Leaning off fundamental calculations of Modern Monetary Theory, the value of Seeds are stabilised by adjusting the supply to meet changes in the SEEDS economy. If the financial system and economy are balanced - the value of Seeds are stable.

REV Harvest Calculations

Representative Ecosystem Volume

MV=PT

(Foundational calculation of Modern Monetary Theory)

SEEDS **MONEY SUPPLY**			=	SEEDS **ECONOMY**		
Seasonal Change	**Money Supply [1] (M)**	**Velocity of Seeds [2] (V)**		**Average Price Level [3] (P)**	**Volume of Goods Exchanged [4] (T)**	**Rolling Seasonal Average Change [5]**
Circulating supply of [3] cycles previous	S1,333,561,643	**3**	=	**1**	S4,000,684,931	*118-88.5 days ago [3] cycles*
Proposed circulating supply	**S1,366,900,685 [7]**	**3**	=	**1**	**S4,100,623,123 [6]**	***Running previous 29.5 days [1] cycle***

Current Circulating Supply [8]	S1,321,575,900	*Seeds currently in circulation*	**Base Economic Growth [12]**	**2.5%**
Gross Harvest [9]	S31,026,311	*How many Seeds need to be added into circulation to balance MV=PT before running through the remaining harvest protocols (see Discovering Net Harvest from Gross Harvest).*		
Net Harvest [10]	**S45,324,785**	*Gross Harvest + Removed Seeds - Introduced Seeds = Net Harvest (see Discovering Net Harvest from Gross Harvest) (Or, Proposed Circulating Supply - Current Circulating Supply)*		
Net Escrow Release [11]	S22,662,392	*How many Seeds are released from escrow (see Escrow Release Schedule).*		
Net New Mint [12]	S22,662,392	*After going through the remaining harvest protocols this is how many Seeds need to be minted as new Seeds increasing the total and circulating supply.*		

All figures were derived from economic simulations run using conservate metrics for a post “Go Live” economic scenario.

To sign-into the simulator click here.

1. **Money Supply (M):** Total Seeds in circulation. Taking the current circulating supply and the supply from 1 season [3 cycles] previous.
2. **Velocity of Circulation (V):** How often a Seed exchanges hands each quarter. First calculated in the 3 months following launch - to determine a base velocity - may require regular recalculations as velocity averages change.
3. **Average Price Level (P):** For maintaining the value stability of Seeds, Citizens would keep this value constant. Citizens could choose to change this target, however, it’s foundationally set for stability.

   For example, it could be set at a 2% annual inflation rate (so that Seeds would lose 2% in purchasing power) this is similar to what central banks profess to do.
4. **Volume of Transactions of Goods (T):** Total value of qualifying seasonal transactions. Qualifying transactions are only those that count towards the “transaction score” of members. This is a representative subset of transactions that are harder to manipulate or fraud.
5. **Rolling Seasonal Average Change:** This is tracking the average growth of the economy over a rolling [3 cycle] basis. *If the economy is growing by 3% the circulating supply of Seeds will need to grow by 3% (if velocity and price level is stable).*
6. **Volume of Goods Exchanged:** This is the total value in Seeds exchanged that season for qualifying purchases. This is a “representative” group of actions that are more difficult to manipulate which gives a more accurate assessment of the real economy.
7. **Proposed Circulating Supply:** This is the circulating supply that’s needed to balance the equation to maintain the price level of Seeds.
8. **Current Circulating Supply:** This is the current circulating supply of Seeds that are available for members to use in exchanges. **Circulating Supply = Total Supply - all “.seeds” accounts.**
9. **New Seeds Needed:** This is how many new Seeds need to be brought into circulation.
10. **Net Harvest:** The Net Harvest is **(Gross) Harvest + Removed Seeds - Introduced Seeds = (Net) Harvest** as detailed in the following harvest calculations.
11. **Released from Escrow:** This is how many Seeds will be released from escrow to meet this new demand.
12. **Total New Seeds Minted:** This is how many Seeds will be created (increasing the total supply of Seeds along with the circulating supply.
13. **Base Economic Growth:** This is the base seasonal growth of the SEEDS economy.

Discovering Net Harvest from Gross Harvest

Economic Trends: Previous 3 Cycles (Updated Bi-hourly)					
Example Economic Trends	Last Season Circulating Seeds	Average Seasonal Economic Growth	**Proposed Circulating** Seeds	**Current Circulating** Seeds	**Change Required to Balance Equation (Gross Harvest)**
Growing (Above Calculations)	S1,333,561,644	**2.50%**	S1,366,900,685	S1,335,874,374	S31,026,311
Sustaining	S1,333,561,644	**0%**	S1,333,561,644	S1,335,874,374	-S2,312,730
Degrowth	S1,333,561,644	**-1%**	S1,320,226,027	S1,335,874,374	-S15,648,347

For example, we'll showcase three economic trends with approximations of the circulating supply of Seeds at "Go Live". We'll show what a growing, sustaining and degrowth economy could look like within SEEDS under these economic protocols.

All calculations are "running averages". Meaning, these averages are routinely updated using the previous [3 cycles] of data.

