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The story of demand and supply of resources

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The Story of Demand and Supply of Resources

A system for equity, collectivism, co-design and citizens movement

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Abstract

The control over resources like money, commodity and information can lead to a drastic socio-economic inequality and mindless consumerism has led to climate change. Our project is a systematic exploration of the most basic physiological need of food and highly influential control means called markets.

As the market system has alienated the producer from the consumer and vice versa, it has bred apathy in our society and when a call for collective action is raised it becomes an echo chamber and is almost impossible to come to any conclusive actions. Our project is an attempt to fight and end problems like socio-economic inequality and climate change catastrophe through better usage, awareness and control of resources which cater to the material needs of the human beings and help build the community, through economic, social and ecological consciousness.

Systems thinking helped provide us with a perspective of a much larger scale and intricacies of interconnectedness between the different elements in the said system and the problems identified from this point of view seem to be at the very core of the wicked problem at hand. We approached to intervene in the system to either overthrow it or change it or subvert it.

Keywords

Demand and Supply, Doughnut Economic Model, Democratization of Resources, Agrarian Crisis, Conscious Consumerism, Socio-economic Equality, Farm Food Market System, Localized Resource Centric Economy, Urban Farmer Markets

Introduction

Our quest began with a very existential question, "if the world is like a train, do we have enough seats to accommodate everyone?" This immediately begs a follow-up question, "should everyone necessarily need a seat?" To which we say, first let us define what we mean by a "seat" and let us see if there are enough of them and if there are, then everyone should be allowed to sit. Now moving from the metaphorical world into the real, the same question kind of looks like- "is it possible to provide decent living conditions to every human on the planet?" And by 'decent' living conditions we mean basic access to food, shelter, education, sanitation and health care, which is the equivalent to the seat in our metaphorical train. We had taken up studying the social and economic inequality through the lens of production, distribution and consumption of resources.

We started with a small study of available land on the planet whose population is about 7.7 billion humans with about 5.7 billion adults. Below is a case we make for inequality in the world.

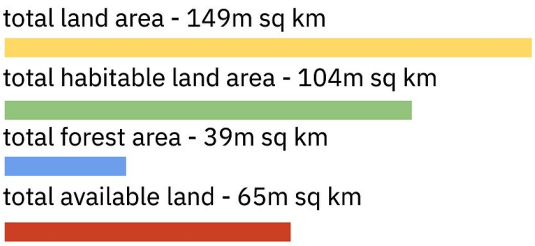

Figure 1. Study of available land

If divided equally, every adult would get about 11,418 sqm/ 2.82 acres each! But according to the United Nations, statistically, every person in Dhaka has only 22.5 sqm and Mumbai has only 31 sqm which is barely 0.2% of the mathematically ideal number.

Yes, the numbers are appalling and too impractical and no, we do not wish to divide and provide 2.8 acres to every adult human in the world, but the present scenario is very far from even being fair. We need to bridge the gap and we need to bring in more equality. And this is just the beginning of the story, the paper discusses the surprising amount of inequality that is present across different aspects of human life and how the greed of few humans is putting the climate and other life on the planet at great risk.

We are living in a constantly growing globalised market economy that is furthering the divide and putting both humans and nature at grave risks and it is now really high time we learn from history and move towards a more equal and hence a more agreeable society to fight threats to our existence. The recent COVID-19 pandemic also exposed a lot of the systemic faults.

Daniel Kim says that, systems thinking is a perspective and that is exactly what we have tried to achieve in this project. We will initially start looking at human needs and how we use our labour and the resources that nature provides to fulfil them. Then we will zoom into one of the most basic needs that define our daily life- “food”. We will look at developing a perspective on resource-based food market system from a social, economic and ecological viewpoint.

Figure 2. Samudra Manthan

We will try and illustrate our initial perspective on the subject through the metaphor of Samudra Manthan, which was essentially an exercise between devas and asuras (god and demons) to take hold of the elixir that rests at the bottom of the Ksheer Sagar (milk ocean) and the interesting part of it was that, both the parties were needed to churn the ocean, synonymous to the market which runs on supply and demand, which essentially churns out commodities for a better life. But here is the twist, there is no elixir waiting for us after we churn out all of earth's resources. There is elixir only in responsible usage of the resources to serve the greater good of all life on earth. We may have to re-think the idea of manthan. We are dealing with a very wicked problem of humans material needs and convenience.

Research and Synthesis

As our first enquiry into the system was about inequality in the way the resources are distributed in the world and we wanted to explore how might we diminish some of these to make for a more equal world. An equal world means a more agreeable world and more united world which will help us fight bigger and monumental issues like climate change.

Figure 3. Interlinked Humanitarian and Global Issues

Two of the major humanitarian and global issues of socio-economic inequality and climate change is linked to each other through the abuse and misuse of resources. When we think of solving climate change issue, we often forget the huge problem of socio-economic inequality in the world that is only getting worse day by day. We cannot agree and solve common and daunting issues if we live in a society that thrives on extreme inequality and hierarchy.

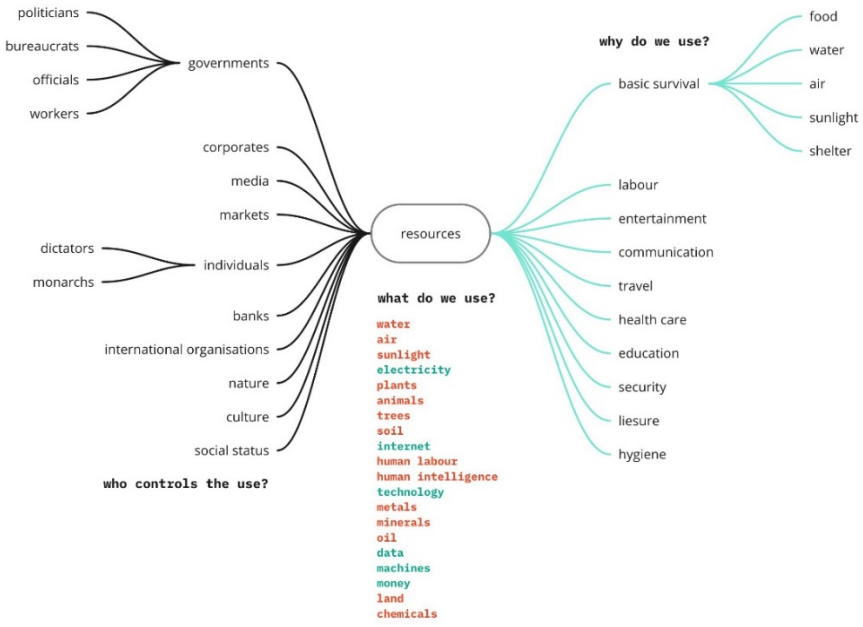

Figure 4. Who, What and Why of Resources

Now that we have established the core issues, that distribution and usage of resources have led to, we shall now talk about what resources we use, why do we use them and who controls these resources?

This is the essence of our research and we figured that it is less important to ask how we use the resources and more important to ask, what all we use, why we use them and who controls the way we use it. And it is these three simple questions that unravel the complexity of the interconnections associated with production, distribution and consumptions of resources that aid the materialistic needs and wants of human beings.

As we discussed; the idea of production, distribution and consumption of resources is called economy and we currently live in a globalised world of the market economy. A market is essentially where the demand is met by supply in exchange for money. The supply and demand as promised by the free-market economy are not independent and are influenced and controlled by governments, corporates, mass media, etc through policy, laws, advertising, culture, geopolitics, etc. Supply and demand also get influenced by economic situation, global GDP race, stock market performance, climate change etc.

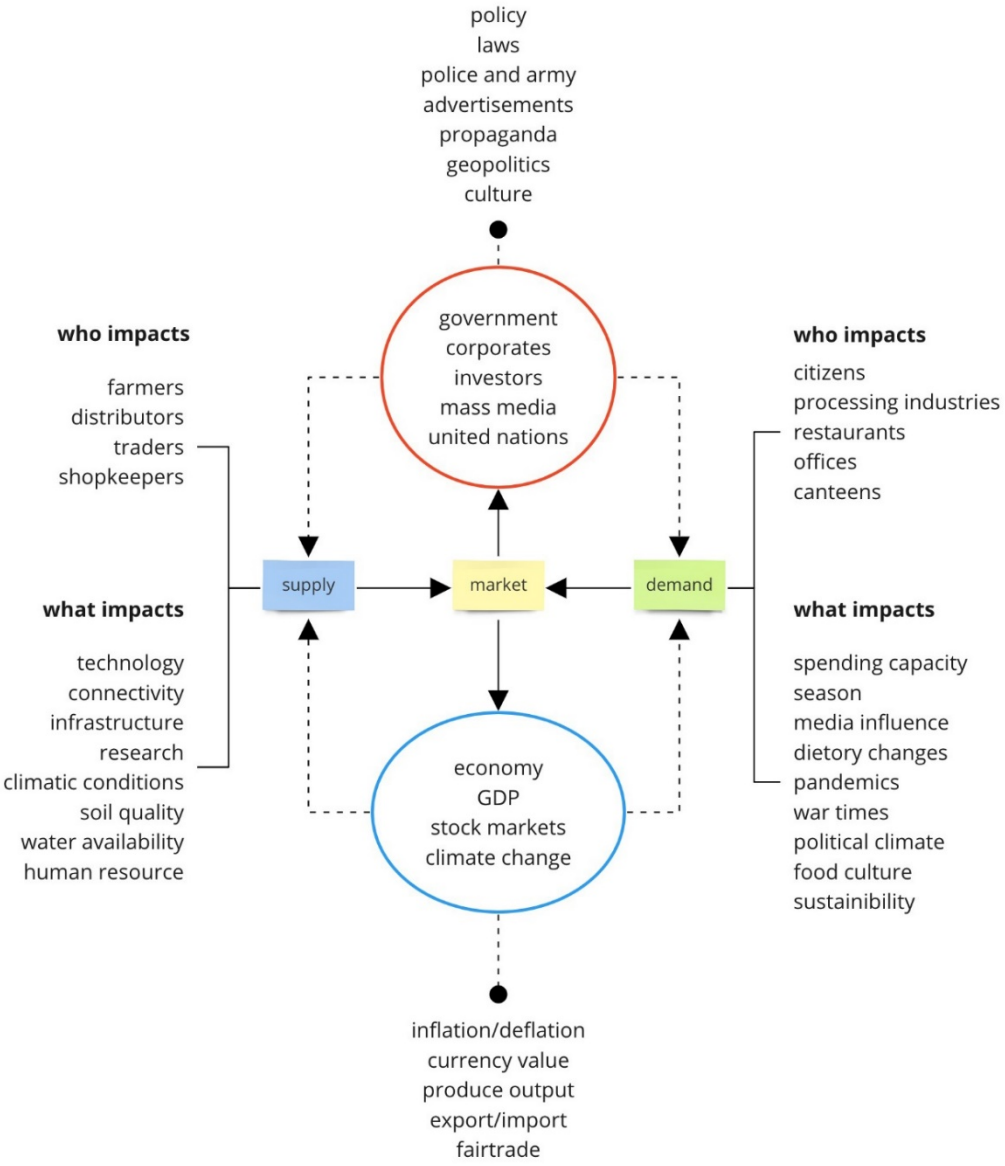

Figure 5. Simplified Idea of Economy

We are living in an era of global trade, the internet that facilitates global connectivity and even space travel. This has had its positive impact in the last few decades while also seriously damaging resources, ecology, cultures and countries. There has been a lot of push for localisation to combat climate change and protect cultures and biodiversity. Below is a map of the pros and cons of globalisation and localisation;

Figure 6. Pros and Cons of Globalisation and Localisation

The research also resulted in many different "how might we's" on various areas of study ranging from agriculture, internet, CSR, migration, taxes, market, media, basic income, entertainment and so on.

Figure 7. How might we?

Going ahead, we will be zooming into our topic of interest, i.e., farm food market system, which essentially is responsible for the food that comes on to our plate and food, needless to say, is a necessary resource for our basic existence.

