



Faculty of Design

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## Blockchain for Socioeconomic Impact

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# Blockchain for Socio Economic Impact

System Design Project by  
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 Product Design, MDes 2019  
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 NATIONAL INSTITUTE OF DESIGN

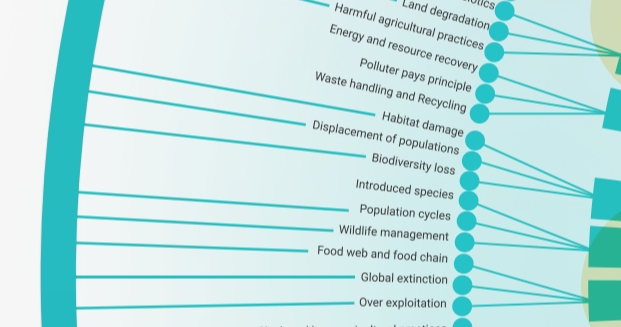
## Mind Map Divergent Thinking

Poverty and climate change are cause and effect of each other. Solving this issue is as complicated as sequencing a DNA. We know that one helix is blockchain which can be used throughout the system.

How can blockchain have a socio-economic impact? The main advantage of blockchain is that it eliminates the third party and make the system efficient and transparent. Blockchain can reduce inequality and ensure inclusive growth. International aid will function at its most efficiency reaching the poor and vulnerable communities. Beneficiaries and aid providers are given transparency that ensures funds are redirected to end hunger and improve quality of life. Increasing the benefits of remittances will make the world better off. Cryptocurrency mining. These were some triggers that made us curious to explore this field.

Why did we choose Blockchain? After deep-diving into the field of Cryptocurrencies, we found out that we have entered a bigger universe of blockchain technology. Blockchain is the technology that is responsible for transactions and trading of cryptocurrencies like Bitcoin. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. The decentralized database managed by multiple participants is known as Distributed Ledger Technology (DLT). Blockchain can transform any system and service ranging from medical services, financial services, administration, supply chain, logistics etc.

## Globally, 1.7 Billion adults are unbanked



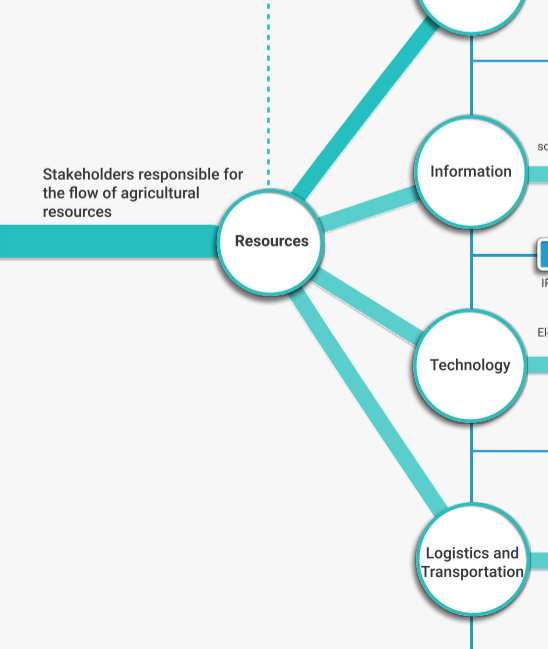
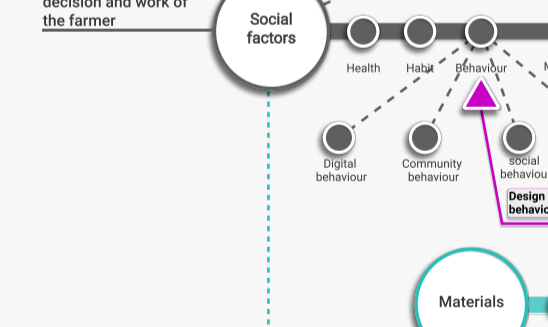
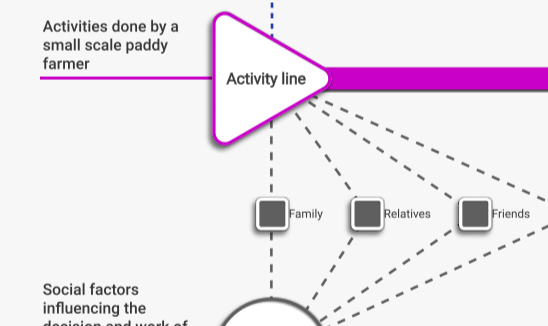
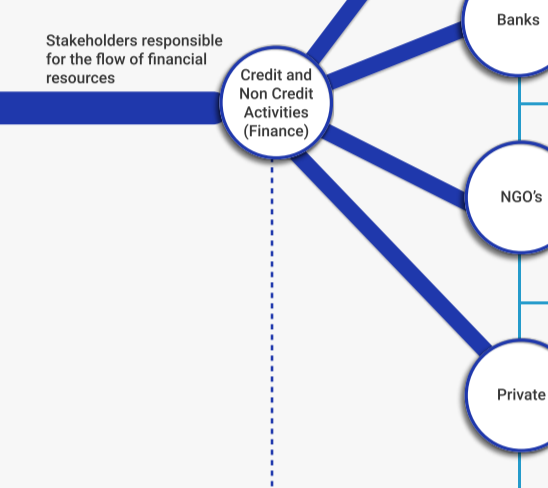
## Paddy Cultivation Network Mapping

