

SABJI WALA-Jeevan ka Aadhar

ADITHYA.S

ANIMESH CHANDRA

Foundation programme 2019-20

National Institute of Design Madhya Pradesh

AIM

Our aim is to provide the vegetable vendors a solution for their problems faced during COVID 19 for a safer work environment, better health and economic condition.

ABSTRACT

Vegetable vendors with cart or cycle are roaming from one place to another are more prone to get infected by corona, as throughout the day they are not able to take all the precautions also this climatic changes affects their health. As they are comparatively less educated and have lower economic condition. Hence are bound to sell vegetables. Many times they are violated by policemen and have run from their places results in wastage of vegetables. But this situation can increase the spread of corona especially in zones where cases are more. Mostly they come from remote areas and if they get affected they can't control the spread also they are less open to medical facilities in their area .



PROBLEMS



DIRECT CONTACT



PLACE TO PLACE TRANSFER



UNHEALTHY AND
UNHYGIENIC CONDITIONS



WASTAGE



ECONOMICAL CONDITIONS

LITERATURE REVIEW

- **Common problems**-Insecurity, Lack of basic amenities, low income, irregular employment, No financial assistance, No support from government, NGOs etc.
- **Economic condition**-Struggling, pathetic, No permanent Customers, No fixed income source.
- **Scheme's by government**-Recently during lockdown AATMANIRBHAR YOJNA announced by CM of Gujarat to provide loans to small business men including Vegetable vendors.
- **Restrictions**-Violation by police, Local Authorities in COVID 19.Koyembedu Vegetable market largest hub in Asia was infected by corona due to crowd by vendors etc. Resulted in shutdown.
- **Wastage of vegetables**-Delayed, poor transportation, high rates, fluctuation in prices, online shopping increased the wastage of vegetables of Vendors.
- **Health and Hygiene**-Poor Health and hygiene due to unaffordability of mask, sanitizers also stressed selling and other mentioned factors.
- **Corona spread through materials**-Virus lives long on metal, plastic whereas In fabric it doesn't stay.virus is not airborne but can travel till 30mins.

USER STUDY

1. How often do you buy vegetables during lockdown?

Ans: Ones or twice a week (85%)

2. Experience with vegetable vendors during lockdown?

Ans: Good experience (79%)

3. Have you witnessed any wastage of vegetables?

Ans: No (63%), Yes (37%)

4. Precautions taken by vendors during lockdown?

Ans: Few precautions (73%)

5. Materials used to sell vegetable in?

Ans: Plastic(59%), Paper(15%), Metal(10)

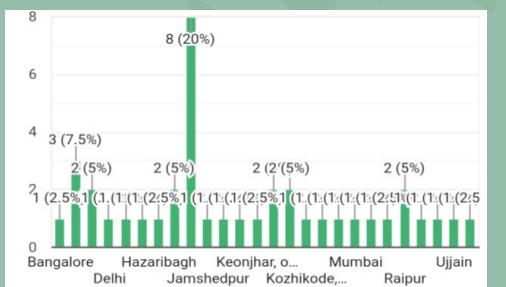
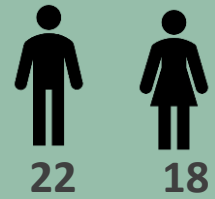
6. Have you witnessed facilities like urinals, clean water, resting place available for vegetables from vendors?

Ans: Some facilities(66%), No facilities (34%)

7. Where do vegetables vendors come from?

Ans: Nearby area (31%), Remote Area (31%)

NUMBER OF PARTICIPANTS : 40



8. Customer your opinion on vendors selling vegetable in lockdown? Should they be banned?

Ans: No, should not be banned but must follow strict rules.

9. Do you take proper precautions while buying vegetables in COVID times? What extra suggestions you would like to give the vegetable vendors?

Ans: Yes, Vendors should aware and maintains precautions.

10: During lockdown has there been any sudden change in price or availability of vegetables? Does this effect the quantity of vegetables you buy?

Ans: Slight change, Yeah quantity decreased.

11: What kind of vegetable vendors u prefer in these COVID times? What their economic condition lo

Ans: Information seller, Low economy.



THEMES AND INSIGHTS

ECONOMIC INSTABILITY ₹

- Less supply results increased prices affects both vendors and customers.
- Vegetable vendors seem to be struggling because their profit margins have decreased a lot due to COVID 19.
- Fear of wastage of vegetables makes them to sell at low prices hence loss(no profit margin).

