



VISION AGRITECH

PROBLEM STATEMENT

Scarcity of Farm Labourers & Inefficiencies in Farm Mechanisation

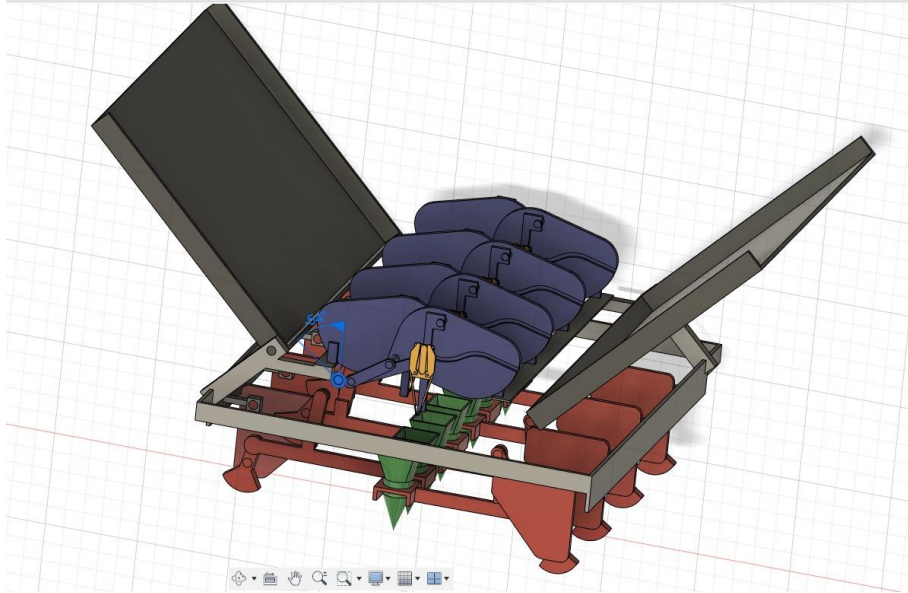


- Onion Farmers faces the problem of **labour shortage** during the peak phase of onion transplantation(**Nov-Dec**).
- Farm Labourers are migrating to nearby cities for better job opportunities.
- Latest Farm Mechanisation Technologies (Semi-Automatic transplanter) available are expensive to afford for small & marginal farmers.
- The available labourers are hired at a high price thus increasing the production cost and also delays the work in some cases.



SOLUTION

Use of Automatic Onion Transplanter on a Rental Basis



- Inhouse built Automatic transplanter enables farmers to **automate** labor-intensive process of onion transplantation.
- Providing transplantation services on the rental(**Product-as-a-Service**) basis enables the small& marginal farmers to access the latest machineries at a **affordable rates**.
- Highly efficient onion transplanter(2 Acres/day) reduces the transplantation time thus lowering the cost of production.

MARKET ANALYSIS

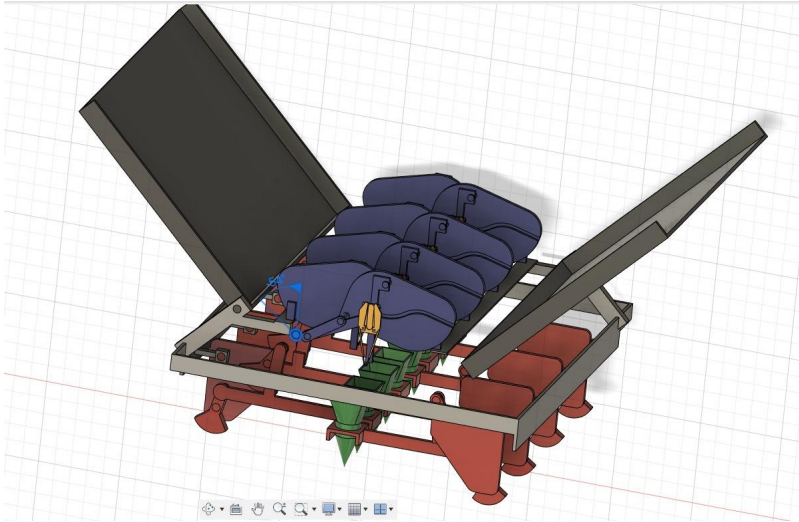
- India is the second largest producer of onion with an area of **13.1 Lakh Hectares** and production of **217.18 Lakh Metric Tons**.
- **Maharashtra** is the largest producer of onion with about **5.01 Lakh Hectares** area and **67.7 Lakh Metric Tons**.
- **Maharashtra, Madhya Pradesh, Karnataka, Rajasthan and Gujrat** are the major onion producing states.

Seasons

Seasons	Sowing Period	Transplanting Period	Harvesting Period	Production Share
Kharif	May-June	July-Aug	Oct-Nov	20%
Late Kharif	July-Aug	Sep-Oct	Nov-Dec	20%
Rabi	Oct-Nov	Nov-Dec*	March-Apr*	60%