Zooming In

Farm Food Market System in India

Moving on from the research synthesis where we asked three important questions of; what resources we use, why we use them and who controls them, of which why we use them is the most important because it is driving force in many ways and we decided to choose an area of focus to zoom into for further study. It only made sense to attack most primal of reasons which is basic survival and within that food resources whose production is largely controlled by humans and which is an absolute necessity for survival. Agriculture is also one of the major causes of climate change in recent times. Hence, it is a quintessential resource whose production and distribution is very detrimental to human species and planet alike.

We then started understanding the food market system in India, starting from production (agriculture and related activities) till consumption.

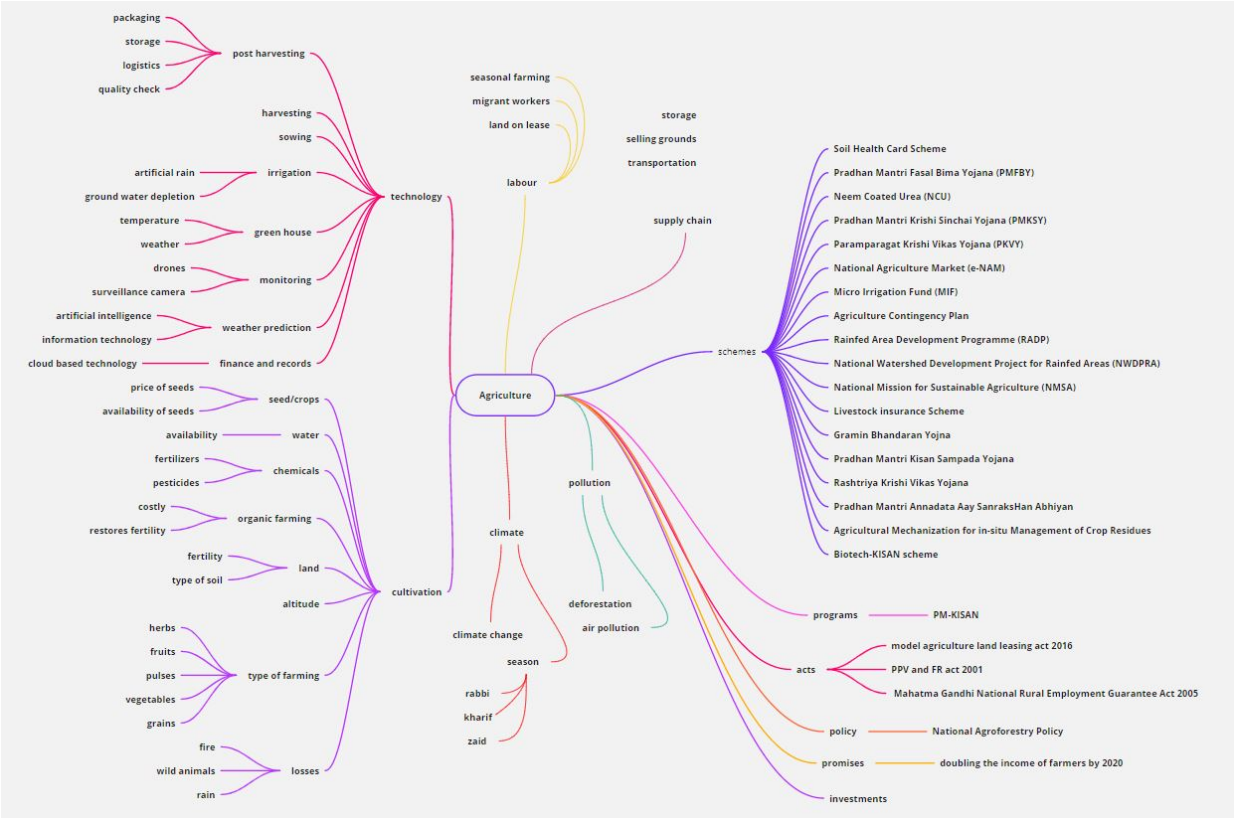

Figure 8. Components of Agricultural System

We mapped out the agricultural systems into various components like schemes, acts, technology, labour, cultivation and so on to understand how the elements that control resources (govt, corporates, nature, etc) play their role in this system.

We then moved on to mapping out the journey of food items from its inception to consumption. It is illustrated below;

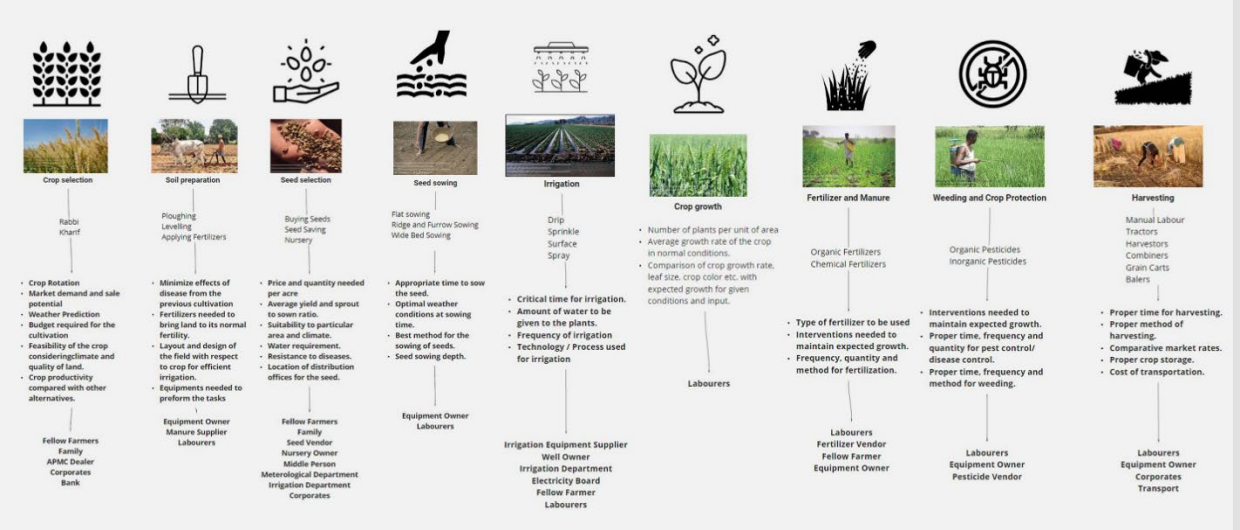

Figure 9. Journey Mapping

Journey mapping becomes essential to categorise the system into potential areas of interventions and gives a sight of the chronology of the activities to understand the impact of an intervention more holistically.

The COVID-19 pandemic and global lockdown really hit the farming sector very hard and some of the impacts (both negative and some positive) are mapped out below.;

Figure 10. Effects of the Pandemic on Agriculture

The COVID-19 pandemic is attributed to have exposed a broken system rather than a reason of its broken state and we really align with this ideology as India has seen thousands of farmer suicides every year and also as P. Sainath puts it that India is already at the brink of a huge agrarian crisis, a crisis he defines as “corporate hijack of Indian agriculture”.

We had conversations with government workers, farmers, entrepreneurs, activists and so and the overarching problem really seems to begin right at the policy level where the focus is only on the economic factors and is not farmer/ resource-centric. The farming system, like every other, is heavily driven by market forces. Major problems like a pandemic, climate change and humanitarian crisis really call for an urgent reform in the way we look at progress, development, profit etc. To fight these issues head-on we need to move towards a more equal, less energy-intensive and fairer world and we need to look at the systems in three lenses, i.e., social, economical and ecological factors. Even more reasons to urgently relook into food and farming systems because, unlike other resources, food is consumed multiple times a day and it has a massive impact on humans, animals and nature in general.

Agriculture and Food Market in India (Imports and Exports)

India is and has been undoubtedly a largely agrarian country with its employed workforce accounting for more than 50% of all workers in India and amounting to 17-18% of the GDP of the country. Agriculture also provides primary resources for many industries (processed food, textile, alcohol, leather and so on) to add value upon and sell/ export in the market.

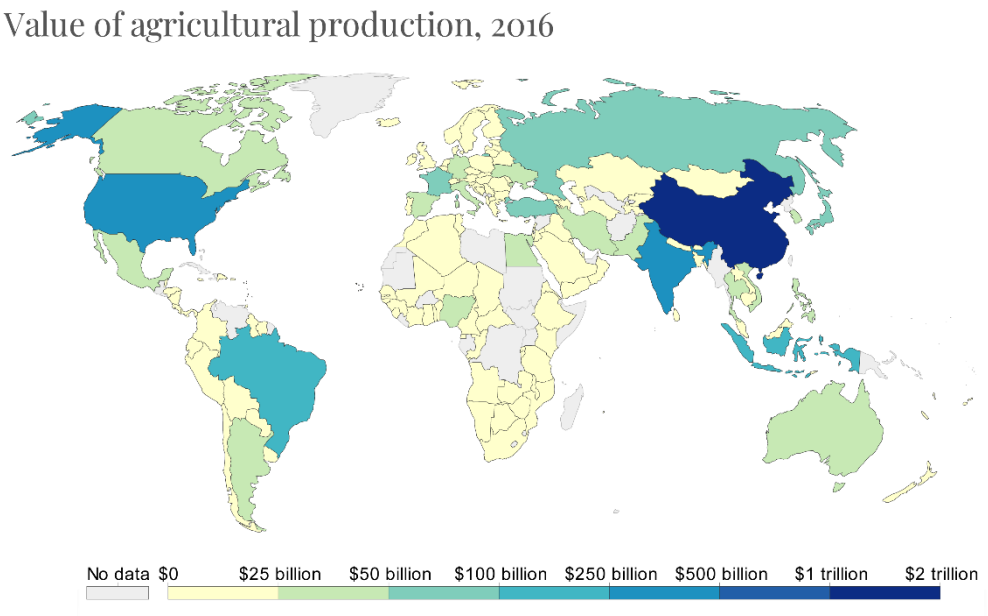

Figure 11. Value of Agricultural Production 2016
(Image source. UN Food and Agriculture Organization (FAO))

The above image stresses on how rich the agricultural output of India is, only second to China and somehow, it is a country with hunger problems and dire poverty. We should really ask ourselves many questions at this point like who are the crops being grown for? Who pays and who gets paid and how much? Does India export food items? If so, then do we have a surplus of it? Why then do have hunger in the country? and so on.

We really want to ask certain questions at this point and that is as to, why we are diverting our resources to export for foreign demand when we have dire poverty and hunger in masses within the country? Are we really suited to overcome the challenges posed by climate change? Are we as consumers aware of where our food comes from? Are our farming practises sustainable and eco-friendly? Is GDP the only need of the hour? How much of the sales even goes to our farmers?

There are many questions to be and many more things to be done to either correct or subvert or overthrow the existing systems to have a more fair, equal and transparent functioning.

Case Studies

After analysing the food market and the trade scenario we moved to study some cases to get a real-life context for our project. Basically, we studied the models of various profit and non-profit making organizations, to get insights on how people are innovatively implementing sustainable models around various industries and gathered insights about these models.

The case studies are as follows;

1. The Ugly Indian
A social media forum that promotes citizen action to solve urban problems of sanitation, cleanliness, and safety anonymously. The focus is on the idea and transformation and not on personalities.

2. Black Baza Coffee
A coffee company that cares for the consumers, farmers, resources and the forests and tries to benefit every stakeholder in the system equitably through conscious cultivation funded by conscious consumerism.

3. Naviluna Chocolate
A chocolate company based in Mysuru, Karnataka makes handmade chocolates from cocoa beans sourced locally (within 200km radius) and uses sustainable packaging and production methods.

4. Gram Seva Sangh
It acts as a bridge between the citizen in the city and the constructive work in the village. This bridge helps the citizen to contact and learn from the village; in things such as simple living, working with one's own hands and nature. In turn, the Sangh helps the village constructive organisations, with a market for their 'hand' produce, training in building equitable systems and organizations.

5. Bhoomi Santhe
A biweekly santhe (farmers market) organised at Bhoomi College in Bangalore is a community event where farmers, small sustainable start-ups, activists, and environmentalists gather to exchange fresh produce and ideas.

6. Kudumbashree
A poverty eradication and women empowerment mission based in Kerala which works on various fronts including agriculture.

7. People's Archive of Rural India
A full-time journalism organization that report stories of rural India which is otherwise largely absent in the major commercial media houses across the nation.

