



SOFTWARE AND APPLICATION INNOVATION

# **AGRICULTURAL PRODUCTIVITY IN ETHIOPIA**

# Our team



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01

# **INTRODUCTION OF CHALLENGES**

# Target



ETHIOPIA





**Lack of modern equipment**

**Lack of modern agricultural knowledge**



1

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**Supply chain market**



3

## General Challenges

7



**Pest and disease outbreaks**

6



**Political instabilities.**

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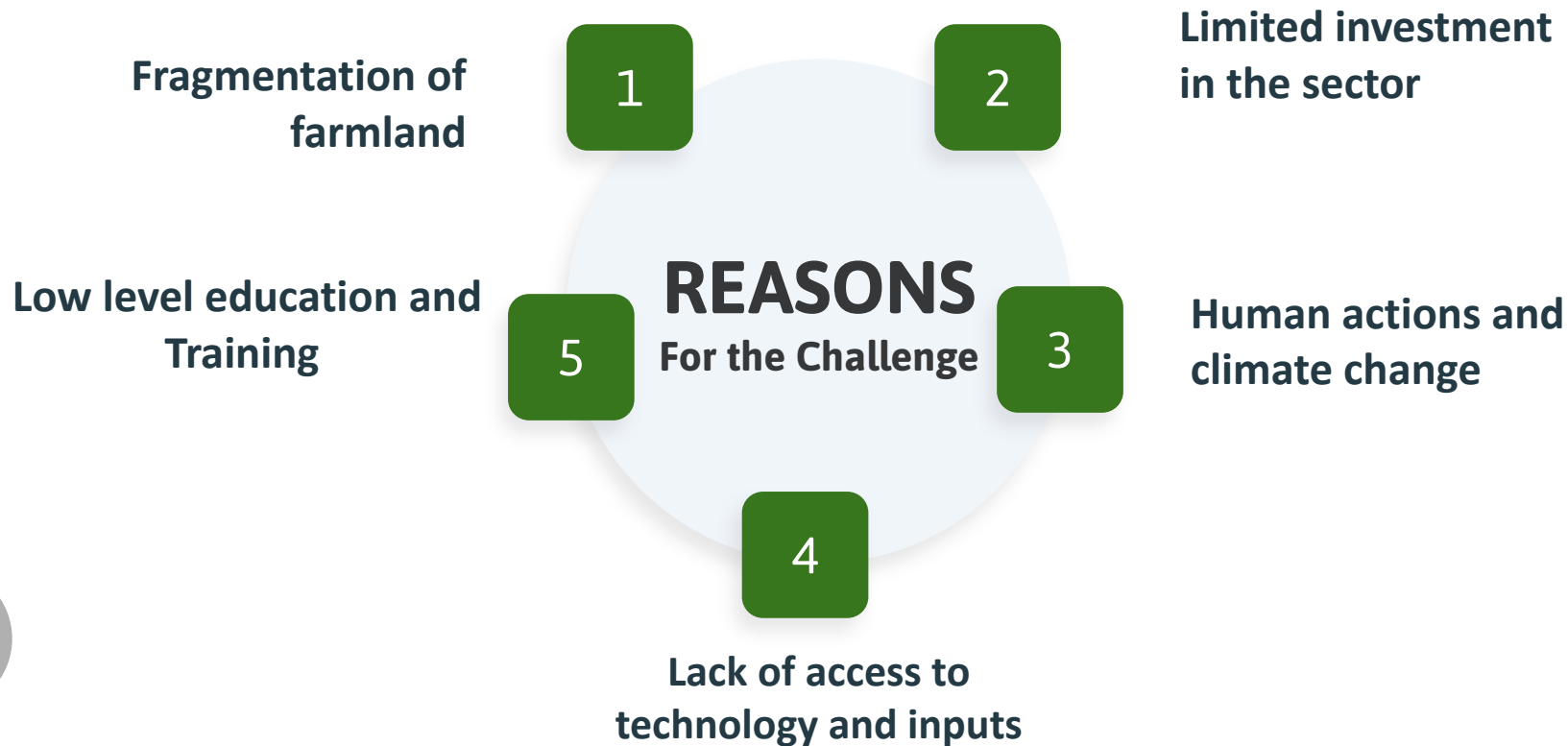
**Shortage of farmland**