Seeds Removed From Circulation: Previous 3 Cycles (Updated Bi-hourly)				
Seeds Destroyed	Seeds Planted	~~Enter Exchanges (10% Weight)~~	Entered SEEDS Bank	**Seasonal Seeds Removed**
S10,000.00	S13,335,616.44	~~S133,356,164.38~~	S0.00	S26,681,232.88
S10,000.00	S13,335,616.44	~~S133,356,164.38~~	S0.00	S26,681,232.88
S10,000.00	S13,335,616.44	~~S133,356,164.38~~	S3,333,904.11	S30,015,136.99

SEEDS first calculates the Seeds that were taken out of circulation during the period.

Seeds Introduced into Circulation: Previous 3 Cycles (Updated Bi-hourly)			
Seeds Unplanted	~~Exit Exchanges (10% Weight)~~	Left SEEDS Bank	**Seasonal Seeds Introduced**
S1,333,561.64	~~S66,678,082.19~~	S6,667,808.22	S14,669,178.08
S1,333,561.64	~~S66,678,082.19~~	S3,333,904.11	S11,335,273.97
S1,333,561.64	~~S66,678,082.19~~	S0.00	S8,001,369.86

SEEDS then calculates the Seeds that were brought into circulation during the period.

Net Harvest		
Seasonal Harvest (Not Actioned)	Moon Cycle Harvest (Not Actioned)	**Seeds Grown Per Hour (Actioned)**
S43,038,366	S14,346,122	S20,263
S13,033,229	S4,344,410	S6,136
S6,365,421	S2,121,807	S2,997

Using these three metrics SEEDS protocols adds the tokens taken out of circulation and subtracts the tokens brought into circulation to come up with the total amount of Seeds to grow (or not grow) to discover the “Gross Harvest”. Seeds are created [each hour] and sent to the corresponding accounts following the Harvest distribution detailed below.

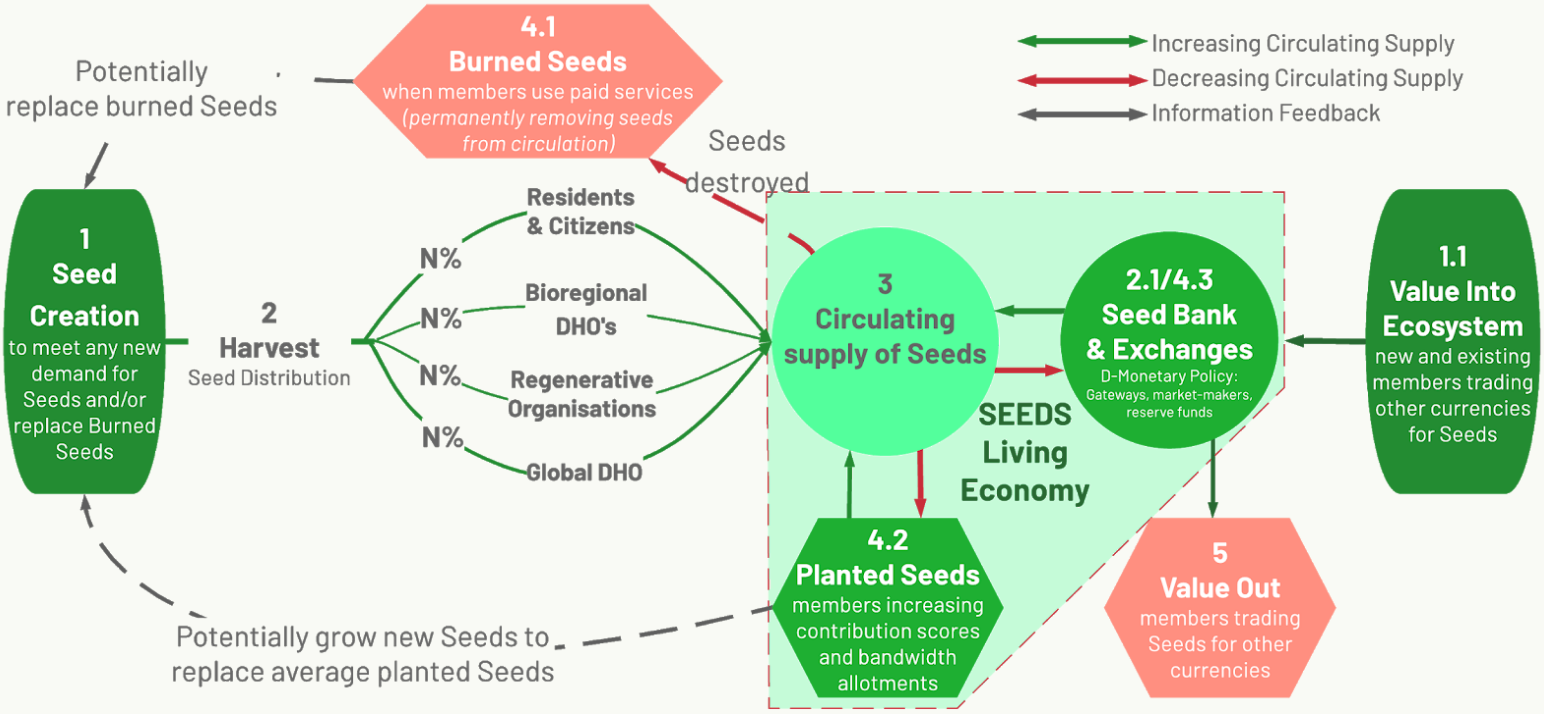
(Gross) Harvest + Removed Seeds - Introduced Seeds = (Net) Harvest

Note: As shown above, SEEDS can still generate a positive Harvest with a prevailing decrease in demand for circulating Seeds.