8. UrbanKissan
Urban farming and store based in Hyderabad that grows fresh veggies indoors in a store using modern techniques of hydroponic.

9. Robinhood Army
The Robin Hood Army is a volunteer-based, zero-funds organization that works to get surplus food from restaurants and the community to serve less fortunate people.

10. And Nothing Else
An interesting start-up that makes food bars wand lists every ingredient on the front and promises that there is nothing else in it other than what is mentioned.

11. Kriya Labs
It aims to eradicate the infamous paddy straw burning in India by adding value to the agricultural residue and making it an asset for the farmers by creating a market for it.

12. FarmingIndia.in
This portal has been started with the purpose of giving a platform for farmers and entrepreneurs where they can find agriculture information, project reports, expert advice and products to do farming and agribusiness commercially and profitably.

13. MANAGE
MANAGE is the Indian response to challenges of agricultural extension in a rapidly growing and diverse agriculture sector. Facilitating the acquisition of managerial and technical skills by extension officers, managers, scientists and administrators in all sectors of agricultural economy to enable them to provide most effective support and services to farmers and fishermen for practising sustainable agriculture.

14. Varda Farmers Club
The FPO (Farmer Producer Organization) believes that people trust farmers blindly, hence a farmer is responsible for the health of his consumers. They encourage and train farmers to switch to organic farming.

15. The Odd Gumnut
Grounded in permaculture ethics & principles, the odd gumnut empowers you to leave the conventional and see what else is possible.

16. Auroville
They believe that land needs tending and care, the bio-resources around us, such as leaves, weeds, branches, etc., should constantly be returned to the soil to increase soil fertility. Building community through celebration and education on the diverse values of local food.

Interviews

As it is said, "real people tell you the real problems and help you get to the real solution", we started talking to people. We spoke to people from various backgrounds, including farmers, researchers and government officials. Our range of approaches to interviewing people was, from completely unstructured in which the subject could talk freely about whatever they wish, to highly structured in which the subject responses were limited to answering direct questions. The insights from the interviews are as follows;

1. Prem Singh (Farmer, Uttar Pradesh)

Role: Crop producer and Farming educator

Insight: "Farmers need more freedom and need to produce for self then produce for others."

2. Girish Patidar (Farmer, Madhya Pradesh)

Role: Vegetable producer and seller

Insight: "If a farmer wants to be rich, he should invest smartly. Farming is a risky job so the farmer should become self-sufficient before taking bigger risks."

3. Anil Jadhav (Nursery Owner, Maharashtra)

Role: Seed and sapling supplier, Farming consultant

Insight: "Incorrect documentation at the primary stage can lead to wrong policy framing. Farmer should neither be fully dependent on cash crop nor fully independent of it."

4. Madhu Sudan Parihar (Farmer and Teacher, Madhya Pradesh)

Role: Crop production

Insight: "Kids have done engineering and want to have a life in the city. Profit from farming is very unpredictable so it is better to have a permanent job."

5. Dr. Rajendra Yadav (Medical Officer, Maharashtra)

Role: Physician and Educator

Insight: "We need a culture shift to understand the importance of hygiene in daily activities. The government needs to carefully analyse and evaluate its current education and health care system to make it more resilient for a sustainable future."

6. Andreas Schneider (Researcher, Japan)

Role: Consumer and Data analysis

Insight: "Gap between the urban and rural life is important and they play different roles, don't bridge the gap instead try to learn from the best of both worlds."

7. Dathan C. S (Government Employee, Kerala)

Role: Programme officer of agriculture at Kudumbashree

Insight: "The major challenge for Kerala is the upcoming floods and the COVID-19. The internet has boosted connectivity and eased communication. Everyone needs to understand the importance of food."

8. Mrudul Chilmulwar (Designer, Ahmedabad)

Role: Consumer and Industrial Designer

Insight: "One system or model can act as a plugin for another system or model."

9. Kenneth Segal (Designer, Israel)

Role: Industrial designer and Educator

Insight: "The agrarian situation in a small country like Israel where there is acute water shortage is heavily resource-based and everything is optimised using technology. Local produce should increase."

10. Purvi Vyas (Farmer, Ahmedabad)

Role: Farmer and Educator

Insight: "Farmers practising intensive farming don't grow food for themselves and also grow one crop which is a great loss of biodiversity and its high risk if a disease hits. Biodiversity is very important and so is subsistence farming."

11. Arshiya Bose (Researcher, Bengaluru)

Role: Founder of BlackBaza Coffee

Insight: "Use commodities as a means to empower communities. We do not compromise with ethics and hence we suck at business. We are at the mercy of government and corporates whose one project will wipe out acres of forest in a few days."

How might we?

After studying impacts of various factors/ organisations that control the food market system, different types of agriculture, journey map of farming and parallel talking to stakeholders such as farmers, activists, researchers, entrepreneurs, government workers and consumers, and also looking for case studies and visiting plants and farms, it was time to think about how might we change/ subvert/ overthrow the existing system to better benefit every stakeholder involved.

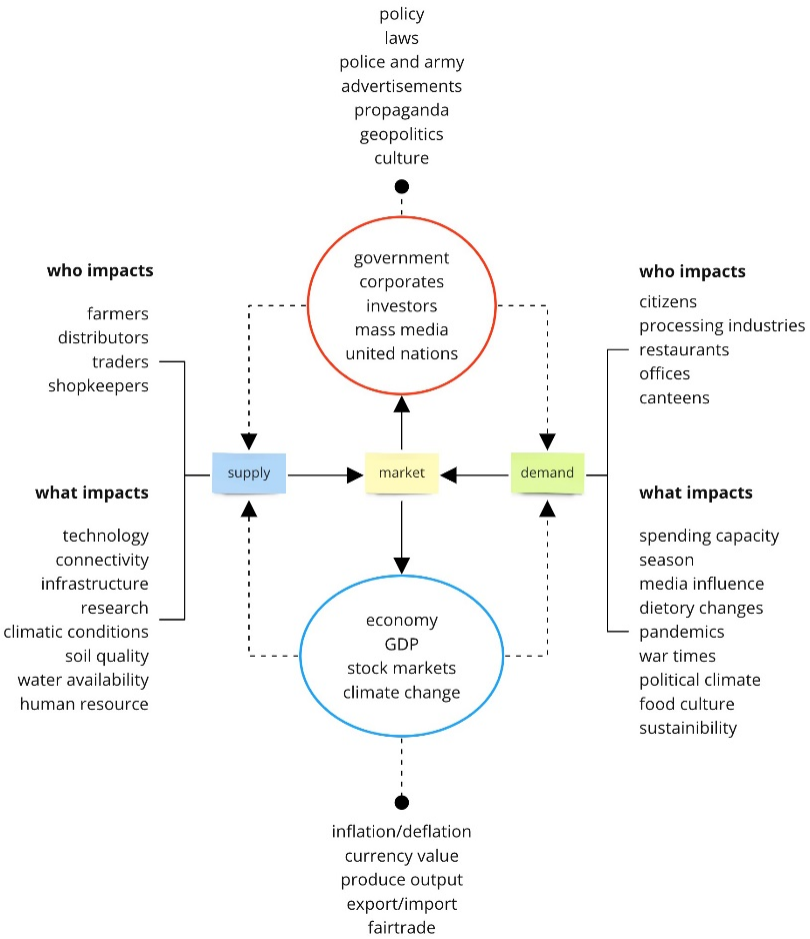

Figure 12. Simplified Idea of Economy

The above map will look familiar and it essentially talks about who and what all impacts supply and demand indirect and twisted ways and how they go about doing it.

The agriculture system whose journey map we studied in the previous section can be essentially distilled into dual-triangulation of people-process-price and environment-infrastructure-tools. It provides a macro picture of what all is involved in agriculture and the details of it are in the map below.

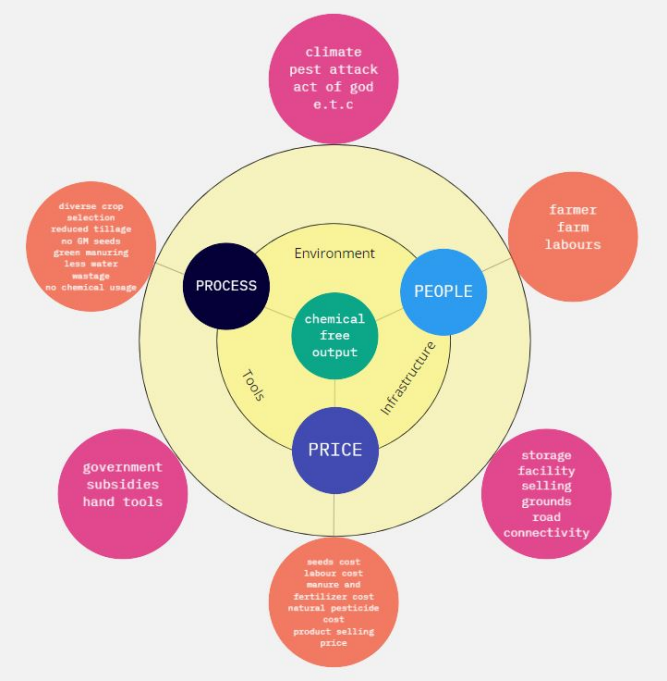

Figure 13. Triangulation

Post synthesis of the system study, we moved to the important step of detailing out the stakeholders and categorising them into primary, secondary and contextual. This provides the essential second dimension for our further study and exploration into the system where we attempted to look for opportunities to intervene at various stages and stakeholders of the farm food system.

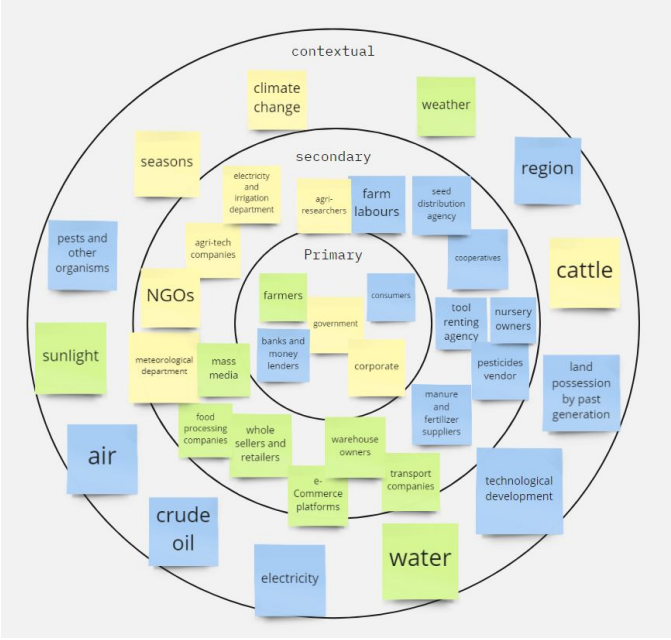

Figure 14. Stakeholder Onion Map

Since we live in the age of globalisation and mass communication, the study of flow and access to various information and media to the farmers is a very important aspect of the farm food system. Below is a study of the source of information, a hindrance to information flow and positive factor(s) of each;

Source of information	Hindrance to information flow	Positive factor
Agriculture department of government	• Farmer has to travel to offices of agricultural department for information. This is a costly and time consuming activity. • Availability of government officials is unpredictable	• All schemes and benefit related information is available.
Fellow farmers	• Fellow farmers do not have the best or most up to date knowledge.	• Trustworthy
Field agents of seed, pesticide and fertilizer	• Field agents of pesticide or seed companies are unable to pay frequent and timely visits to all farmers	• Focused on individual farmers
Television and radio	• Radio or TV programs are broadcast at a predefined schedule which may or may not be convenient for the farmer. • Information should be available to the farmer on demand and should be personalized to his needs.	• Information will be explained properly through better visuals (TV) and audio explanation by experts.
Newspaper and magazines	• Majority of farmers in villages either do not have access to newspapers or lack of education makes their access limited • Most of the information broadcast may not be specific to a farmer's needs	• Information can be stored for future use.
Social media	• Mostly used by youth, the middle aged and old age farmers are no the users. • very less informative data.	• Good personal experience sharing medium.
NGOs	• Depends on the number of participants involved with the NGO.	• Acts as a good channel between farmer and the outside world.
Internet search	• Regular internet usage and internet connectivity is still an issue. • Lack of Education is still major problem in lots of areas.	• Connect farmers directly to the world.
Selling ground (customer, dealers, e.t.c.)	• information is steered according the position the informant holds, so the cannot be fully trusted.	• farmer can get the perspective of various beneficiaries.
Farmer helpline numbers	• Long queue and waiting time.	• farmer's specific problem can be heard and resolved.