5

**Land degradation or soil erosion**





02

# MARKET ANALYSIS





# Stakeholder analysis

Name of the stakeholders	Impact	What is important to the stakeholder?	How could the stakeholder contribute to the project?	Strategy for engaging the stakeholder
Farmer	High	High productivity Easy access to market and modern tools	Agree for learning and using the more effective technology	Training and education programs tailored to their needs and preferences
Private sector - Agriculture Trading Finance Group	Medium	Support business growth, access to stable supply chains market	Financing, technology and equipment provision, and partnerships with the public sector and civil society organizations.	Showing them value from investing in sustainable farming
Government	High	Food security and economic development	Give better incentive for private sector funding, when they help the project  Advocate for policies and regulations that support sustainable agriculture practices	Partnership on infrastructure development initiatives.
Local and National Media	Low	Good recognition and Income	Advertisement Raise awareness	Encourage them to report on sustainable agricultural practices and benefits

# Competitor Analysis

Strong government backing and support

Extensive network of field agents and partnerships

**Strength**

**Weakness**

Limited focus on sustainability

Heavy reliance on donor funding

**Works to increase productivity and profitability of smallholder farmers by providing access to improved technologies, inputs, and markets.**



Established partnerships with government and non-governmental organizations

Wide range of services to support farmers

**Strength**

**Weakness**

Limited reach and scale of operations

Lack of effective marketing and outreach

**Provides a range of agricultural services including training, irrigation, and access to credit for smallholder farmers.**



# Competitor Analysis

Strong focus on environmental sustainability and conservation

High-quality and locally adapted seed varieties

Limited reach and scale of operations

Limited access to modern technologies and inputs

**Strength**

**Weakness**

**Provides organic and sustainable seed varieties to smallholder farmers, as well as training and support for sustainable farming practices.**



Organic and sustainable farming practices

Strong relationships with local farmers and suppliers

Higher prices compared to conventionally produced foods

Limited access to financing and investment

**Strength**

**Weakness**

**Greenpath Food is a worldwide food supplier of the highest quality organic, regeneratively-grown produce from small-scale East African Farms**





03








# **Solution Description**

# AgriAssist

*Connecting Ethiopian Farmers to a Sustainable Future*

Empowering Farmers, Enriching Agriculture with AggriAssist!

# Solution Description

	Tech	Features
 <b>Harvest recommendation and training</b>	Mobile Application  	Harvest Forecasting (Problem 2) Recommendation on Seed types (Problem 2) Articles on farming tips (Problem 2) Materials for Sustainable Farming Instruction (Problem 2,5)
 <b>Pest and disease control</b>		Disease detection (Problem 7) Sell pesticides and fertilizers (Problem 2,5,7)
 <b>Investment</b>		Modern Farming Instruments Renting (Problem 1) Transportation & Vehicle Renting (Problem 1)
 <b>Employment</b>		Translator (Problem 2) Educating farmer to use application (Problem 2)
 <b>Supply chain market</b>		E-marketplace (Problem 3)

# SDGs and the domain fundamentals



## No-Poverty

Increase production



## Zero-Hunger

Better food for everyone



## Good Health and Well-Being

Good well-being for farmers



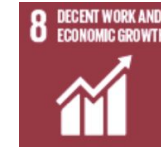
## Industry, Innovation and Infrastructure

New technology and agricultural education



## Gender Equality

Same chances for everyone in agriculture field



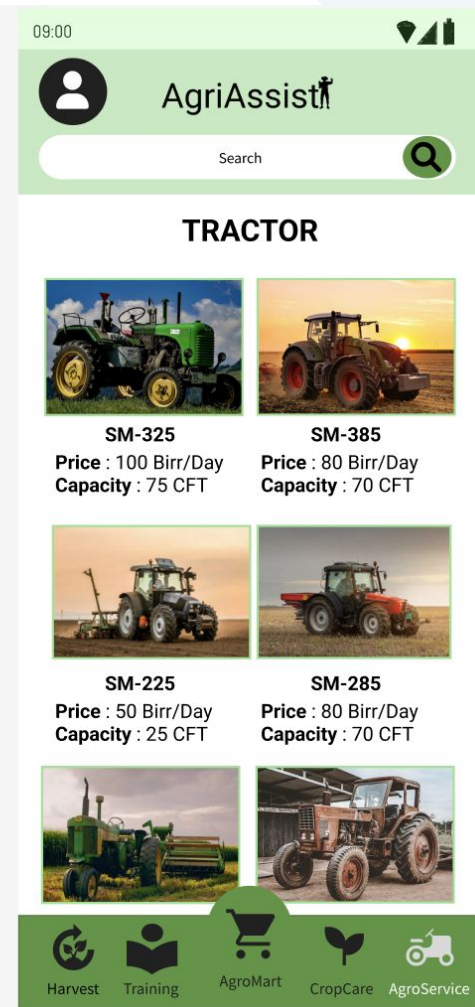
## Decent Work and Economic Growth

Opening new market and work opportunity

?

