**Abstract**

It is estimated that over two billion people around the globe are unbanked and without any access to financial services to meet their daily needs. Egoras protocol (“the protocol” or “the project”) attempts to be part of the solution to this problem by expanding financial access and inclusion to unserved or underserved communities. The protocol achieves its mission by on-chain Governance and a stable-value asset. The protocol serves as a source of capital for the unserved or underserved communities. In addition, the project seeks to improve the quality of financial services as well as lower the cost of the services in these communities around the globe. This whitepaper, therefore, explores how Egoras protocol can solve real-life problems such as helping people start businesses, supporting small and medium-sized enterprises access funds for expansion; and enabling families to attend to the needs while maintaining good collateralization on-chain.

**Introduction**

It was thought that the advent of microfinance in the 1970s and 1980s would eradicate or drastically reduce the pervading poverty at the time. However, four decades into the pioneering work of Mohammad Yunus in Bangladesh and the establishment of the Grameen Bank in 1983, the goals of microfinance have not been met. Without a doubt, there are several barriers to the financial success of the microfinance organization when compared to other financial organizations or mainstream banks. The first is the higher interest rate. It is generally acknowledged that most microfinance institutions charge a very high rate of interest when compared to commercial banks. This is usually at the detriment of the borrowers with attendant consequences such as depression and even suicide. Secondly, there appears to be an overdependence of microfinance organizations on the prevailing banking System. This is because most microfinance institutions operate as Non-Governmental Organizations (NGOs), and they are reliant on financial institutions such as commercial banks for stabilized funding to carry out their own lending activities. This overdependence of microfinance institutions on banks makes them incompetent as lending partners. Finally, there is the problem of over-indebtedness. Notably, the microfinance sector gives loans without collateral, and this increases the risk of bad debts.

Egoras microfinance protocol seeks to address the challenges identified above. Addressing the challenges would mean that loans should be given at zero interest and collaterals should be required to get the loans. This also means a microfinance institution, not dependent on mainstream banks. To solve the high-interest rate problem, Egoras protocol introduces on-chain governance where the collateral is validated by the people, in which no central body or company determine the collateral to be accepted and process the loans at a zero-interest rate. In other words, the borrower doesn’t pay interest. To address the dependence issue, the Egoras protocol uses a stable-value asset system to make sure that Egoras protocol doesn’t lack the funds or liquidity for the loans and these stable-value assets are governed by the people. Finally, the Egoras protocol introduces collateral lending to address over-indebtedness in the microfinance sector. In this regard, small businesses’ assets will be converted to non-fungible tokens, and they represent the collateral. These assets will be sold off when the borrower defaults in repaying the loan.

**Decentralized Autonomous Organization**

A decentralized autonomous organization (DAO) is an entity with no central leadership. Decisions get made from the bottom-up, governed by a community organized around a specific set of rules enforced on a blockchain.

DAOs are internet-native organizations collectively owned and managed by their members. Decisions are made via proposals the group votes on during a specified period. A DAO works without hierarchical management and can have a large number of purposes.

As noted earlier, one of the biggest barriers in the microfinance sector is the high- interest rate which is very high when compared with mainstream banks. The financial success of MFIs is limited when compared to commercial banks. The centuries-old banking system has a strong foothold and is slowly evolving to meet the needs of the times. Most Microfinance Institutions charge a very high rate of interest (12-30%) when compared to commercial banks (8-12%). For any microfinance institution to achieve its purpose then the interest rate should be zero. The best way to achieve this is to give the power back to the people, whereby users can vote to increase or reduce the inventory fees and they are also incentivized as they participate in these processes. As a decentralized autonomous organization, no company fixes outrageous interest or declines loan requests. The users vote the inventory fees of their choice and also vote in the approval and declining of loans. Whereas the current microfinance space is managed by NGOs, microfinance banks, or individuals and regulated by the government, the whole process on Egoras protocol is governed by the people. No third party makes the decisions, and all data are secured on Egoras smart contract which is built on Binance smart chains. Egoras protocol is not owned by any foundation nor any firm. It is a decentralized organization governed by the people.

**Lending Partner Governance**

Most microfinance institutions function as registered Non-Governmental Organizations (NGOs), they are dependent on financial institutions such as commercial banks for stabilized funding to carry out their own lending activities. Most of these commercial banks are private institutions charging a higher rate of interest. They also sanction loans for shorter periods. The massive dependence of Microfinance institutions on banks makes them incompetent as lending partners.