To expand on these concepts see: SEEDS Economics (Comprehensive)

Harvest Distribution

The distribution is in how SEEDS distributes these newly created Seeds.



Account Type	Share of Total Harvest
Residents and Citizens	[30%]
Bioregional DHO's (.BDC Accounts)	[30%]
Reputable & Regenerative Organisations	[20%]
SEEDS Global DHO	[20%]

The above are the initial 4 major account types that receive a share of the global harvest. Below we'll further break down how these funds are distributed.

Global G-DHO Harvest

The Global DHO (Decentralized Holonic Organism) receives a portion of new Seeds for financing and maintaining the health of the SEEDS culture globally.

Funding Category	Share of Global-DHO Harvest
Regenerative Grants	[20%]
Regenerative Interest-Free Loans	[20%]
Open Proposals	[45%]
Network Maintenance	[15%]

Regenerative Grants

Is reserved for grants for regenerative projects and challenges. All Citizens of SEEDS vote to choose which projects they want to fund. This creates a flow of funds towards the projects that are needed to heal our world but aren't necessarily profitable. Cleaning our rivers, replanting native forests and cleaning up pollution are generally unprofitable endeavours - yet they are required to reverse some of the damage caused by human progress.

These funds are for projects that have a globally regenerative effect - for example, our oceans that don't belong to any land-based bioregion.

Regenerative Interest-Free Loans

Is reserved for interest-free loans for globally regenerative projects. All Citizens of SEEDS vote to choose which projects they want to fund. These loans are built into a smart contract to be automatically repaid by the harvest and earnings of the account receiving the loan. The loan terms will vary from proposal to proposal with the mandate that there will be no interest levied against the borrower. This is to subsidize the transition towards regenerative agriculture and other regenerative industries.

These funds are to be used for projects that have a global effect - such as technology development, global investments (seed banks, global nurseries, regenerating deserts, etc.)

This also ensures there is a demand for Seeds by regenerative producers (to pay back loans) for members of SEEDS to purchase their services (and food) from.

Organisations receiving these loans will also acquire a committed community who may support their business as the business's success now becomes the wellbeing of all members of SEEDS.

Open Proposals / Core Development

These funds are reserved for any proposal that serves the health and wellbeing of SEEDS. Any organisation can request funding to serve SEEDS from marketing teams to software agencies and anything in between.

Network Maintenance

These funds are reserved for maintaining the Seed Bank and purchasing the underlying blockchain tokens (TLOS) to reserve adequate bandwidth to maintain SEEDS network bandwidth. Or, for rewarding the Stewards of a SEEDS blockchain in the event a new blockchain is created.

Bioregional B-DHO's

B-DHO's (Bioregional Decentralized Holonic Organisms) earn a share of this distribution based on their Bioregions Contribution Scores.

These are the starting distribution for Bioregions. However, Citizens of that bioregion can govern their own distributions and change these distributions according to their cultural and bioregional needs as outlined in Bioregional Governance.

Funding Category	Share of Bioregional DHO Harvest
Regenerative Grants	[25%]
Regenerative Interest-Free Loans	[25%]
Open Proposals	[50%]

Regenerative Grants

Is reserved for grants for regenerative projects. The Citizens of each B-DHO vote to choose which projects they want to fund. This creates a flow of funds towards the projects that are needed to heal our world but aren't necessarily profitable.

The game for Regenerative Entrepreneurs now becomes - which project is most regenerative per Seed cost - as opposed to - which project is most profitable.

Cleaning our rivers, replanting native forests and cleaning up pollution are generally unprofitable endeavours - yet they are required to create a more beautiful world we'd all like to see.

There is no limit to the imagination of people receiving these funds. They could even go to finance the development of community food forests and gardens to grow food for free.

Regenerative Interest-Free Loans

Is reserved for interest-free loans for regenerative projects. The Citizens of each B-DHO vote to choose which projects they want to fund. These loans are built into a smart contract to be automatically repaid by the harvest and earnings of the account receiving the loan. The loan terms will vary from B-DHO to B-DHO with the mandate that there will be no interest levied against the borrower. This is to subsidize the transition towards regenerative agriculture and other regenerative industries.

This also ensures there is a demand for Seeds by regenerative producers for members of SEEDS to purchase their services (and food) from.

Organisations receiving these loans will also acquire a committed community who may support their business as the business's success now becomes the wellbeing of all members of SEEDS.

Open Proposals

These funds are to be used however each B-DHO decides. From making collective purchases and investments to financing festivals and events. There is no limit to the imagination of communities to finance their own ideas.

Exploring a proposed evolution of the B-DHO

If the value flowing through SEEDS becomes substantial enough, B-DHOs (Bioregional Communities) can start financing other key services such as education, healthcare, civil maintenance and more. How these funds are apportioned can be decided by aggregating the community's sentiment.