Implications of the lack of modern equipment on productivity and efficiency in agriculture?

How can modern equipment improve the quality and quantity of agricultural products in Ethiopia?



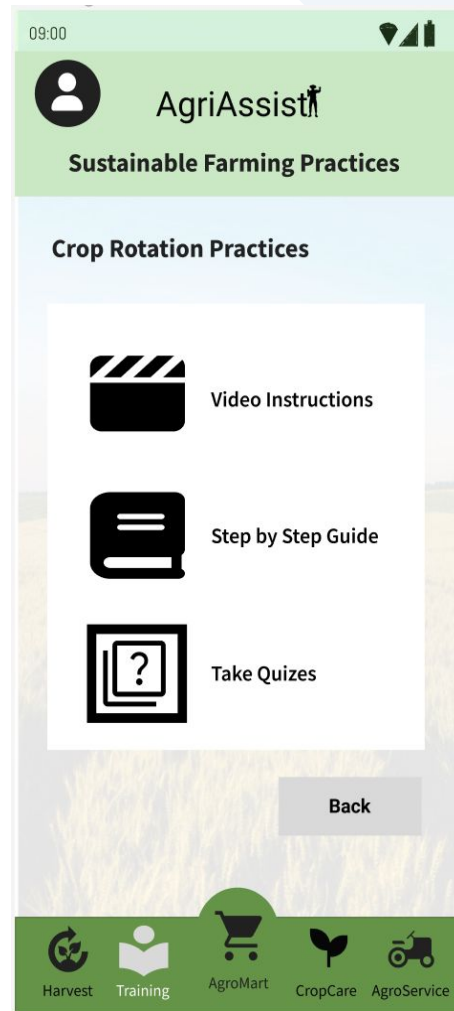
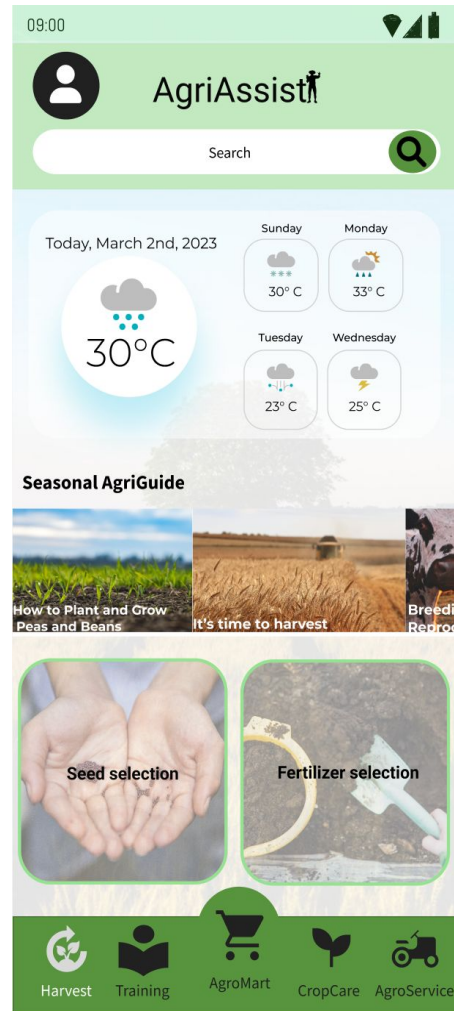


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How do low literacy rates affect farmer to adapt modern agricultural practices?

What are the implications of low literacy rates on the adoption of new technologies in Ethiopian agriculture?