On Egoras, Microfinance banks, NGOs or any lending firm can validate borrowers or small business owners and work with Egoras to distribute the loans to small businesses or any borrower that wants to borrow funds from Egoras. These microfinance banks or organizations are curated by the people and people get to decide which organization can get access to the Egoras treasury system. When a user requires a loan, the user will contact a microfinance bank or organization that have been approved by Egoras token holders to validate the user and post the loans on Egoras protocol. This organization validates the user’s information. The kind of collaterals and features are also uploaded by the validating organizations.

**Collateral Approval Governance**

It is to be noted that the current microfinance sector managed by NGOs and microfinance bank approve loans for borrowers after proper due diligence have been carried out, but the Egoras protocol uses a crowdsourced knowledge to approve or decline collaterals backing the loans. The people vote if the collaterals should be approved or declined, and the people also share in the risk of the loans.

Egoras holders approve this loan within after a certain threshold is reached. Data are provided for Egorasholders to make the correct governance decisions and the votes are determined by the voting weight (vote weight is determined by the amount of Egorastoken locked in the microfinance smart contract).

Egoras holders share in the risk of the loans, and they are rewarded for their participation in the governance process by receiving all interest accruing from the loans.

**Non-Fungible Token (NFT)**

A non-fungible token (NFT) is a unique and non-interchangeable unit of data stored on a digital ledger (blockchain). NFTs can be used to represent easily reproducible items such as photos, videos, audio, and other types of digital files as unique items (analogous to a certificate of authenticity) and use blockchain technology to establish a verified and public proof of ownership. Copies of the original file are not restricted to the owner of the NFT and can be copied and shared like any file. The lack of interchangeability (fungibility) distinguishes NFTs from blockchain cryptocurrencies, such as Bitcoin.

The microfinance sector deals with marginalized sections of the society intending to improve their standard of living, and thus over-indebtedness poses a severe challenge to its growth. The growing trend of multiple borrowing by clients and inefficient risk management are the most significant factors that stress the microfinance industry. The microfinance sector gives loans without collateral, which increases the risk of bad debts. Fast-paced growth needs proper infrastructural planning, which the Indian microfinance sector evidently lacks.

Egoras microfinance protocol addresses these challenges identified above by providing loans at zero interest and collaterals should be required to get the loans.The collaterals are represented as NFTs (Non - Fungible Tokens). This means collateral ownership can be transferred easily without undergoing rigorous legal works. Collaterals can be claimed after the loan period. All transactions are recorded as NFTs on a public Blockchain. (Thus, every transaction is public and immutable).

**NFT Farming**

**NFT farming is an emerging concept which involves staking NFTs for a reward or staking tokens for an NFT as a reward. It’s the merger of NFT technology and decentralized finance (Defi). In short, picture NFT farming is similar to yield farming, but instead, it involves NFTs as either a reward or the staked token. Ultimately NFT farming creates liquidity and utility for NFTs that would otherwise hardly do anything.**

Egoras eNFT farming builds off the concept of token staking and liquidity farming, with users staking native tokens to earn an additional yield through an NFT-based reward. Unlike traditional staking, which pays out the reward in the natively staked token, through egoras NFT farming, users can obtain NFTs assets redeemable for offline goods. These earnable NFTs can vary greatly depending on the token being staked.

**Micro-Collateral Smart contracts**

Anyone can leverage up any personal properties as collateral to generate eUSD on Egoras microfinance protocol. Egoras Collateral Assets are physical assets represented on blockchain as NFTs and is approved by Egoras governance.

The microfinance banks and organizations hold collateral assets deposited by a user and the microfinance smart contract holds the digital equivalent and the governance smart contract permits the user to generate eUSD but generating eUSD also accrues debt.

 This debt effectively locks the deposited physical collateral assets and the digital collateral assets inside the microfinance smart contract until it is later covered by paying back an equivalent amount of eUSD, at which point the owner can again withdraw their collateral. Active loans are always collateralized in excess, meaning that the value of the collateral is

higher than the value of the debt.