Figure 15. Information Flow

The matrix shown below is essentially trying to break down each categorical activity involved in the farm food system starting from crop selection to food consumption into aspects like inputs, outputs, dependencies, actions, players and risks.

Figure 16. Activity Mapping

Figure 17. Insights from Activity Mapping

Post this activity and from the insights we had, we started asking more questions of “how might we?” under each step of the process and to each stakeholder involved in the system and categorised them. The questions are as below;

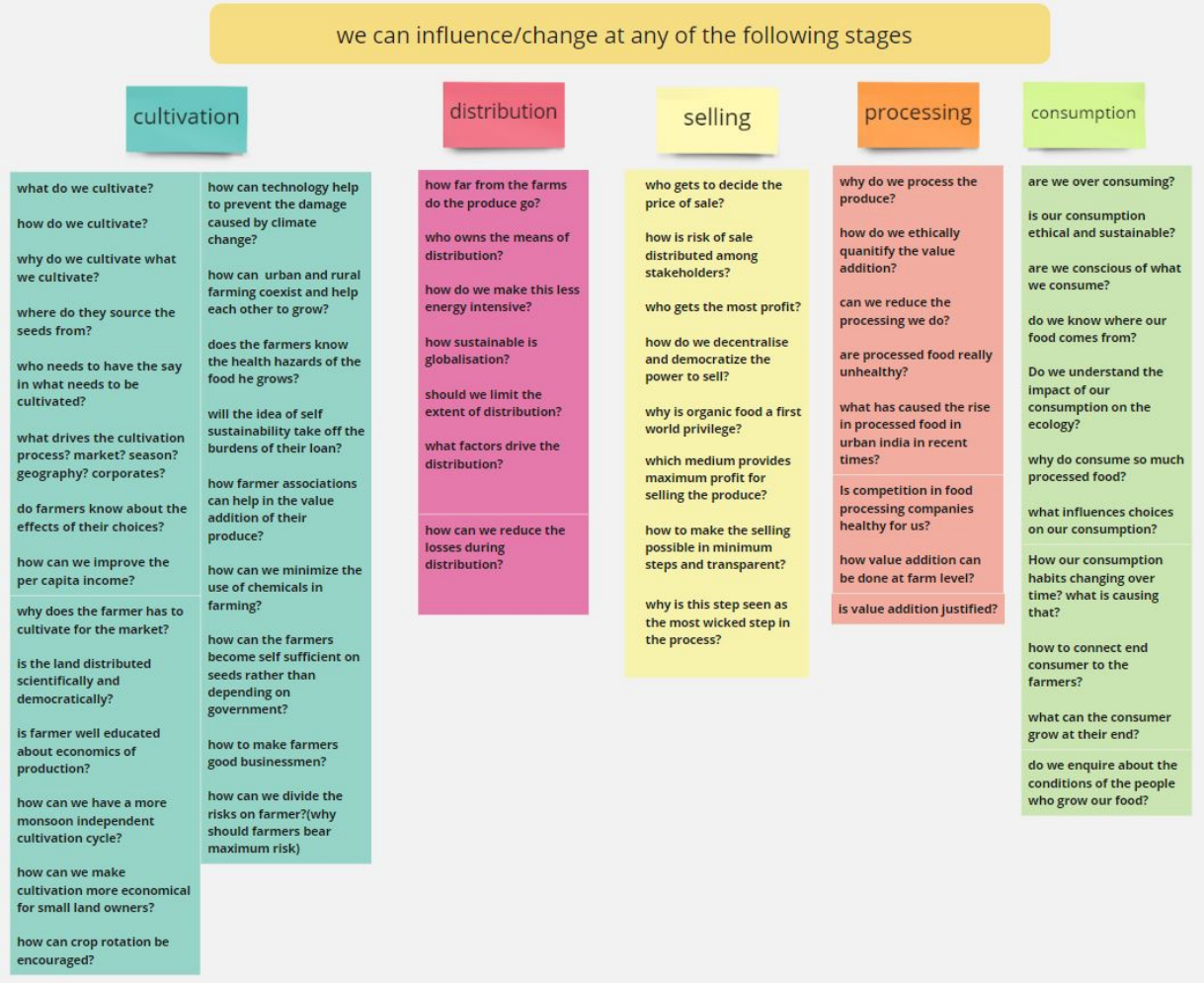

Figure 18. Opportunity Mapping- Activity Perspective

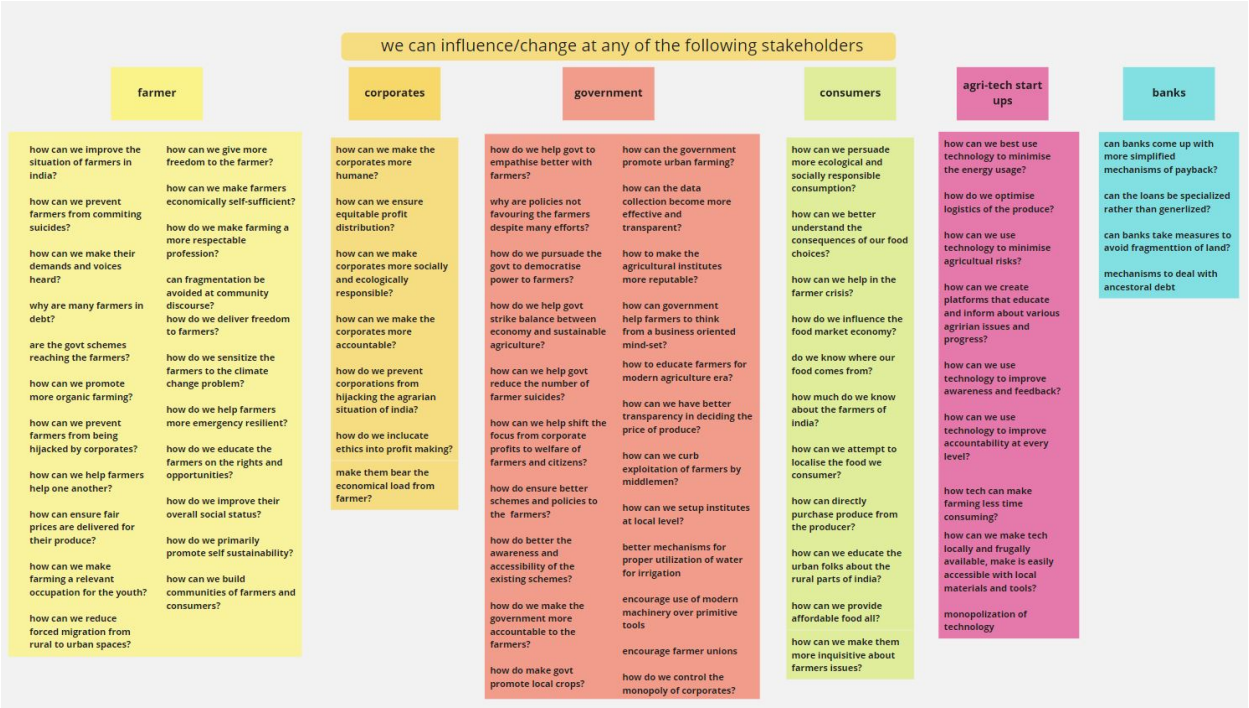

Figure 19. Opportunity Mapping- Stakeholder Perspective

These questions were further distilled, and a total 9 questions were chosen which could possibly have the most leverage in the system and which would bring about major change if tackled. We call them the “key questions”.

Ideation

Key Questions

What are we doing?
We are working towards a resource-based food market system from a social, economical and ecological viewpoint.

Why are we doing it?

• The disparity in resource control leading to economic and social inequality
• The risk concentrated on primary producers
• Ecological issues of climate change and resources depletion
• Predatory and unethical commercialisation of farming leading to agrarian crisis
• The great urban-rural divide and lack of familiarity
• Rampant commodification of food and mindless consumerism

How do we do it?

• Make people understand the significance of food choices and promote sustainable consumption
• Increase familiarity between producers and consumers
• Promoting localisation, in turn promoting sustainability
• Risk mitigation across the value chain
• Using food to empower marginalised farmer communities

Previously, we ended the ‘zooming in’ section with a host of queries around various stakeholders and at various stages of the farm food system. Out of these queries we distilled three key questions, each based on factors like;

1. The maximum impact leverage point
2. Area of interest
3. Accessibility

The measure of the effectiveness of places to intervene displayed here was curated by Donella Meadows in her article called “leverage points” and as systems thinkers, one must aim for the maximum impact.

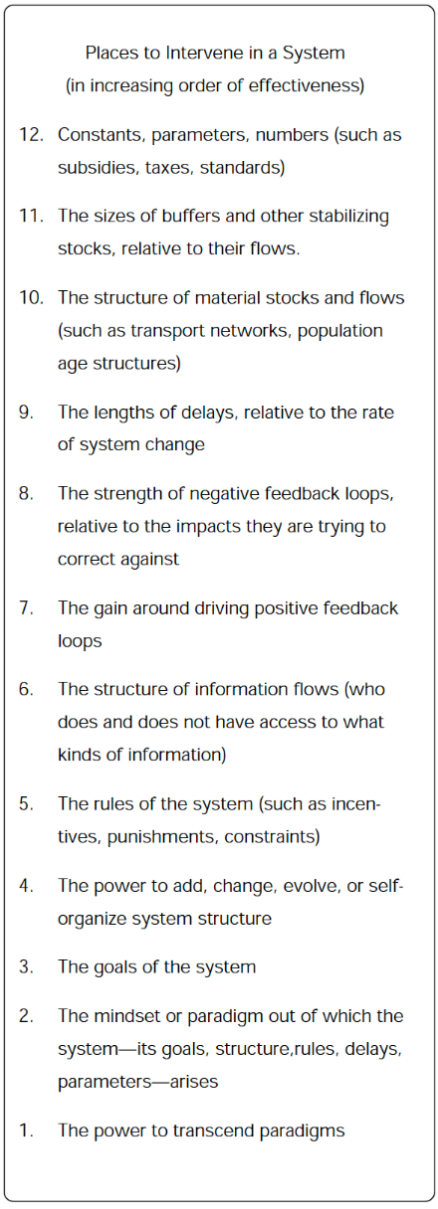

Figure 20. Leverage Points by Donella Meadows (Image Source. Thinking in Systems: A Primer)

We categorised the ideation directions into major paths which essentially are three different ways in which we can impact the farm food market system and that is;

1. Overthrow- completely getting rid of the existing one and replacing it with another

2. Change- bring about certain reforms in the existing system to better benefit the stakeholders

3. Subvert- try and steer away from controls and structure of the existing system and establish a parallel system with necessary stakeholders

Since we were dealing with market systems as we have seen in research synthesis on market systems that there are two essential symbiotic components called the 'supply' and the 'demand' and we figured that we really can't clap with one hand and so we should work both ends simultaneously, to effectively attack the problems breeding within the system.

The nine questions we distilled which could have the most leverage in the system and which would bring about major change if tackled, the key questions, are as follows;

• How can we as consumers better understand the consequences of our food choices?
• How do we inculcate ethics into profit-making for food corporations?
• How do improve familiarity and empathy between urban and rural India?

• Is farmer well educated about value chain/ economics of production and demand?
• How do improve familiarity and empathy between urban and rural India?
• How can we use technology to improve awareness and feedback?

• How do we mitigate risk through the value chain?
• How do we change people's perception about farming?
• How we exchange ideas from urban and rural spaces?