HEALTH AND HYGIENE +

- Customers expectations to buy Vegetables from Vendors who follows precautions is healthy and hygiene and sells fresh and nutritional Vegetables.
- Customer wants trust that the Vegetables they are buying from the vendors will not increase there risk to corona.
- It is observed they Vendors don't use prevention measures like masks, gloves, sanitizers etc....
- As there is no facilities like urinals, clean water etc... vendors are not healthy and hygienic as they should be.

WASTAGE OF VEGETABLES 🗑️

- Due to COVID 19 there is a lot of leftover vegetables and since no proper means of storage vendors are left with no option to let the vegetable go waste .
- As the prices increases the people buy less Vegetable hence the Vegetable vendors are left with unsold Vegetables.

CUSTOMER INTERACTION 👤👤

- Customers must take extra precautions Must use masks, gloves, sanitizers etc...
- Must follow social distancing, Do not crowd near the vehicle.
- No touching of food item must be allowed before buying and after precautions.

Awareness program

- Appreciating work of vendors
- Awareness program through Social media.
- Highlighting problems of vegetable vendors in Covid 19 as they are background fighter.

Professional Training

- Teaching customer dealing techniques, etiquettes
- Giving info about their rights issued by government
- Teaching marketing strategy
- Training for maintaining hygiene and cleanliness in the workspace.

IDEATION

THE SYSTEM

- No middle men
- Wastage of vegetables reduced
- Better quality, hygiene
- More profits to farmers, vendors and customers
- Better transportation

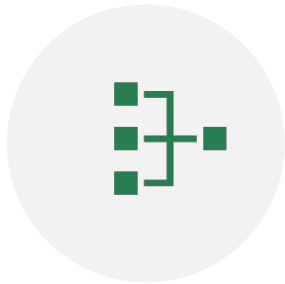
E cart

- Solar power abled
- Adjustable roof
- AI or pre recorded voice to greet people
- Buzzer to alert people when they break social distancing

Cart 2.0

- Shed for vendors
- Pre packed Vegetables
- Cooler facility for keeping Vegetable fresh
- Digital payment method
- Awareness, precautions posters
- Price list for better communication without interaction
- Making follow social distancing.

FINAL CONCEPTS



VEGETABLE SELLING MODEL

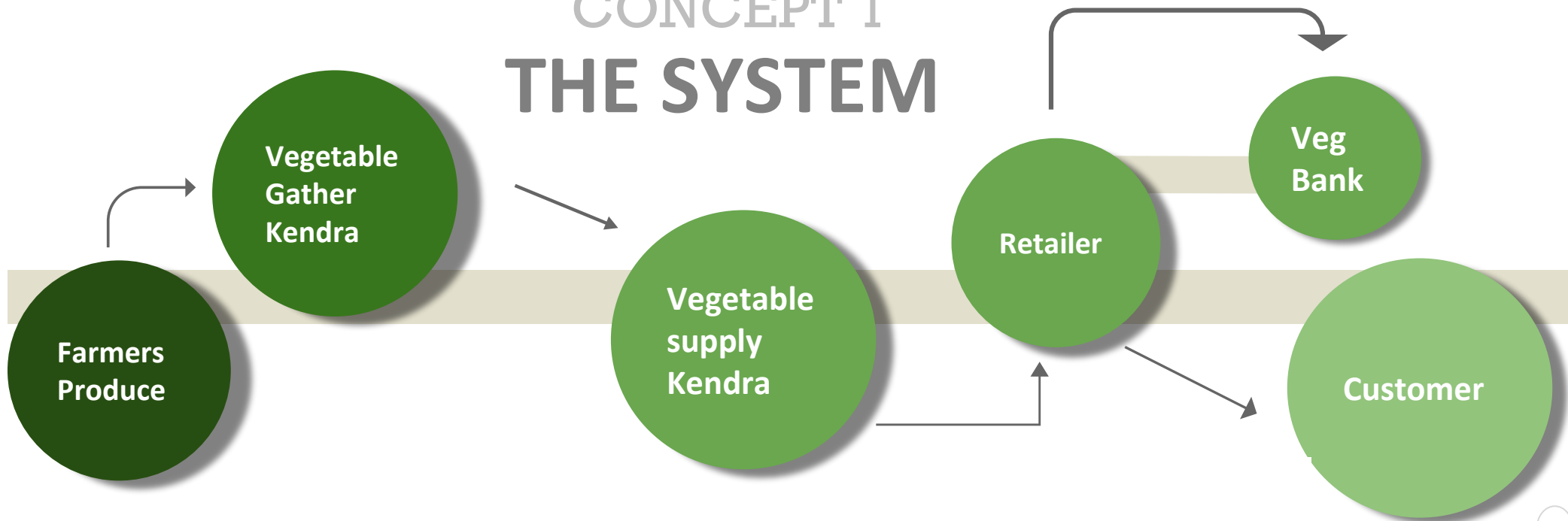
A new system that resolves the problems faced by vegetable vendors