**Stable Currency**

The biggest hurdle to the use of cryptocurrencies as a meduim of exchange is its volatility. People are unlikely to want to buy a volatile cryptocurrency to use it for payment or accept a volatile cryptocurrency for loans, since the purchasing power of their accounts would fluctuate widely with market demand for the currency. Merchants who accept cryptocurrencies are likely to convert to fiat upon payment, because their business model does not involve speculating on cryptocurrencies. And the most successful cryptocurrencies today are not just volatile but deflationary – their success leads to their price rising; as a result, prices denominated in the currency fall. Rational behaviour would be to use such currencies as a store of value rather than a medium of exchange, and in practice that is what has happened. Stable-value cryptocurrencies would bring a number of benefits to the cryptocurrency ecosystem. For one, stable prices remove a considerable barrier for using cryptocurrencies as a medium-of-exchange; salaries, prices of goods, fixed obligations, can all be set in a stable value cryptocurrency without requiring either party to speculate on the future value of the currency. Further, financial contracts are more easily built with a stable value coin, because the issuer can separate the function of the contract from the price risk of the currency in which it’s denominated. While a single stable-value currency would be helpful, a thriving cryptoeconomy is best-served by a family of stable-value currencies, much as it is well-served by the family of variable-value cryptoassets that we have today. Certainly a cryptocurrency pegged to the US Dollar has several uses, from social payments in the US, to user-initiated dollarization in hyper-inflationary markets, to the efficient settlement of high-frequency crypto-asset trades. At the same time, a cryptocurrency pegged to the Euro would also be useful for many purposes, as would a cryptocurrency pegged to the price of a basket of goods in Greece, as would a cryptocurrency pegged to the price of a barrel of oil, or housing in San Francisco. Stable-value local, regional, and utility currencies allow people to hedge price risk in their lives by denominating a portion of their personal economy in currencies that are stable vis-a-vis the price of the goods they regularly use.

**Egoras Token Economy**

The Egoras Protocol interacts with Four kinds of tokens:

* The Egoras Dollar (EUSD) - a stable cryptocurrency that can be held and spent like the United States Dollar and other stable fiat money.
* The Egoras token (EGR)—a governance cryptocurrency used to govern Egoras microfinance protocol
* The Egoras Credit (EGC)- The utility token of the Egoras protocol to facilitate the stability of the EUSD.
* Collateral tokens—other assets that are held in smart contracts in order to back the value of the EgorasUSD, similar to when the US government used to back the US dollar with gold. The protocol is designed to hold collateral tokens worth at least 100% of the value of all EgorasUSD tokens. Many of the collateral tokens will be tokenized real-world assets such as tokenized electrical appliances, household appliances e.t.c, and the portfolio will start off relatively simple and diversify over time as more asset classes are tokenized.

**The EgorasUSD(EUSD)**

The EUSD Stable coin is a decentralized, collateral-backed cryptocurrency pegged to United States Dollar. EUSD is built on the Ethereum blockchain and can be held on any Ethereum wallet. It can be spent the way the U.S. Dollar is spent.

Microfinance banks and NGOs generate EUSD by posting a loan backed by collateral assets into the Egoras microfinance protocol and EGR holders approve or decline the loan request. The loan request approved creates EUSD which the microfinance banks send directly to the borrowers. Users can also buy EUSD from exchanges, or simply receive it as a means of payment.

Every EUSD in circulation is over-collateralised, meaning that the value of the collateral is higher than the value of the EUSD debt, and all EUSD transactions are publicly viewable on the Ethereum blockchain.

**Functions of EUSD**

1. Store of value: Stablecoins keep or preserve values over a long period because of the lower associated volatility levels. EUSD is a store of value, so it is designed to preserves value for a long period of time.
2. The Medium of Exchange: Stablecoins enable further adoption of cryptocurrencies by the local businesses while minimizing the risks related to their volatility. It encourages the exchange of goods for cryptocurrency. EUSD will be used by small businesses in exchange for goods and services.
3. Unit of Account: Pricing in EUSD is possible with the pegging mechanism. Currently, EUSD is not an independent unit of account over time across the globe. EUSD is currently pegged to 1 USD (1 EUSD =1 USD). Though EUSD is not used as a standard measurement of value in the off-chain world, it functions as a unit of account within the Egoras microfinance protocol.
4. Lending: EUSD can be used to settle the debt in Egoras microfinance protocol. (e.g., Microfinance Banks, NGOs or Egoras lending partners pays back debt and interest with EUSD on Egoras microfinance protocol).