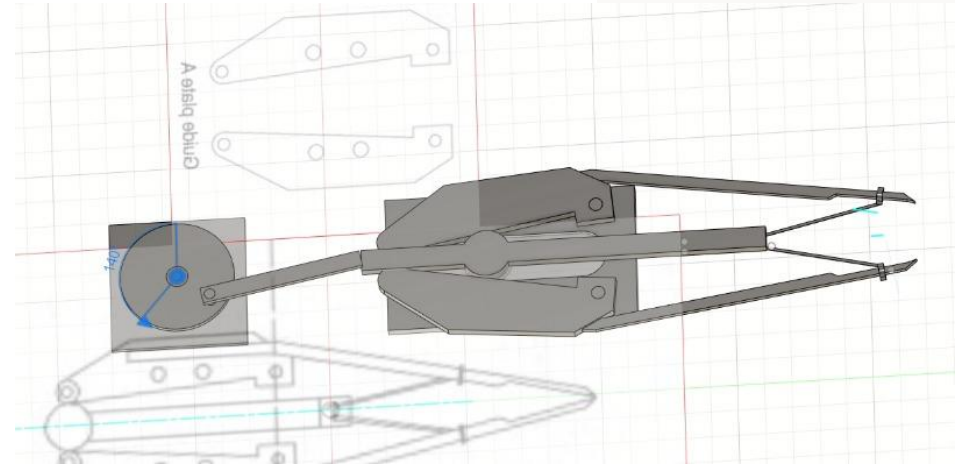
MVP Minimum Viable Product

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CAD Model

Above Model will be fabricated
Under SEP(Student
Entrepreneurship Project) in IIT
Kanpur.



Sample Pickup Mechanism

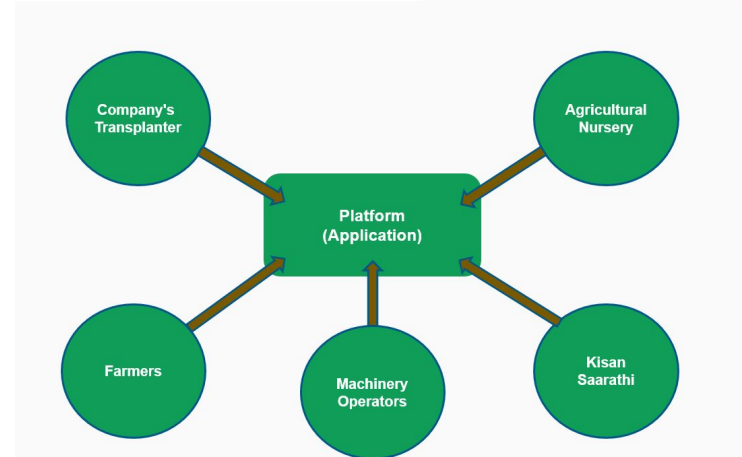
Working CAD Model:

<https://drive.google.com/file/d/1j385yTegs-BRoCjlnBU5aTyWq7e4FjdZ/view?usp=sharing>

BUSINESS MODEL Product-as-a-Service(PaaS)

Why PaaS?

- Due to **lack of education** and **limited income**, farmers are not ready to adapt the latest technology.
- After adaptation, there is **saturation** in the usage of the technology.(e.g In case of tractors, chemical fertilizers).
- So, by renting our product, the latest technology gets available at **lesser cost** and will also help to reduce the saturation in the usage.



TAM, SAM, SOM

TAM(Total Addressable Market)

(India Onion Cultivation Area)*(Price per unit Hectares) =
 $1315240 * 30900 = \text{Rs } 4064 \text{ Cr.}$

SAM(Serviceable Addressable Market)

(Maharashtra Onion Cultivation Area)*(Price per unit Hectares) =
 $501760 * 30900 = \text{Rs } 1550.4 \text{ Cr}$

SOM(Serviceable Obtainable Market)

(Nasik Onion Cultivation Area)*(Price per unit Hectares) =
 $131524 * 30900 = \text{Rs } 406.4 \text{ Cr.}$



FINANCIAL VIABILITY

	Year 1	Year 2	Year 3	Year 4	Year 5
1. Fixed Cost					
a. Depreciation	266000	266000	266000	266000	266000
b. Interest	480480	480480	480480	480480	480480
c. Insurance, Taxes	63000	63000	63000	63000	63000
Net Fixed Cost	809480	809480	809480	809480	809480
2. Variable Cost					
a. Fuel	240000	262080	285120	309120	334080
b. Oil	27000	29952	33048	36288	39672
c. Labour Cost	78000	78000	87000	87000	96000
d. Maintenance	52266.67	71733.33	130000	67733.33	108933.3333
Net Variable Cost	397266.7	441765.3	535168	500141.3	578685.3333
Total Cost	1206747	1251245	1344648	1309621	1388165.333

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Key Parameters for Calculation

Price of Tractor: Rs 8 Lakh

Price of Transplanter: Rs 10 Lakhs

Total Working Days: 120(8hrs of work/day)

Land Transplanted per day: 2 Acres

Revenue Generated per Acre: Rs 12500

Using the above parameters the **Breakeven point** is around **95 Acres of Transplantation**

Excel Link:

https://docs.google.com/spreadsheets/d/1lq_HM1BeSP9gDfUPI77cyoF6cgVgUZUw/edit?usp=sharing&ouid=107249845760175818305&rtpof=true&sd=true

COMPETITIVE ANALYSIS

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	Traditional Method	SP Agro Innovations	Kubota's OPK-4	Vision AgriTech
Mode of Operation	Manual Transplantation	Semi Automatic	Walk Behind Type Machine	Tractor Attached Machine
Price of Machine	-----	Rs 6 Lakhs	Rs 19 Lkajs	Rs 10 Lakhs
Area Transplanted/Day	0.5 Acres	1 Acres	2 Acres	2 Acres
Workers Required	10-12	6-7	2	2-3