For example, Citizens dictate how they would like the collective wealth spent.

Jane:

5% for infrastructure maintenance

20% for new paradigm education

30% for preventative healthcare

Etc...

Jane's preferences are aggregated by her Contribution Score and the other Citizens of the B-DHO to determine a budget. Now Citizens are no longer left out of the equation on how and where collective wealth is apportioned.

Percentile Distributions for Resident and Citizens | Bioregions | Reputable and Regenerative Organisations

Once the Harvest determines how much an account category will receive it will need to determine how much to give to each account in that category.

E.g. Bioregional DHO's receive 1,000,000 Seeds, how much does each B-HDO receive?

Each qualifying account will be ranked by their "Contribution Score" on a scale of 0-99 amongst the other accounts in that category.

Then Seeds are distributed using a spline distribution graph to deliver Seeds to those accounts.

Escrowed Seeds Release Schedule

The escrowed Seeds release schedule is designed to reduce sale pressure as escrowed Seeds come into circulation to meet new demand as the SEEDS economy grows. This encourages a more stable value for the Seed token and benefits all participants by removing the often-experienced mass "sell off" tokens in various crypto economic experiments. This mutually beneficial game-dynamic encourages a more stable value for Seeds as they're released.

Escrow Seeds Release				
Percent of Harvest	50%	**Total Seeds Unlocked**		22,662,392
Proportional Release By Account	Account 1	Account 2	Account 3	Account 4
Percent of total Escrowed Seeds	20%	5%	25%	50%
Seeds Released	S4,532,478	S1,133,119	S5,665,598	S11,331,196

1. **Percent of Harvest:** Set by the Citizens of SEEDS as they decide what percentage of the total harvest they want releasing escrowed Seeds. With a target to have this high enough to release all escrowed Seeds within 2 years (or sooner).
3. **Proportional Release by Account:** How many Seeds are unlocked for a single account is determined based on the percentage of overall Escrowed Seeds that account holds.

2. **Total Seeds Unlocked:** This is obtained by taking the total number of new Seeds that need be created from the REV above and multiplying it by the percentage of the Harvest.
4. **Seeds Released:** How many Seeds that account would have unlocked and released to them over the coming Harvest.

Seed Bank

The Seed Bank is simply a suite of decentralized financial (DeFi) smart contracts for members of SEEDS.

It offers members value because it provides a way for members to still hold their appreciating (potentially drastically) crypto-assets while still gaining access to an optimal medium-of-exchange (Seeds) to make their regular purchases with.

Example

Juan loves Bitcoin! He's been holding it for years and loves all the value it's captured for him. But, he also wants to make day to day payments and doesn't want to sell his BTC. So, he can go to the Seed Bank and lock up his Bitcoin in a smart contract in exchange for a percentage of the value in his Bitcoin in Seeds.

If the daily rate was 1 BTC = 1000 Seeds

He could lock up his 1 BTC and get 800 Seeds and as long as his BTC stays more valuable than 800 Seeds he can always come back and buy up his Bitcoin for 800 Seeds (plus a nominal fee). This removes any risk of holding Seeds for Juan. If the price goes up, then the Seeds are more valuable (and Juan wins) if, the price of Seeds goes down he can buy back his Bitcoin at a discount (and Juan wins). The bank never loses because if BTC drops to 830 Seeds, it will automatically be sold for Seeds to replenish the bank.

Low-Risk Entry Into Seeds

This potential - — once understood and adopted — could shepherd additional value into the SEEDS ecosystem and give people a low-risk (depending on the volatility of their chosen asset) method of acquiring and using Seeds.

Seed Bank Decrypted

At "Go Live", the Seed Bank will offer CDPs (Collateralized Debt Positions), which are essentially a collateralized loan of Seeds issued against your other crypto holdings or assets (the example shared above).

Seeds will be issued at 50%-80% of the value of the crypto assets locked up. Any time you want to regain access to your assets, simply repay the amount of Seeds you accessed, plus a small fee (also in Seeds). This means that you remain exposed to the potential gains or losses of your crypto assets (your “holding”) whilst also being able to engage in the SEEDS economy and all the benefits within.

Low-Risk Access to Seeds: Collateralized Debt Positions (CDP’s)

A user opens a contract with the bank selecting a variety of terms, such as risk and liquidity preference.

This contract means that the user is locking their asset, i.e. EOS, into a contract and receiving Seeds — where they will be able to buy back their assets at that fixed-rate (plus a small fee) at any time. This means that people can hold onto the (potential) value appreciation of EOS and still access Seeds.

The liquidity % they chose means the bank will never lose out on the collateralized asset dropping in value.

Example

If you chose EOS to Seeds at 50%, you only receive 50% of the value of EOS in Seeds. If you choose 90% you get 90% — but if EOS drops 7% in value the bank will sell the EOS (there are a 3% buffer and fee for liquidation) to cover the loss.

This encourages people (or bots) to close contracts themselves so that the bank doesn’t have to liquidate the collateral. This also means the most you will lose out is 3% (the fee) in this scenario as you would still retain the value in the Seeds you hold.

Seed Bank Limitations

The Bank will only issue new contracts (and increase the circulating supply of Seeds) if the SEEDS economy is in a growing state. A maximum [20%] of the new Seeds that need to be grown can be brought into circulation by the Bank. The remaining [80%] will come from the Harvest.