**Steps to Generate EUSD**

1. Create Partnership Request: Any legally registered microfinance bank or NGO can create a partnership request on Egoras microfinance protocol by filling the partnership form with all the detailed information about the organization.
2. Get approved/declined by EGR holders: Egoras token (EGR) holders curate the request of microfinance banks, NGOs or Money Lenders to become a lending partner, they decide if they will either approve or decline the request from the organizations.
3. Post your loan request: Approved microfinance banks or NGOs can post loan requests to Egoras microfinance protocol and get EGR holders to either approve or decline the loans. If the loans are approved, then the organization receives EUSD in their approved organizational wallets.
4. Pay Back the Debt: The microfinance banks or NGOs must pay down or completely pay back the EUSD she generated, plus the interest fee that continuously accrues on the outstanding debt.

**Steps To Govern the Generation Of EUSD**

1. Validate Microfinance bank partnership request: Approve/decline partnership requests of microfinance banks, NGOs or organizations with money lenders licenses. Read through the documents provided by these organizations before approving or declining the requests.
2. Validate the Loan request: Read through the loan request by these organizations; ask the lending team questions in order to get to know the borrower before approving/declining the loan request.
3. Claim your rewards: Claim your reward block rewards created through inflationary monetary policy and interest accrued from debt from businesses holding EUSD.

**Egoras Governance Token (EGR)**

In contrast to EUSD which is a stablecoin that is suitable for payments and savings, EGR is a token that has a volatile price because of its unique supply mechanics and role on the Egoras protocol. EGR is a governance token. There exists a maximum of 100M EGR.

As a governance token, EGR is used by EGR holders to vote for the risk management and business logic of the Egoras Protocol. Risk management is crucial for the success and survival of the system and is done in practice by voting on specific risk parameters for each loan and lending partner. The risk parameters need to be set rigorously to correspond to the risk profile of the loans and the lending partner in the system.

The voting process for the governance of the system is done through continuous approval voting. This means every EGR holder can vote for any number of proposals with the EGR he holds and can submit a new proposal or withdraw his votes at any point in time. The proposal that has the most votes from all EGR holders becomes the “top proposal” and can be activated to implement changes to the risk parameters of the system.

There is a simple app available that allows any EGR holder to easily vote with their EGR by using metamask, ledger and fortmatic. More advanced features are planned for the future, such as delegating your votes to a proxy voter, and the ability to safely vote with EGR held in cold storage. If EGR holders are highly competent and govern the protocol well, The egoras credit system will get adopted and will always remain overcollateralized.

**The Egoras Credit (EGC)**

As a utility token, EGR is required for paying the inventory fees accrued on Loans that have been used to generate eUSD in the Egoras Protocol. Only EGC can pay these fees, and when paid the EGC is burned, removing it from the supply. This means that if the adoption and demand for EUSD and Egoras Credit system increases, there will be additional demand for EGC so users can pay the fees. It also means the supply will decrease as EGC is burned.

**How does EGC Facilitate the stability of EgorasUSD**

If demand goes down for the EgorasUSD, prices will fall on secondary markets. What happens then? Suppose the redemption price of eUSD is $1.00. If the price of eUSD on the open market is $0.98, arbitrageurs will be incentivized to buy it up and redeem it with the Egoras smart contract for $1.00 worth of EGC or eNFTs. They’ll continue buying on open markets until there is no more money to be made, which is when the market price matches the redemption price of $1.00. The same mechanism works in reverse when demand goes up. If the price of eUSD on the open market is $1.02, arbitrageurs will be incentivized to purchase newly minted eUSD tokens for $1.00 worth of either collateral or Egoras Credit tokens (the latter only if there is an excess pool of eUSD tokens available), and immediately sell them on the open market. They’ll continue selling on open markets until there is no more money to be made, which is when the market price matches the purchase price of $1.00.

# **Conclusion**

Egoras microfinance protocol addresses the challenges facing the microfinance industry like high interest rates, over-dependency on banks and over-indebtedness.

Egoras protocol allows microfinance organizations to get loans at zero interest rate in eUSD, converting the collaterals of small business owners into digital assets and represented on blockchain as NFTs.

eUSD is a decentralized stable coin that is not issued or administered by any centralized actor or trusted intermediary or counterparty. It is unbiased and borderless —available to anyone, anywhere.