We went ahead to exploring these questions and trying to find ways to address the problems. We employed certain tools to ideate like the ones mentioned below;

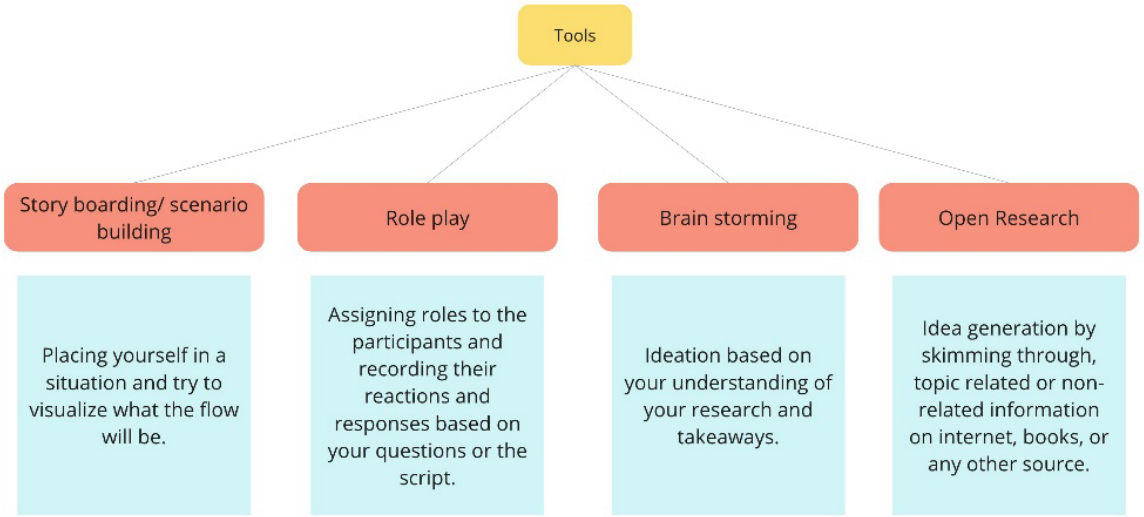

Figure 21. Ideation Tools

Figure 22. Extreme Programming Technique

Ideation Process

During the ideation, we came across the doughnut economy which essentially encapsulates most of our ideology in a very crisp manner. Unlike the market economy, we have today, the doughnut economy, which offers a fresh perspective to fight resource depletion, climate change and so on. It defines something called a social foundation and ecological ceiling within which lies the regenerative and distributive economy which is also called the “safe and just space for humanity”. It makes a very good case for staying within these boundaries because a shortfall or overshoot has its set of very grave problems.

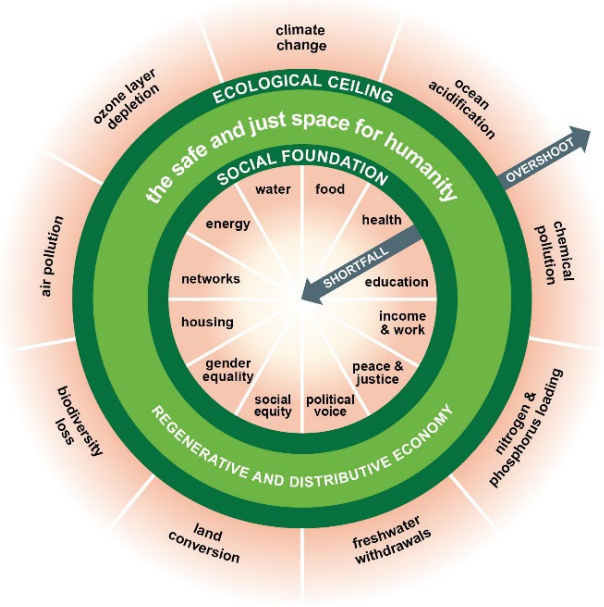

Figure 23. Doughnut Economic Model
(Image Source. Wikipedia article on “Doughnut Economic Model”)

Also given below is an interesting visual explanation of some very mistaken and misunderstood words. Although reductionist in nature, it provides a basic 101 for a better world. The tree is a great metaphor for the world. Apples are its resources which is essential for life and the tree is bent towards one side, to represent the random distribution of resources in nature. A world of inequality is based on survival of the luckiest and sometimes equality is also not enough which is where we bring in equity to address the inequality present due to uncontrollable factors and a more permanent solution which is fixing the system for good is called justice.

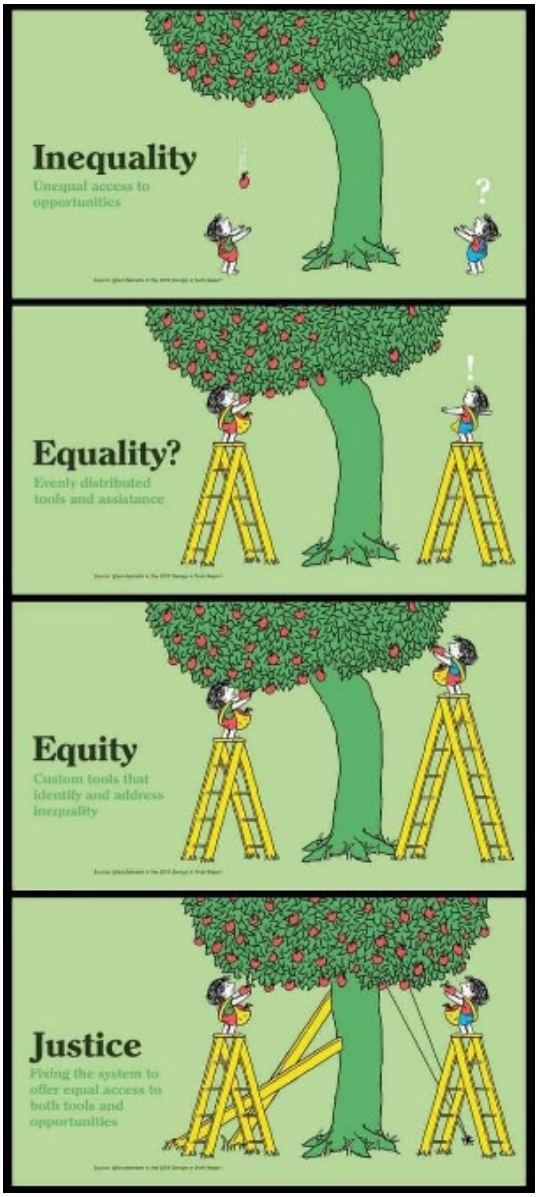

Figure 24. Doughnut Economic Model
(Image Source. Open Course on OpenLearn)

These two examples formed a solid base for the ideations that followed. The basic framework of the ideation followed is like; a single key question was taken and then ideas were generated and voted upon. The voted ideas were further resolved into how, who, where and why and that which essentially helps generate more ideas.

Below are the ideations we did upon each one of the nine key question selected;

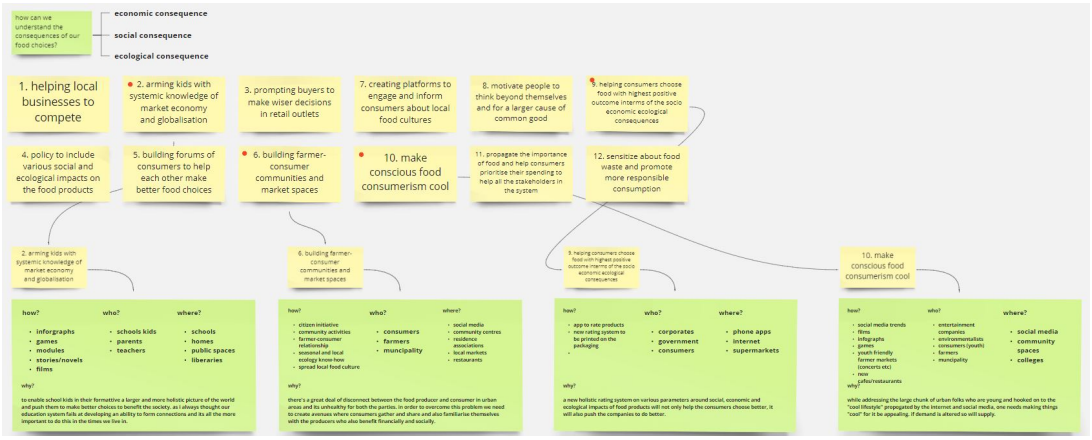

Figure 25. Ideations

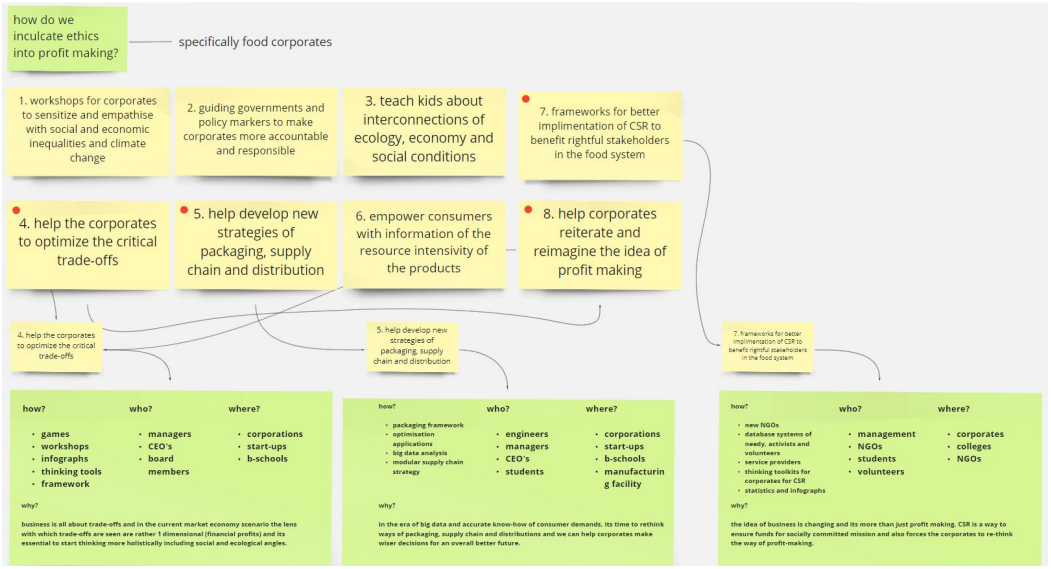

Figure 26. Ideations

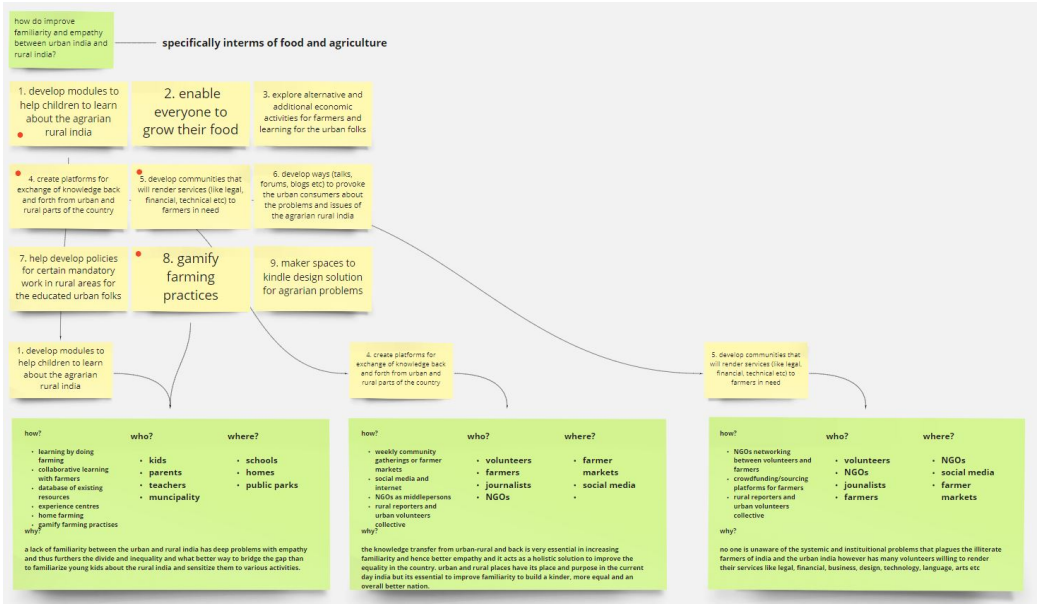

Figure 27. Ideations

Each key question resulted in many ideas as shown above. Largely the key questions in this section were aimed at the demand of the market and how we consumers can be more and more responsible, accountable, conscious and benevolent to larger causes and we wondered how do we get here in the most democratic way we can. Among the ideas generated, one of the ideas stood out and was taken further and the idea behind that is essentially down the path of subversion.