These limits are increased every half cycle to reflect the previous cycle's growth. New contracts are filled in order from the waiting list.

Fees Breakdown

Opportunity Cost / Holding Fees	Setup	*Cycle Fees (free for 1 year after opening)*		Liquidation Fees	*based on the volatility of the asset*
EOS	0.50%	0.33%	per cycle	EOS	3%
TLOS	0.50%	0.33%	per cycle	TLOS	3%
Stable Coins	0.50%	0.33%	per cycle	Stable Coins	0.25%

Setup Fee [0.5%]

Fee for setting up the contract. For the first year after SEEDS “Go-Live”, this fee will be waived.

Per Cycle Fee [0.33%]

Fee for each cycle the contract is held = ~4.3% APR.

Liquidation Fee [3%]

Fee if the underlying asset drops to the collateral + fees value and the Bank needs to sell to break even (including fees). This fee can be avoided if the owner of the contract voluntarily closes it before such an event takes place.

[⅓] of these fees are returned to the bank

[⅔] of these fees are burned.

Exclusive Service and Limits

The Seed Bank exists to serve the members of SEEDS and therefore can only be leveraged and used by members. Each member will have a maximum limit they can use the Bank, and these limits will be determined based on the status of that account (Visitor, Resident & Citizen)

Maximum limits per account type

Limits	To take effect [4 cycles] post Go Live
Visitor	[1,000]
Resident	[100,000]
Citizen	[1,000,000]

The maximum number of Seeds received from the bank at any given time. This is to ensure that the Seed Banks benefits can be shared by many.

Ecosystem benefits

Partnerships

The Seed Bank is also a powerful tool to leverage for potential partnerships — as the assets the Citizens chose to store in the Seed Bank would support those ecosystems. As holding and locking out of circulation is beneficial for tokens designed to appreciate -- — which the Bank would facilitate.

Citizens can choose to use the Bank to store assets from only the projects they share aligned values with and that they want to support (as this also reduces the risk of that asset going to 0 overnight — as it has faith and utility at least from the SEEDS community).

Progressive Market Maker

The optimal strategy here for arbitrageurs (investors who attempt to profit from market inefficiencies) is to open and close contracts as the price of Seeds fluctuates. This will create a natural expansion and contraction of the supply of Seeds in relation to the price of Seeds, which will help stabilize the secondary market value of Seeds against a diversity of accepted crypto assets.

If the value of Seeds drops — then those who are holding these CDP's can buy back their assets at a discount and make a profit (reducing the circulating supply of Seeds — which could pull the price back up). If the value of Seeds is high — then people can make a profit buying Seeds from the bank and locking up their assets (increasing the circulating supply of Seeds and pulling the price down).

Where the "high" and "low" price comes in is the price that the Seed Bank sells Seeds at- this is where it gets really powerful — because the Citizens of Seeds can set at which rate they want the bank to sell Seeds at (at which rate they want Seeds to stabilise (and against which assets) or appreciate at.

Meaning Citizens could say that the bank will sell Seeds for 1 USD each +7% each year that Seeds are trading (providing a foundation for 7% appreciation vs the USD).

In the beginning, we didn't intend to be this complex and simply sell Seeds at market rates +1%... But, these protocols provide the foundation for decentralized financial policy directed by the Citizens of SEEDS through the Seed Bank (providing similar services as central banks do today).

Decentralized Monetary Policy

The Bank could also be employed to perform decentralized monetary policy. By adjusting fees, it can encourage members to open or close more contracts — thus affecting the circulating supply (and price) of Seeds.

Using Inflation to Acquire Networks

Seed Bank could also be employed to acquire other networks, platforms and ecosystems. Say there was a cryptocurrency network with an economic volume of 100M, through effective modelling members of SEEDS determined that acquiring this network's economic volume would synergise with SEEDS and increase economic activity by 120M. SEEDS could inflate the total supply of Seeds by 100M and do a 1 for one swap with this other network (acquiring its users) and gain an additional 20M in economic growth.

This would be managed through decentralized governance by the Citizens of SEEDS. This same principle applies to SEEDS acquiring all manner of private networks and tools and bringing them into the public domain.

Burning Seeds

Seeds that are used to pay for zero marginal cost services within SEEDS are burned.
As SEEDS grows, these services will become more valuable and more used, which will become a foundation of the Harvest (replacing Seeds, as opposed to creating more).
Several intended services that burn Seeds:

Arbitration

As detailed in Decentralized Arbitration Fees.

Insurance

Insurance contracts will come with a fee when executed.

Escrow

Escrow contracts built into SEEDS base protocols will come with a fee when executed. This is an escrow service that any account can use for exchanges with other account.

Promotion

Promotion within the SEEDS Passport and SEEDS Passport Lite will be paid for through burning Seeds.

Interest-Free Loan Repayment

When Members repay loans to the B-DHO or G-DHO these loan repayments are burned over being returned to the budget. This more equitably redistributes the rewards and reduces the feedback loops that concentrate wealth.

Seed Bank Fees

As detailed in Seed Bank Fees.

More to be created...

Section 5: Retirement Plan

What is happening with the older members of the community?