CART 2.0

A new design for the mobile vegetable cart resolving problems of the current design

CONCEPT 1 THE SYSTEM



Organization/Institution runs the system.

VALUE PROPOSITION

Farmers

1. Increased profit %
2. Agents Commission nil
3. Easy accessibility
4. Demand and supply info

Retailers

1. Easy Vegetable purchase (mandi) ×
2. Decreased working hrs.
3. No price fluctuation
4. Increased profits %
5. Modular cart.
6. Vegetables wastage nil.

Customer

1. Genuine, hygienic, Quality
2. Fresh Vegetables.
3. less price
4. Pre pack / Delivery option.
5. Time saving.

Institution

1. 25% Overall profit
2. Agriculture sector growth
3. Employment to less educated
4. Growth of Farmer and Vendor
5. Veg Bank collects the unsold Vegetables from Vendors segregates it to fresh and rotten - fresh goes to NGOs, trust, temples and rotten ones are used to produce manures.

Stake holders

Functions of the System/Organization

Setting prices for retailers for maximum profit of buyer and sellers

Providing insurance policy to the vendors

Awareness,skills development program for vendors

Converting old carts into modular ones and selling new carts at easy EMI option

Transportation of Vegetables

Vegetable gather, distribution center installation and functioning

Providing ID cards for vendor which prevents them from violation by external source

Vegetable bank maintainace like selling good Vegetables to NGOs etc.And rotten Vegetables used to make manures.

CART 2.0

OLD DESIGN

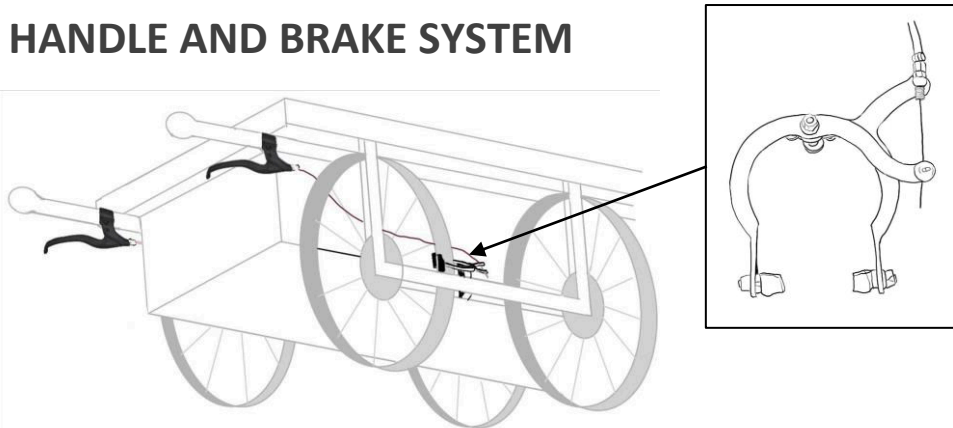
- Has entry point from all four sides
- Difficult to maintain social distancing
- No means of awareness for customers
- No means of payment without contact
- Difficult in times of rain and heat
- Difficult to control in different terrains
- No means of storage facility for vegetables

NEW DESIGN

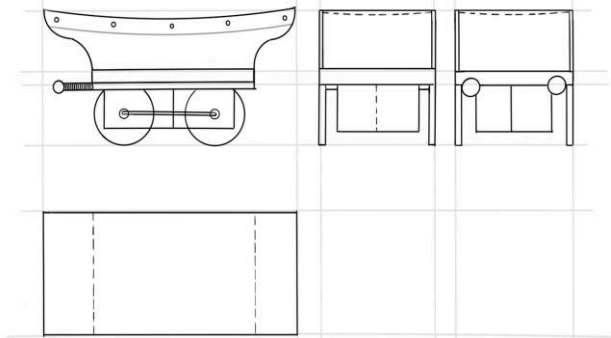
- Takes a modular approach so there is no need to buy a new cart. Instead old cart can be upgraded
- Restricted entry from opposite sides only ensuring social distancing
- Health and hygiene awareness posters
- Digital payment methods
- Side and top cover for protection against heat and wind
- Brake system for difficult terrains
- Mitticool fridge facility for keeping vegetables fresh