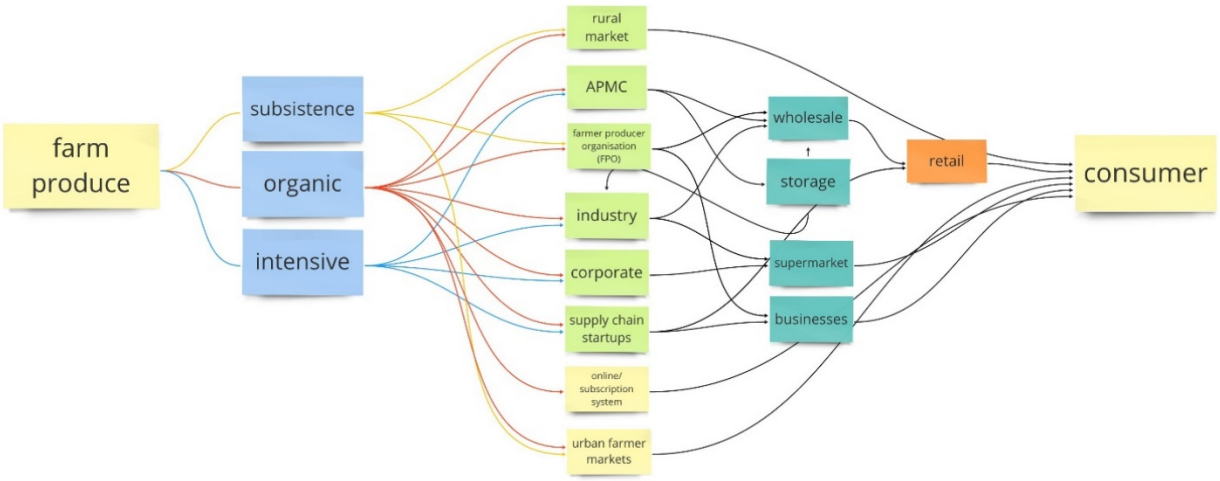

Figure 28. Journey- Farm Produce to Consumer

The image above shows the mapping of all the possible ways in which the farm produce reaches the consumer in the current world and our area of interest in which urban farmer markets, which subverts many of the systems in place, which deprives the small and medium farmers who especially do subsistence or organic farming of their rightful earnings.

The possibility of implementation of ideas can be kept from vague to a well-defined plan and the horizons can be defined from present to any time in the future. After identifying the issues like farmer's risk, attitude and perception within various sectors about farmers and the communication gap between people living in urban and rural spaces it was time to think of various ways in which the issues can be resolved or mitigated.

Storyboarding and role-playing were also used to generate ideas, based on the research, interviews and empathy mapping, scenarios were created and every stakeholder was enacted out to think various ways of resolving the problems they face.

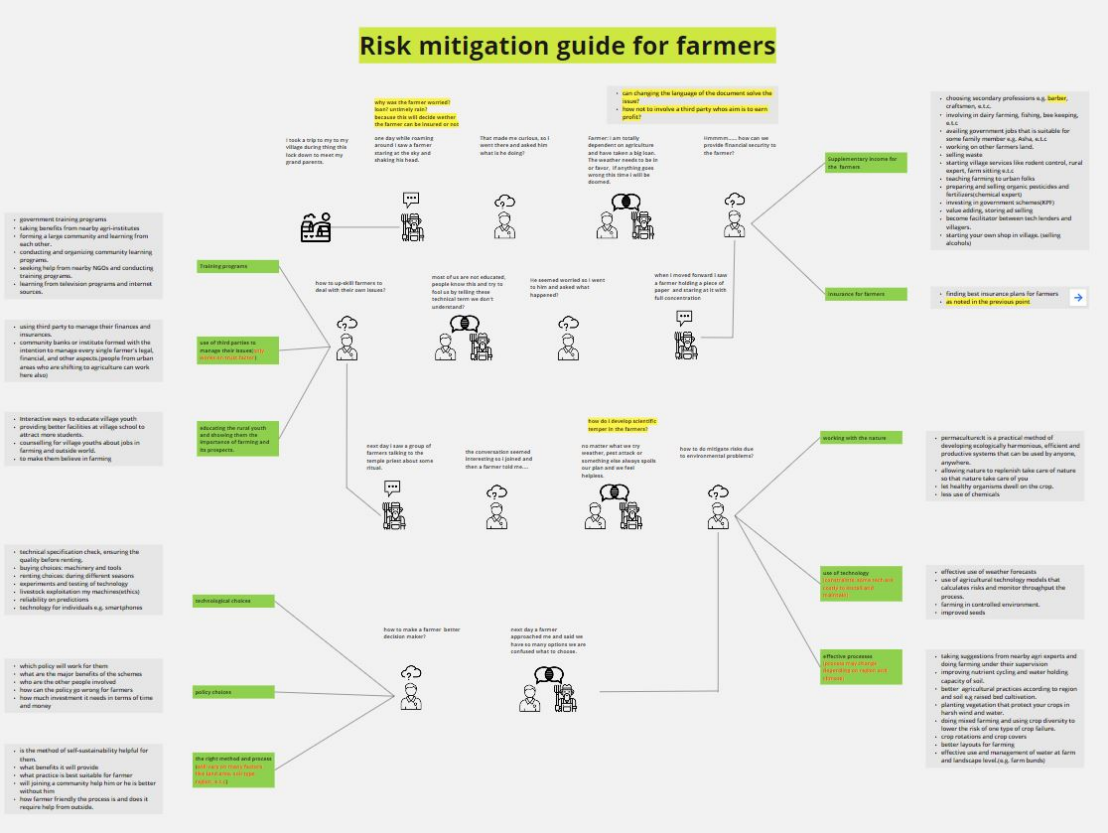

Figure 29. Risk Mitigation through Role-playing

Going through the research part again we thought about the possibility of implementation, and brainstormed on the solutions of the key questions we had;

Figure 30. Solutions to Key Questions

A rough plan of idea implementation before moving to the prototype phase;