Poverty and climate change are cause and effect of each other. Solving this issue is as complicated as sequencing a DNA. We know that one helix is blockchain which can be used throughout the system.

Financial inclusion clubbed with blockchain can help in including the last mile people in mainstream economy hence bridging the gap between rich and poor.

Supply chain clubbed with blockchain can maintain the quality of goods by increasing the transparency and reducing market volatility.

## Climate Change Effects on climate change associated with Agriculture



## The Future of Farming with Environ Speculative Service Design

The highlighted areas in the network map become the base for designing our two services to address financial inclusion and supply chain respectively. Environ is a blockchain platform developed for providing blockchain-based services for social and environmental impact. This is a speculative service designed as a first pilot project on Environ targeting Indian farmers for benefitting the agricultural sector.

The first service is aimed at providing affordable and accessible financial services to the farmers in the form of microfinance/micro credits systems. The second service is aimed at creating a transparent agricultural supply chain to reduce middlemen and supply-demand volatility. Both these services are designed on Environ Blockchain technology. Environ coin is available for crypto-currency trading and its ICO is launched with its USP as Blockchain for socio-economic impact.

**Independence from Loan sharks**  
 We provide accessible financial service in the form of a microcredit system by creating the same money lending system practiced by farmers on a blockchain network. We build mutual trust between the lenders and borrowers by smart contracts building a decentralized community.

**Universal Identification**  
 We help the farmers to create an immutable biometric decentralized ID after the KYC process of land papers, Aadhar card, and voter ID card. This identification will be digital and completely private stored in a blockchain network. Governments and Banks can access the identity after farmer's consent for subsidies and credit/non-credit activities.



**Happy Customers**  
 Our supply chain services extend to the retailers and include their inventory management and database into the Environ blockchain network. By increasing transparency, we help retailers to gain customer's trust and loyalty. The supply-demand data is continuously updated and viewed by all stakeholders in the system allowing them to take decisions in the next yield.

**Decentralized market community**  
 We provide a transparent supply chain network for the farmers to build a decentralized community for bidding on the prices of the goods. Inventory management of warehouses will be linked to the Environ blockchain network to monitor the condition of the goods using IoT. Compensation will be fairly distributed among the community due to loss/damage of goods in the supply chain network.

**Any season cropping**  
 Our microfinance services provide security to the farmers in terms of damage caused by environmental disasters. As the land is linked to the decentralized ID, it will be reflected on the rate of interest when he borrows money the next time. Thus, we provide confidence to the farmers to grow crops even in non-cropping seasons.

**Farm to market**  
 Through our transparent supply chain system, farmers can set up a competitive price for their yield and create a smart contract between the distributors, wholesalers, and retailers. Middlemen charges are reduced to a large extent enabling farmers to bear maximum profits.

## Sustainable Cryptocurrency

Our major revenue generation is from the trading of Environ coins which is one of a kind in sustainable trading. We use Proof of Stake for managing our blockchain network which consumes less energy than traditional mining. Also, through our blockchain technology, the carbon footprint in agriculture is far more decreased by using energy-efficient technologies and methods. This system enables us to have dynamic prices for our services having our reputation as a company providing blockchain solutions for Socio-Economic Impact.

**Smart Agriculture**  
 Hello Agriculture 5.0  
 Through our blockchain service support, farmers can have the right information about the materials and equipments to be used for better yield. They can even afford better technologies after getting benefitted from microfinance.

**Smart Harvest**  
 Our microfinance services provide security to the farmers in terms of damage caused by environmental disasters. As the land is linked to the decentralized ID, it will be reflected on the rate of interest when he borrows money the next time. Thus, we provide confidence to the farmers to grow crops even in non-cropping seasons.

**Smart Retail Management**  
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