PARTS

HANDLE AND BRAKE SYSTEM



- Better ergonomic handle design for increased grip and control
- Best positioning of brake handles for fast and easy usage
- Brake system for increased control in difficult terrains
- Simple and efficient brake system.



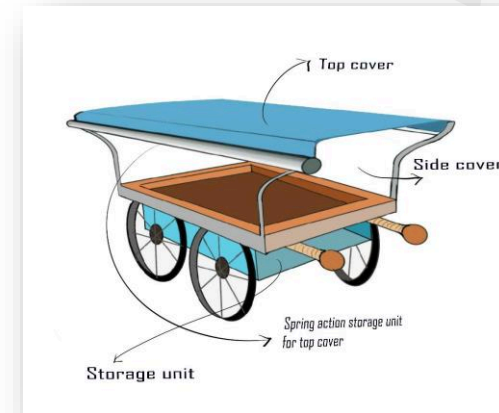
BASIC DESIGN

- Slight curve for top cover and 1 inch height difference on sides for rainwater flow .
- Handle design for better grip and stability.
- Curvy design for side panels.



SIDE PROFILES

- Awareness posters
- Digital payment QR code
- COVID 19 precaution list
- Price list
- Storage unit for top cover



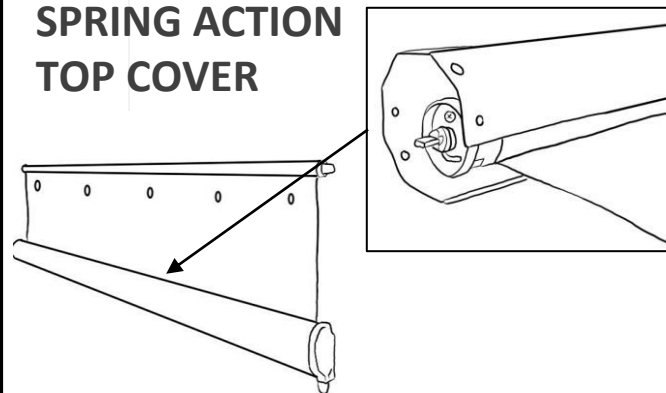
TOP, SIDE COVER AND STORAGE

- Top with waterproof and durable plastic sheet
- Spring action storage unit for the top cover
- Side panel made of solid transparent PVC sheet
- Storage unit for housing fridge
- Steel frame around side panel for extra support

MITTICOOLER

- No need for energy
- Can keep vegetables fresh for about a week
- Made from a special mixture of terracotta
- Less expensive
- Can be used to store pre packed vegetables
- Kept inside the storage compartment

SPRING ACTION TOP COVER



- Spring mechanism for easy covering and retraction
- Make sure water do not flow through side panel
- Easy to use

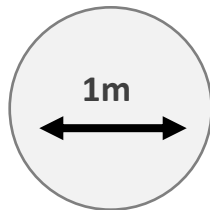
CUSTOMER INTERACTION



- Distance between vendor and customer is more than 1 metre.
- Ensuring social distancing
- Awareness ensuring usage of gloves and masks
- No contact payment method
- Due to Single entry point no issue of people crowding around the cart
- Availability of sanitiser.
- Pre packed fresh vegetables can be bought
- Usage of cloth or washable bags by customer
- Customer ensure that vendor is using gloves masks and does not lack hygiene



NO CONTACT



SOCIAL DISTANCING



DIGITAL PAYMENT

CART FINAL DESIGN

FINAL APPLIED CONCEPTS

- SPRING ACTION TOP COVER
- TRANSPARENT SIDE COVER
- AWARENESS POSTERS
- PRICE LIST
- STORAGE UNIT
- DIGITAL PAYMENT (QR CODE)
- MITTICOOLER (FRIDGE)
- NEW HANDLE DESIGN
- BRAKE SYSTEM



The design process is carried till Ideation due to covid-19 hence prototyping and testing will be done further.