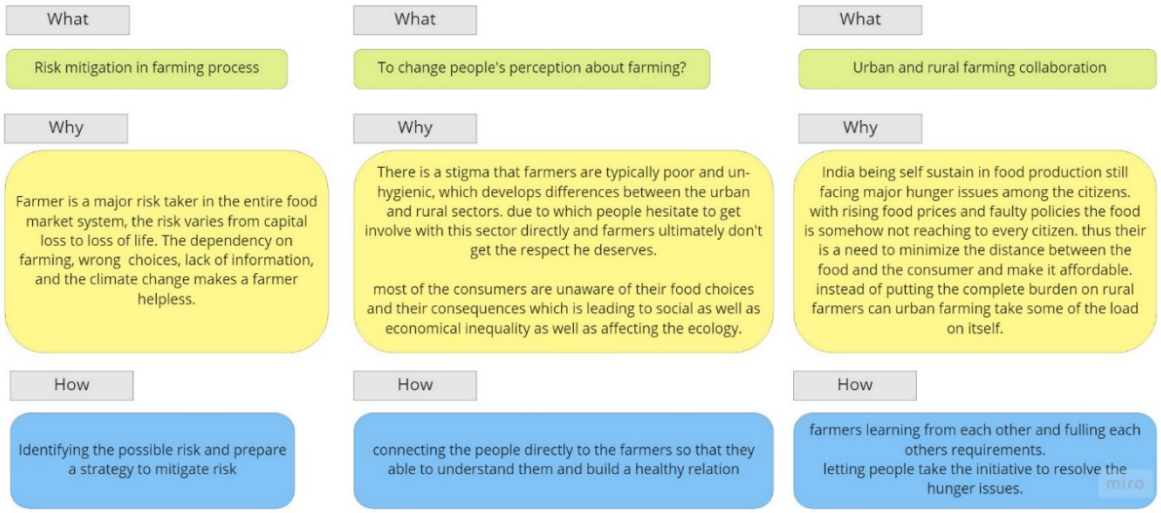

Figure 31. Plan for Idea Implementation

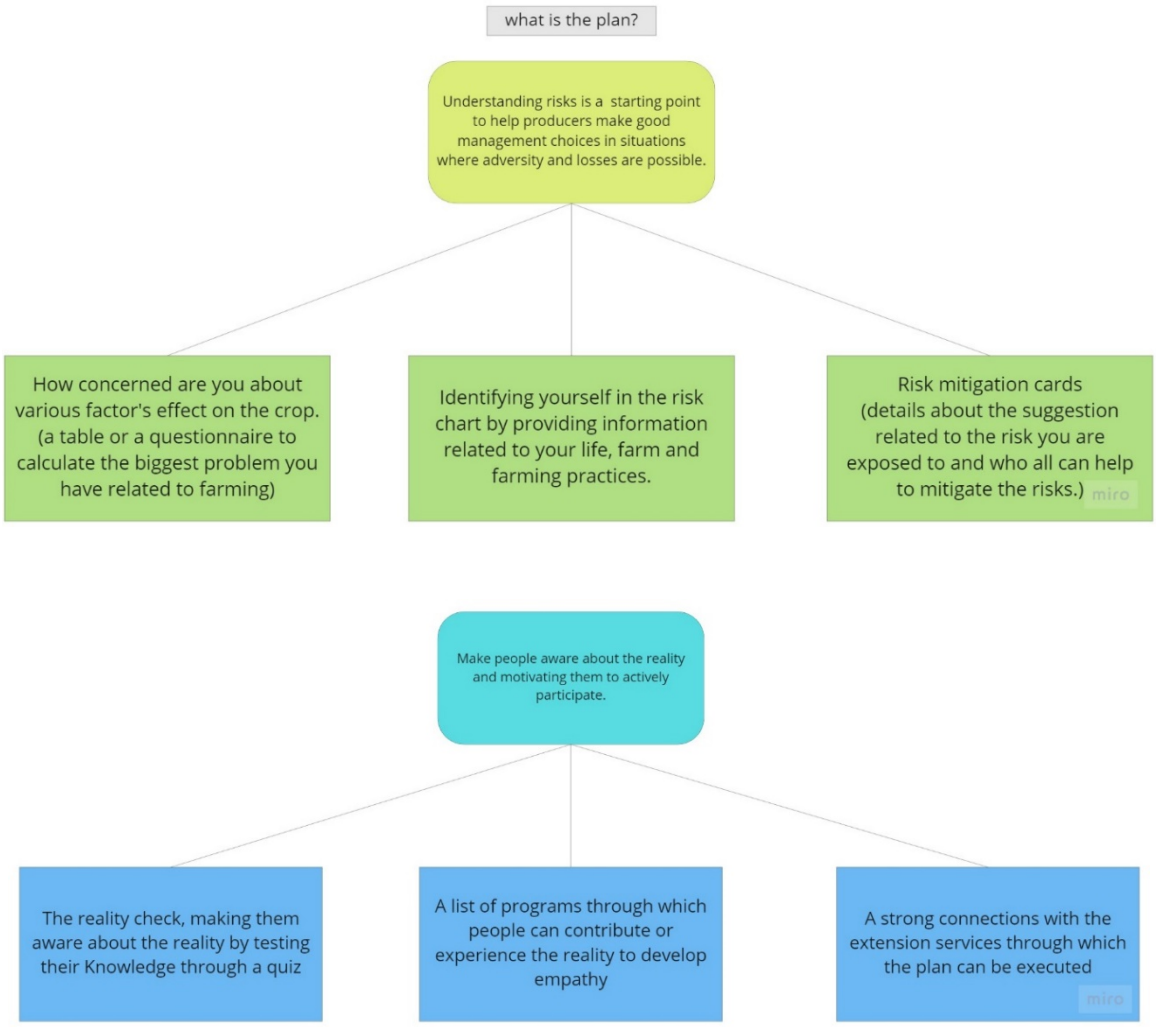

Figure 32. Plan for Idea Implementation

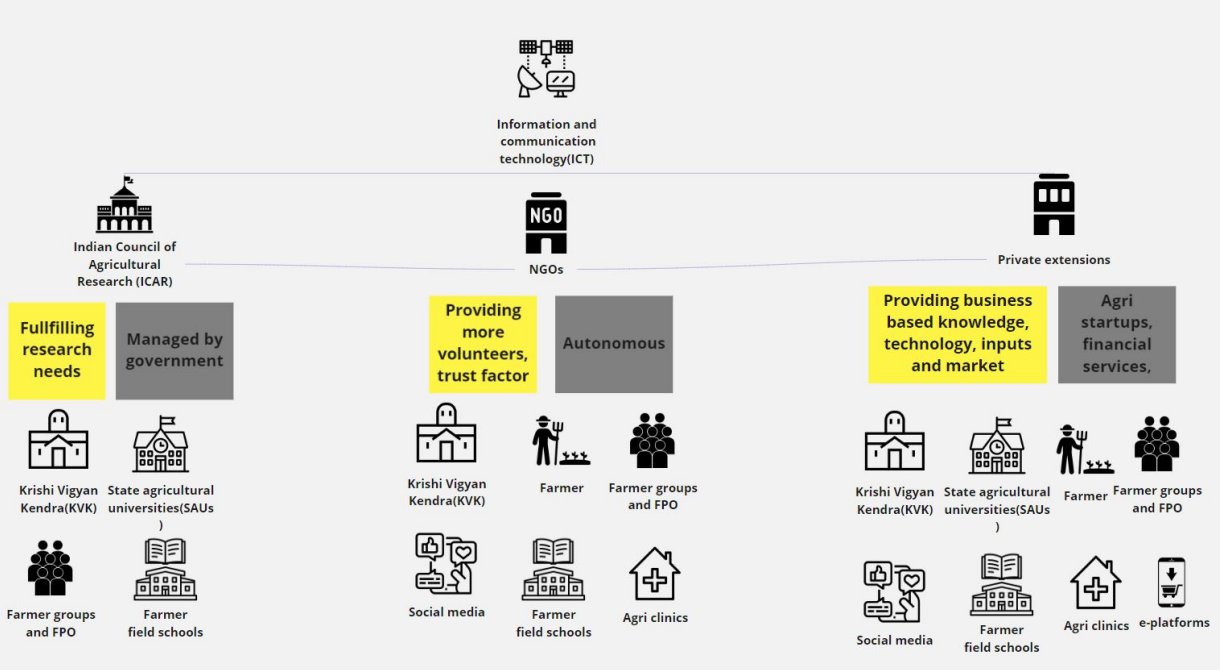

Figure 33. Layout for Implementation

Outcomes

Framework

In the ideation section, we discussed how we arrived at the urban farmer market, which is the need of the hour for holistic improvement of the farmer communities. Below given is the framework to begin organising these markets and replicate and scale models that prove to work best.

The framework is ideologically based on the below-given illustrations wherein a confluence of economy, environment and community lead to a healthy society. From the individual perspective, some of the major livelihood assets like humans, natural, physical, financial and social capitals are very essential for individual development. The farmer markets are driven by these ideas of the confluence of economy, ecology and community and hence focussing on all five of these livelihood assets that are essential for a decent life.

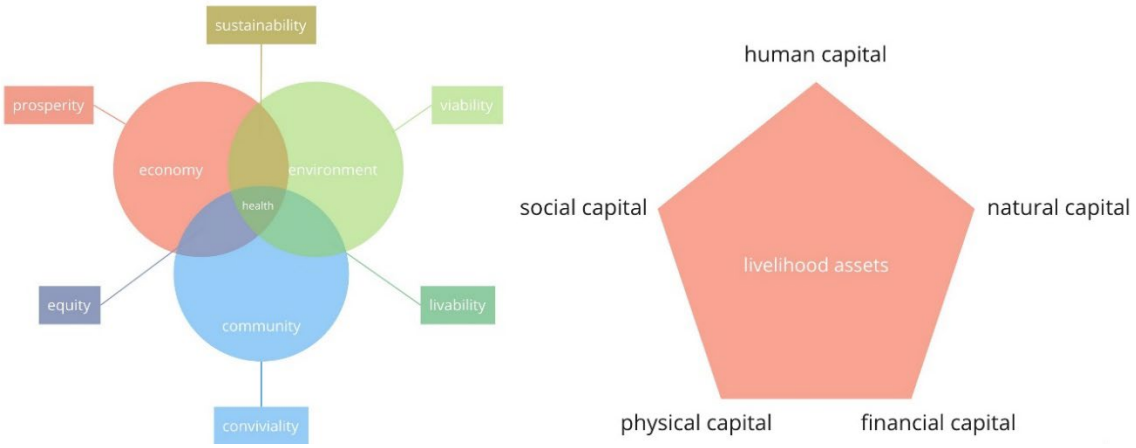

Figure 34. Value Proposition

The farmer markets use food as a commodity for the welfare of farmer communities, consumers and also the ecology through the promotion of conscious consumerism and moving from the tragedy of commons into the victory of commons.

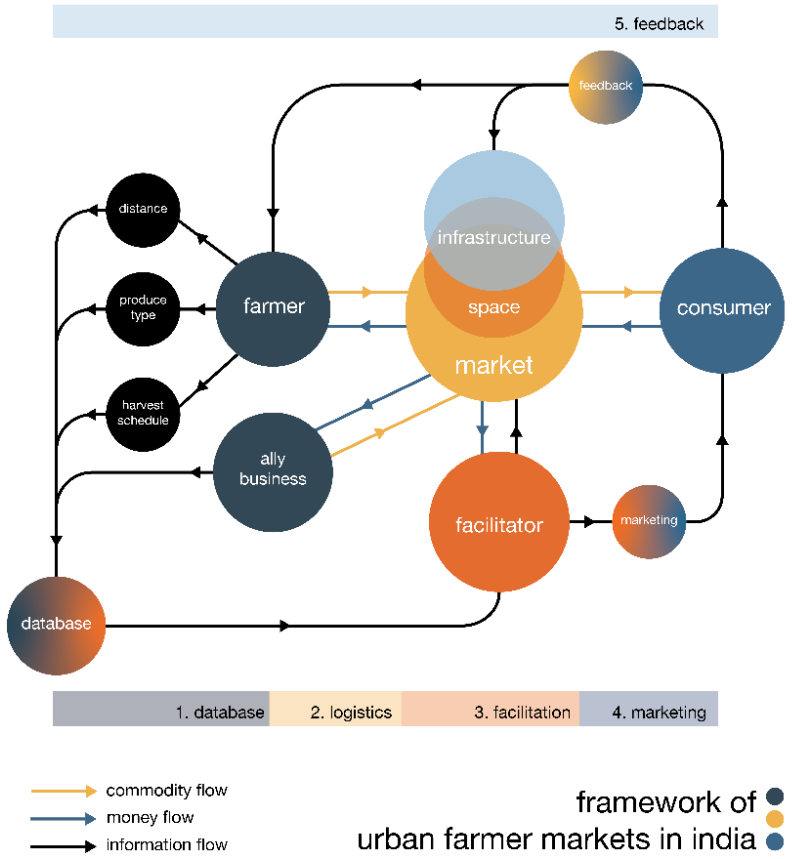

Figure 35. Framework

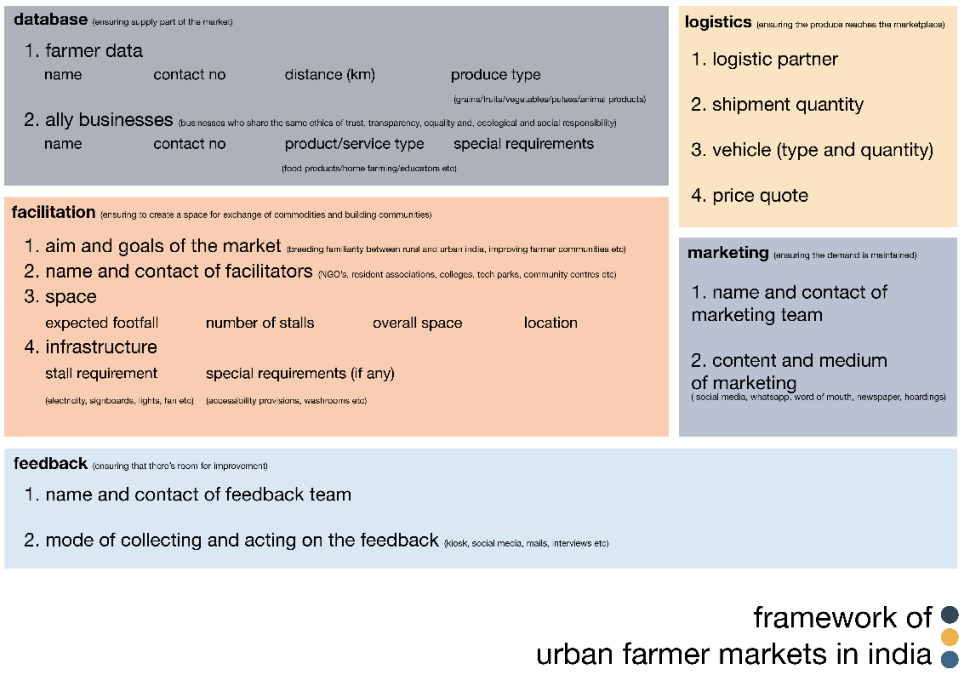

Figure 36. Guidelines for the Framework

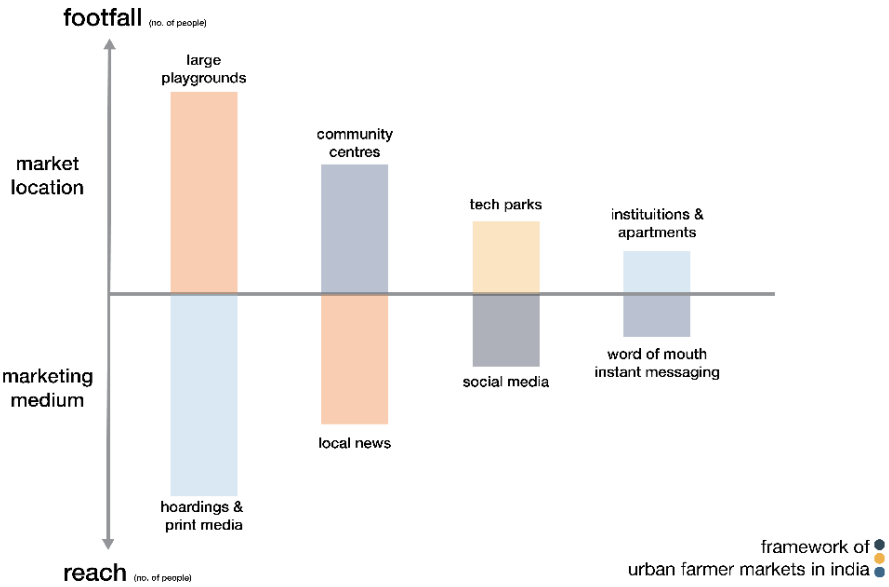

Figure 37. Footfall and Reach

Some potential ally businesses;

- Zero waste product start-ups
- Waste management companies
- Home garden product companies
- Seedbanks
- Organic food stalls

Some of the aims and goals the market can have;

- Familiarize urban folks with food producers
- Promote the welfare of small and medium farmers
- Deliver fair profits to the food producers and fresh produce to consumers
- Promote urban farming
- Promote a sustainable lifestyle and conscious consumerism
- Build communities of symbiotic benefits
- Promote citizen actions for better civil society
- Build consistent demand for fresh farm food

Some of the potential facilitators;

- NGO's
- Residence Associations
- Tech Parks & Corporates
- Schools and Colleges
- Community Associations
- Farmer Co-operatives
- Political Parties

Social Experiment

We started the Ministry of Sharing at NID, Ahmedabad with an idea to facilitate a free exchange of commodities and ideas alike. Free, as in financially and ideologically. It was a humble set up of a table which housed the commodities and board to discuss ideas.