Appendix

Glossary of Terms

Member

Any account within SEEDS is considered a Member. This is the term that comprises Visitors, Residents and Citizens.

SEEDS

Name of the protocols, accounts and smart contracts that make up the open-source code-base and ecosystem. Used interchangeably with ‘network’.

Seeds

Name of the currency used by the SEEDS Ecosystem. Divisible to four decimal points. Use interchangeably with ‘token’.

Seed Bank

A part of SEEDS - a series of banking contracts that fulfil many functions of legacy banks to offer a variety of financial services, such as CDP’s (collateralized debt positions), decentralized monetary policy and more.

Passport

“SEEDS Passport” is a mobile application for accessing SEEDS. If SEEDS is the internet, the Passport is a but a single site on it. Other methods for accessing SEEDS already exist. The Passport is meant to offer the tools for people to create “Minimum Viable Societies” and use this application to create a foundation for new and regenerative global civilizations.

Account (as in 'your SEEDS account')

The account one needs to access SEEDS is through Telos. Telos is the blockchain that SEEDS is built on. With your Telos account you access the SEEDS ecosystem. This account can also be used to access the wide variety of projects and services offered through the Telos ecosystem such as some of the many partners of SEEDS.

Wallet

Wallets hold the private keys that control your assets. The SEEDS Passport has a wallet built in, where you’re able to transfer and control all your SEEDS assets.

G-DHO - Global Decentralized Human/Holonic Organisation

The G-DHO is a single account that's managed by all the Citizens of SEEDS. It is the owner of the SEEDS contracts and through decentralized governance by the citizens of SEEDS can upgrade contracts, change parameters and distribute funds for global initiatives.

B-DHO - Bioregional Decentralized Human/Holonic Organisation

The B-DHO is the bioregional equivalent to the G-DHO. Each Citizen belongs to a B-DHO for their local community. This is used to finance local projects and evolve local governance processes.

Decentralized Marketplace

The marketplace is where you share and find offers from people and organisations that accept Seeds. Unlike legacy marketplaces, the SEEDS marketplace charges no fees for use.

Trust Token

SEEDS decouples equity tokens and Trust (voice) tokens. In today's dominant paradigm "money talks" and simply by virtue of having money, one could buy up a majority voice in any organisation. This is true of many crypto-projects as well. If we're to build a system that can't be co-opted or corrupted by our dominant paradigm, we cannot allow legacy value to buy governance in SEEDS. For this reason, Seeds are not what is counted when weighing voice, but rather the number of Trust Tokens an account has earned. Trust is earned through participation and contribution, where money committed is but one metric and not the whole story.

Visitor / Resident / Citizen

SEEDS uses nomenclature and models found in our legacy nation-states to ease the transition into SEEDS - further, many functions of our societies today play important roles that can be remodelled to serve us better. One of those functions is the process by which a person can join a new society (or nation-state). The barrier to become a Visitor is extremely low, allowing you to come and experience what SEEDS can offer. When you become a Resident, you begin earning a Harvest and increase your allocated transaction volume based on how many Seeds you have planted. After you gain your citizenship, you unlock further abilities to increase your harvest and begin earning Trust Tokens to participate in governance.

This process is modelled after the Nation States, where visitors don't get national benefits, and residents get few and citizens to participate in governance.

Sow (as in 'Sow your Seeds')

You “Sow Seeds” when you invite new people to join SEEDS by sending them Seeds. If they become Residents and Citizens, you earn more Seeds, which may be greater than the number of Seeds you sowed to invite them. In this way, it’s very much like sowing seeds - where some seeds may not sprout to bear fruit, while those that do return your seeds in greater abundance. By requiring people to send their Seeds to invite another person, you’re invested in that person becoming a Resident, and you’re limited in how many invites you can send.

Planted Seeds

Staked, locked away, similar to a “term deposit”. When Seeds are Planted, accounts restrict their access to them in exchange for a higher Contribution Score and increased bandwidth for transactions. This ensures that people who are using the network are financially committed to the network.

Harvest

The process by which new Seeds are created and distributed to the whole ecosystem. The “Harvest” produces the new Seeds that accounts and organisations earn for contributing to SEEDS.

Allies

Organisations, platforms and movements that have aligned with SEEDS and will accept Seeds and promote SEEDS. Some partners will offer discounts and other gifts to the Residents and Citizens of SEEDS.

Rewards

See Harvest (financial reward). Existential rewards for co-creating a healthier society.

Campaigns

Promotions for giving Seeds to our community and rewarding people for being part of the creation of a healthier society. From planting seeds to doing good deeds, people earn Seeds.

Contribution / Contribution Score

This score is the combined total of all other scores (Planted Seeds Score, Transaction Score, Reputation Score, Community Building Score, etc.) that make up an account’s total contributions.

Reputation

Points that accounts earn for participating in governance, maintaining trust, and other ways of contributing to SEEDS. The reputation of an account goes from 0-2 and acts as a multiplier to the rest of the Contribution Scores. This means that if an account has a 0 reputation, then it will earn no rewards - regardless of the other scores. Likewise, if an

account has a reputation score of 2, it will earn double the rewards it would have - if it maintained a reputation of 1 (which is the mean).

Constitution

The document outlining the rules, intention and agreements of the SEEDS ecosystem. This document, once ratified, is only changed through decentralized governance and is referenced when conducting arbitration or making protocol upgrades.

Unity (Consensus)

The threshold of agreement that needs to be reached for a proposal or referendum to pass.

Better-Than-Free

Accounts build their Contribution Score (and increase their Harvest) through transacting as opposed to being charged fees. So, not only are transactions free, but they are “better-than-free” because you can earn more Seeds for engaging in and supporting the Seeds marketplace.

Conscious Currency

A currency that is evolvable (pseudo consciousness) and goes towards healing, regeneration and other activities that are for the wellbeing of all life (conscious).

Money

Money is said to have three primary characteristics:

1. Store of value

2. Unit of account

3. Medium of exchange

Seeds aim to optimise money by making it a better unit of account - by creating a more stable currency - and medium of exchange - by creating “better-than-free” to exchange money.

Tokens

A cryptographically secured digital representation of a set of rights, including smart contracts, provided on a digital platform.

Governance

The process of direct, transparent and quantifiable impact in the evolution of all rules, protocols and value distribution of SEEDS.

Cryptocurrency

A digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank.

National Currency Liquidity

A national currency is a legal tender issued by a country's central bank or monetary authority, for example, USD, GBP, AUD. Liquidity refers to the availability of cash or cash equivalents to meet short-term operating needs. In other words, liquidity is the amount of liquid assets that are available to pay expenses and debts as they become due.

Fiat Currency

The government-issued currency that is not backed by a physical commodity, such as gold or silver.

Peer-to-Peer Exchanges

Where the people of SEEDS exchange their various currencies directly with each other as opposed to through centralized exchanges. I.e. Bob can trade Joe 100 USD for 100 Seeds by sending Joe 100 USD directly to his bank account. This is mediated by escrowed smart contracts.

Exchanges (as in 'Buy Seeds on exchanges')

Seeds will be offered up for exchange on a number of platforms that facilitate the conversion and trade of a wide variety of assets. You can buy and sell Seeds on these exchanges.

Join

The process of creating a Seeds wallet in the Seeds Passport application.

Burning

A process in which Seeds are destroyed and removed from the ecosystem.

Delegate

An action of entrusting another account with Trust Tokens.

Delegatee

One who receives the delegation of Trust Tokens from another Citizen.

Delegator

One who delegates their Trust Tokens to another Citizen.

Growing

The term used to describe the minting process of generating new Seeds. At the same time, Bitcoin uses an energy-intensive “mining” process. Eosio (the protocol under SEEDS) is 64000 times more energy efficient as it uses a different protocol to Bitcoin to secure the network. eosio2 which came out at the beginning of 2020 is an additional 16 times more efficient.

Harvest

A term describing the process of algorithmically creating and distributing new Seeds.

Hypha Limited

The name of the organisation of the core team, responsible for creating and managing the SEEDS Passport application and Joinseeds.com website. Hypha will create SEEDS, but will not control or direct SEEDS, as that is the role of the Citizens through decentralized governance. However, Hypha may routinely propose to SEEDS (through the proposal process) for funding to develop and improve SEEDS. Hypha is merely a contractor who intends to provide services to SEEDS as long as the Citizens are willing to pay.

Proof of Stake (PoS)

A protocol of block verification based on how many coins the account holds. This system solely rewards those who have the currency based on how much currency that user has. PoS systems give the most voice and rewards (harvest) to those with the most money.

Proof of Work (PoW)

A protocol of block creation based on processing power (work). This is the basis of ‘mining’.

Stewards

A distinction for those who secure and apply evolutions to the network. Similar to 'witnesses' and 'block producers', from other networks. However, Stewards only update the SEEDS DApp, not maintain the underlying blockchain.

Total Supply

The total amount of Seeds in existence at the moment, minus any coins that have been verified as burned.

Circulating Supply

The supply of Seeds that are available for exchanging and trading. i.e. Seeds that are not planted or in the Seed Bank.

Experimental and Potential Protocols

Proven Regeneration (In development)

There are several technologies in development, such as Regen.Network that aims to prove the regenerative effects of an organisation or entity. If successful, the SEEDS community could ratify this score to include results obtained from third party sources.

Product Life/Use (In development)

There are several technologies in development, such as Mattereum and other IoT (internet of things) organisations that are tracking the use and lifecycle of products. If successful, the SEEDS community could include the lifecycle of products used by the Residents and Citizens of SEEDS and rewards organisations who provide these products.

This particular metric, if seen to its full potential, could fundamentally alter our economies and the state of health of our planet. Presently, there is a minimal economic incentive to build products that last. Further, organisations don't have a major incentive to ensure people use their products, the primary metric they track is whether people buy them.

This gives rise to advertising that sells things to people that they don't need and won't use. Further, it forms the foundation for planned obsolescence, which is the common practice of manufacturing items to fail.

If there were financial rewards for a manufacturer for every time their item was used, they would have an incentive to not only make products that lasted but products that people need.

This would also encourage manufactures to propel the sharing economy as they could earn more revenue and reduce the cost for creating items that are used more frequently. This creates a financial incentive to establish sharing programs.