Figure 38. Ministry of Sharing, NID Ahmedabad

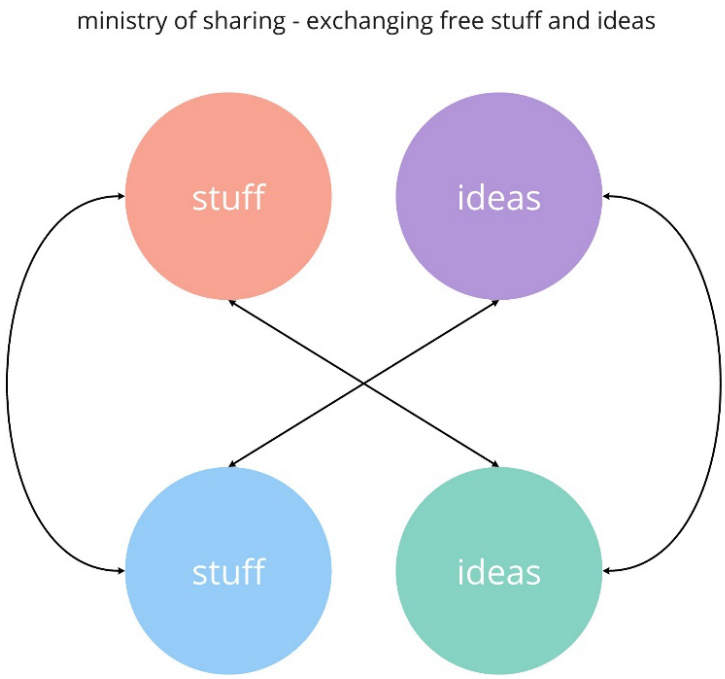

Figure 39. Framework of Social Experiment

Idea Bank

Our idea bank is a set of future design briefs that one could work on, to improve the situation of farm food market system in India. The ideas have varied implementation timelines, stakeholders, impacts, type of solution and level of involvement.

The list of ideas is as follows;

- Holistic rating system for food products based on their social and ecological impact on society and environment
- Farming in schools and homes in urban India
- A new sense of purpose for corporations
- Making conscious food consumerism cool
- Urban- Rural volunteership programme
- Telling stories from rural India through different media
- National Basic Income for all farmers
- Educating rural youth and women about better farming process and its prospects through training programs
- Business tie-ups between urban and rural farmers
- Using tactical farming for adding values to public and private spaces
- Making agriculture sector a spot for tourism
- Rural and Urban learning exchange programs
- Farmers as Teachers
- Cooperation of private and public agriculture extensions
- Interconnected network of farmers

An example of one of the future design briefs is as follows;

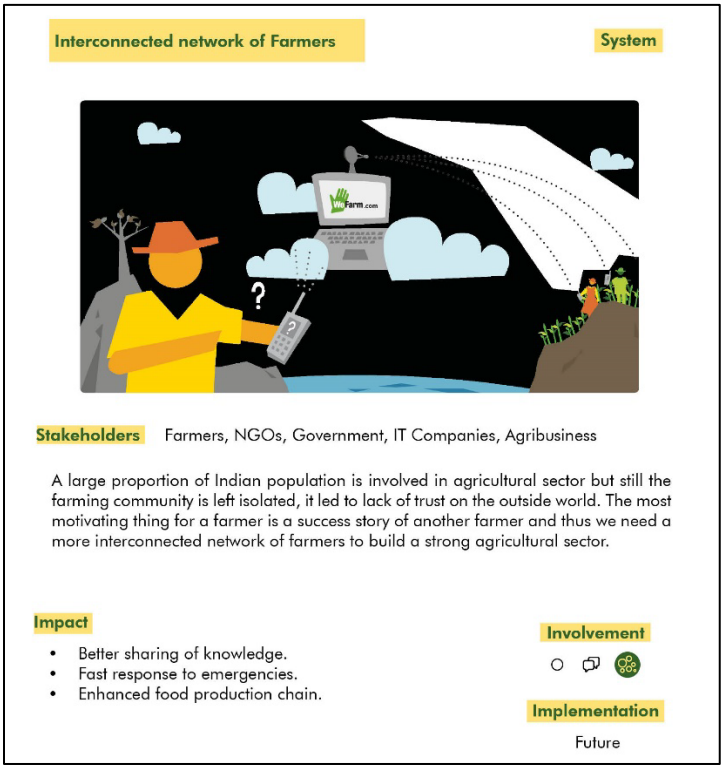

Figure 40. Example from Idea Bank

Risk Mitigation Portal

The risk mitigation portal named, "Agri-network" aims to mitigate the risks in farming and encourage people throughout the country to support farmers and develop empathy. Through the collaboration of NGOs, research institutes and agri-businesses and combining the strengths of each stakeholder the loopholes in the current agricultural sector can be filled, which will help to build a better food ecology.

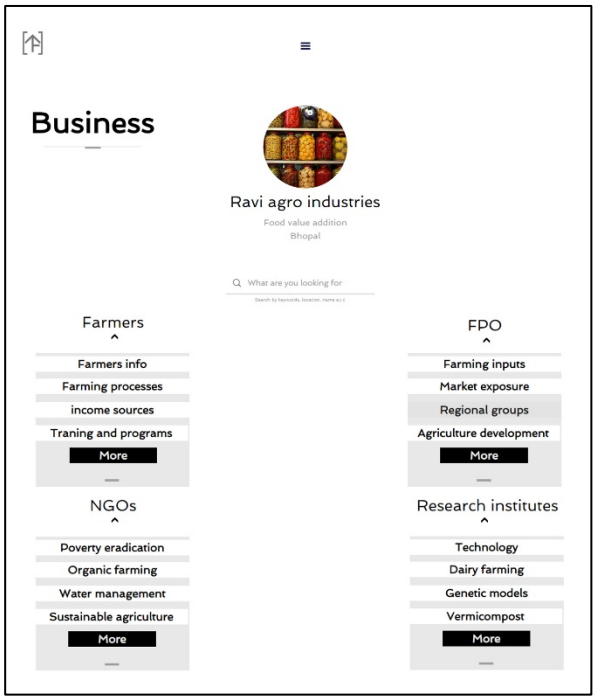

Figure 41. Portal Page- Agri-Businesses

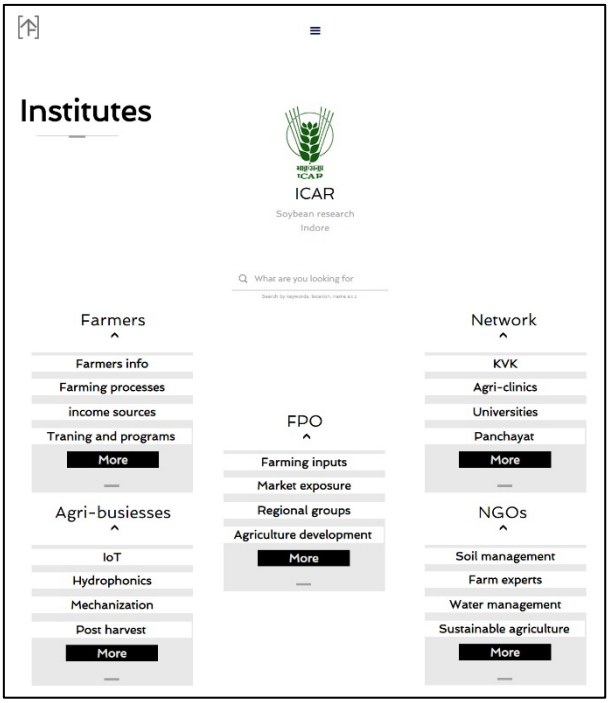

Figure 42. Portal Page- Institutes

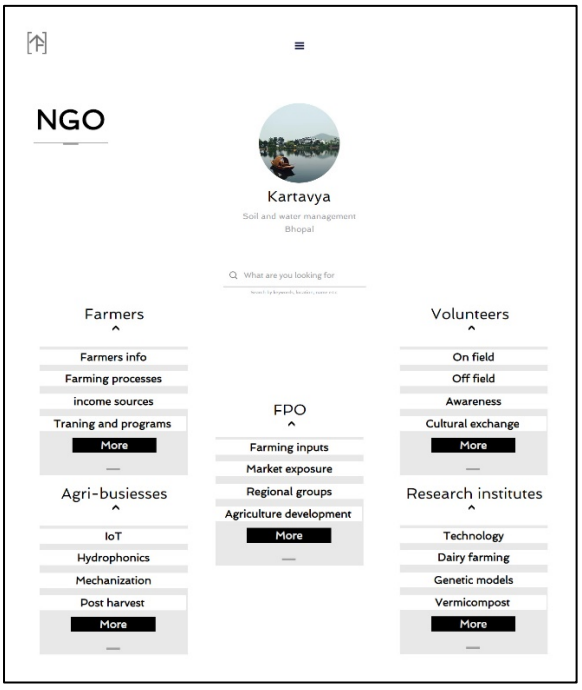

Figure 43. Portal Page- NGO's

Complexity Mapping

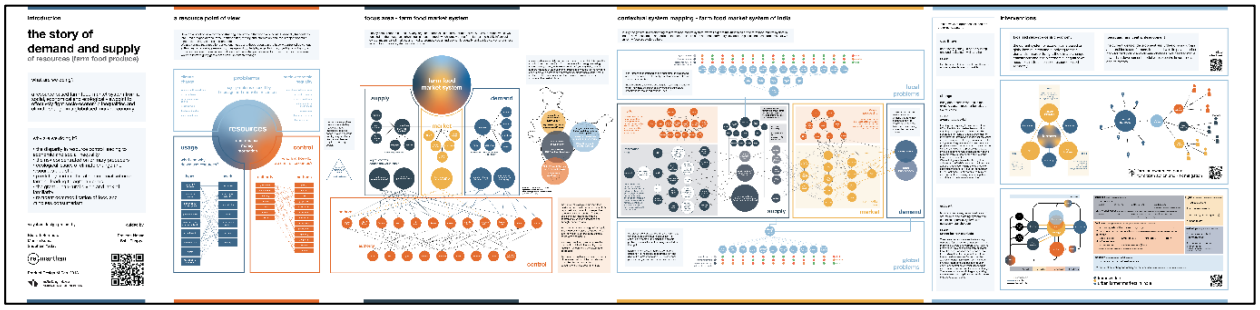

Figure 44. Gigamap

The complexity map/ gigamap is divided into five parts and the instructions to read it are as follows;

Introduction - Setting the basic premise for the project.

A resource point of view - Here we have deconstructed resources into its three main aspects, i.e., usage (what and why use it?), control (who and how do they control?) and the problems that usage and control have brought upon (climate change and socio-economic inequality).

Focus area- Farm food market system - since the realm of resources is massive we had to focus on something workable and we chose to work on the most basic physiological need (food) of human beings and chose to study the most important means of control (market) in the modern globalised world while keeping the problems associated to resources in mind.

Contextual system mapping - Essentially took the learnings from the previous section and contextualised it to the state of affairs of India.

Interventions - Three major ways we intervened the existing system to solve it was to - overthrow, change or subvert and each of which is explained in the map along with the proposed solutions.

Conclusion

In terms of outcome, we developed a perspective to look to the world of markets and their impacts. We approached to intervene in the system to either overthrow it or change it or subvert it. We came up with an idea bank of various design briefs around farm food market system in India, a framework for urban farmer markets and an interactive portal for awareness, citizen action and risk mitigation for the farmers in India.

Systems thinking provided us with perspective or point of view of a much larger scale and intricacies of interconnectedness between the different elements in the said system. Problems identified from this point of view seemed to be at the very core of the wicked problem at hand. Thus, systems thinking helped us with the decision making of prioritizing issues and acting accordingly.

The vision of ReManthan is to fight and end problems like socio-economic inequality and climate change catastrophe through better usage, awareness and control of resources which cater to the material needs of human beings, to help build community, economy and ecology.

More information regarding the project can be found at https://www.remanthan.org/

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ReManthan- The Story of Demand and Supply https://remanthan.org/

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Bharath Surendra, Manish Kumar and Shubham Yadav are post-graduate students in Product Design at National Institute of Design, Ahmedabad. This paper is an outcome of their 4th semester academic project on System Design, undertaken under the guidance of Praveen Nahar and Sahil Thappa.