Account Types and Rights

USER STATUS COMPARISON CHART	Visitor	Resident	Citizen	Initiate Org.	Reputable Org.	Regen Org.
Minimum Seeds Planted	**5**	**50**	**200**	**200**	**400**	**1000**
Minimum Reputation Earned	**0**	**50**	**50**	**0**	**60**	**80**
Seeds transactions:						
Make fee-free transactions (payments and fund transfers) using Seeds	**X**	**X**	**X**	**X**	**X**	**X**
'Plant' Seeds to increase your potential Contribution Score / Meet requirements for other statuses	**X**	**X**	**X**		**X**	**X**
Transaction capacity (bandwidth, the average number of transactions allotted per day) equal to the number of Seeds planted. This is **ALL blockchain transactions. Not just sending Seeds.**	5+	50+	200+	200+	400+	1000+
Access to increased transaction bandwidth by 'Planting' (investing) additional Seeds	**X**	**X**	**X**	**X**	**X**	**X**
'Sow Seeds" to invite others into the SEEDS ecosystem	**X**	**X**	**X**	**X**	**X**	**X**
Increase your Contribution Score when making transactions with Regenerative "Reputable Organisations" and "Citizens"		**X**	**X**		**X**	**X**
Increase your Contribution Score when making transactions with Residents			**X**		**X**	**X**
SEEDS Passport access:	**Visitor**	**Resident**	**Citizen**	**Initiate Org.**	**Reputable Org.**	**Regen Org.**
View the SEEDS Passport Forum	**X**	**X**	**X**	**X**	**X**	**X**
Add comments in the SEEDS Passport Forum	**X**	**X**	**X**	**X**	**X**	**X**
Create new posts in the Forum	**X**	**X**	**X**	**X**	**X**	**X**

Post individual offers to the Market		X	X			
Share your Organisation profile in the Market				X	X	X
Create and edit a profile within the SEEDS Passport	X	X	X	X	X	X
Create and hold a SEEDS account	X	X	X	X	X	X
Create and hold a Telos blockchain account	X	X	X	X	X	X
Earning rewards and a share of the Harvest:	**Visitor**	**Resident**	**Citizen**	**Initiate Org.**	**Reputable Org.**	**Regen Org.**
Earn rewards (in Seeds) when those you invited into SEEDS become Residents or Citizens	X	X	X	X	X	X
Earn rewards (in Seeds) for participating in SEEDS campaigns	X	X	X			
Earn a share of the Harvest (in Seeds) based on your Contribution Score		X	X		X	X
Form a partnership with SEEDS and receive Seeds for your organisation and to distribute to your community				X	X	X
Earning Reputation points and Trust Tokens:	**Visitor**	**Resident**	**Citizen**	**Initiate Org.**	**Reputable Org.**	**Regen Org.**
Build your reputation (earn Reputation Points) when your invitees become Residents or Citizens	X	X	X	X	X	X
Build your reputation (earn Reputation Points) by getting "vouched for" by existing Residents & Citizens	X	X	X	X	X	X
Build your reputation (earn Reputation Points) by participating in the Forum		X	X			
Build your reputation (earn Reputation Points) by participating in governance decisions			X			
Build your reputation (earn Reputation Points) through positive "Regenerative Ratings" from Individual Accounts				X	X	X

Participation in governance decisions:	**Visitor**	**Resident**	**Citizen**	**Initiate Org.**	**Reputable Org.**	**Regen Org.**
Earn Trust Tokens to enable participation in SEEDS governance decisions			X			
Cast votes in SEEDS referendums and funding proposals			X			
Cast votes in your local co-op's referendums and voting proposals			X			
Propose funding and referendum proposals		X	X			
Other Rewards and Benefits	**Visitor**	**Resident**	**Citizen**	**Initiate Org.**	**Reputable Org.**	**Regen Org.**
Earn Community Building Points (increase your Contribution Score) when your invitees become Residents or Citizens	X	X	X	X	X	X
Access payment and sign-up API that you can add to the checkout section of your application or website				X	X	X
Have multiple key holders/owners of the account.				X	X	X
Upon a successful proposal - receive Seeds to deliver to your community (in an escrow contract)				X	X	X

SEEDS Official Accounts

Token.Seeds	Main Token Contract for all Seeds
Gift.Seeds	For SEEDS Campaigns Proposals
Bank.Seeds	Seeds in the SEEDS Bank
Escrow.Seeds	Seeds in escrow
Allies.Seeds	For SEEDS Alliance Proposals
Refer.Seeds	For Referral Rewards
Hypha.Seeds	Hypha's remaining illiquid Seeds from genesis distribution
Milest.Seeds	Hypha's potential remaining liquid Seeds from milestone completions
Funds.Seeds	
Harvst.Seeds	
Swap.Seeds (formerly Tlosto.Seeds)	Hypha's token selling contract, used to convert EOS, BTC, TLOS and potentially other cryptocurrencies into Seeds
System.Seeds	
Plant.Seeds	Planted Seeds
Uplant.Seeds	Seeds being unplanted
Join.Seeds	
Sow.Seeds	????
Orgs.Seeds	
".BDC"	Any account that ends in ".bdc" is a SEEDS official bioregional account.
DHO.Seeds	Name of the official SEEDS global DHO account