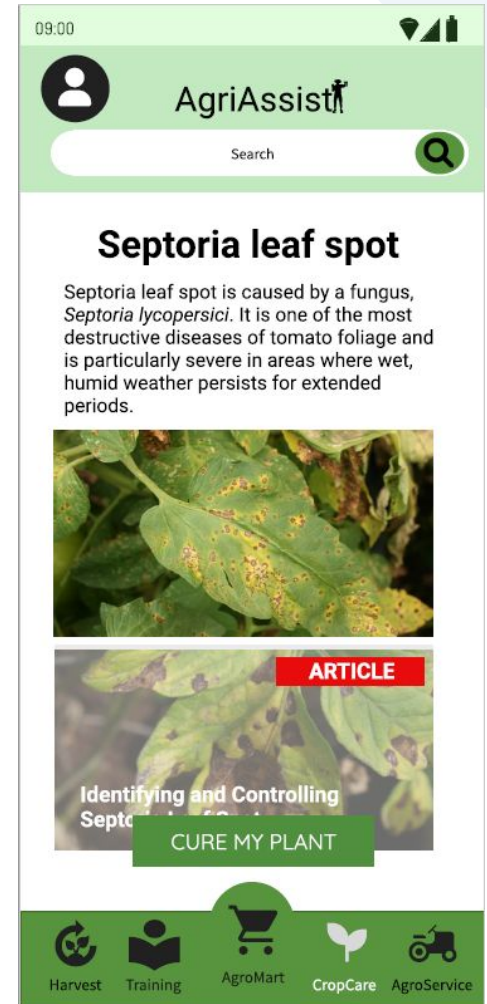
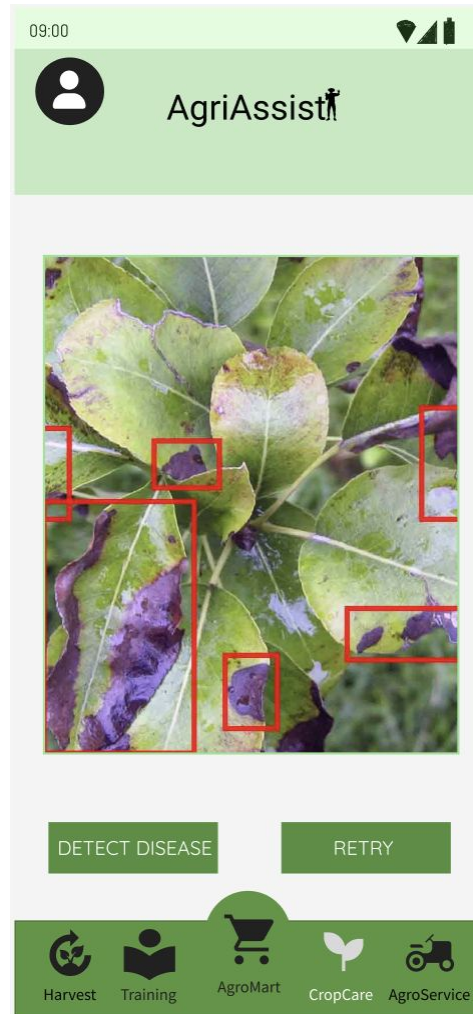
How can literacy rates be improved to support the growth and development of the agricultural sector in Ethiopia?





What are the most common pests and diseases affecting crops in Ethiopia, and how do they impact the agricultural sector?

What measures can be taken to prevent and control pest and disease outbreaks in Ethiopian agriculture?





What are the challenges faced by farmers in accessing markets and selling their products in Ethiopia?

How can the supply chain market be improved to support the growth and development of the agricultural sector in Ethiopia?

09:00

AgriAssist

Agromart

Upload Image

Enter Product name

Enter Product price

Enter Product description

Submit Product

Harvest

Training

AgroMart

CropCare

AgroService

09:00

AgriAssist

Agromart

Carrot

Fresh vegetable

~~ETB.70000~~ / **ETB.60000**

Available

Wheat

Organically grown and fresh

~~ETB.75000~~ / **ETB.70000**

Available

Coffee

Sweet and fruity flavour

~~ETB.30000~~ / **ETB.25000**

Sold

+

Harvest

Training

AgroMart

CropCare

AgroService

05

# Impact Analysis



## **Economic**

Supply chain  
management

## **Environmental**

Enhancing the lifespan  
of plants and preserving  
the lands material

## **Social**

Employment and  
training and easier  
access for farmers

## **Technical**

Equipments investment,  
forecasting and disease  
control

Wise placement of irrigation, will decrease land erosion

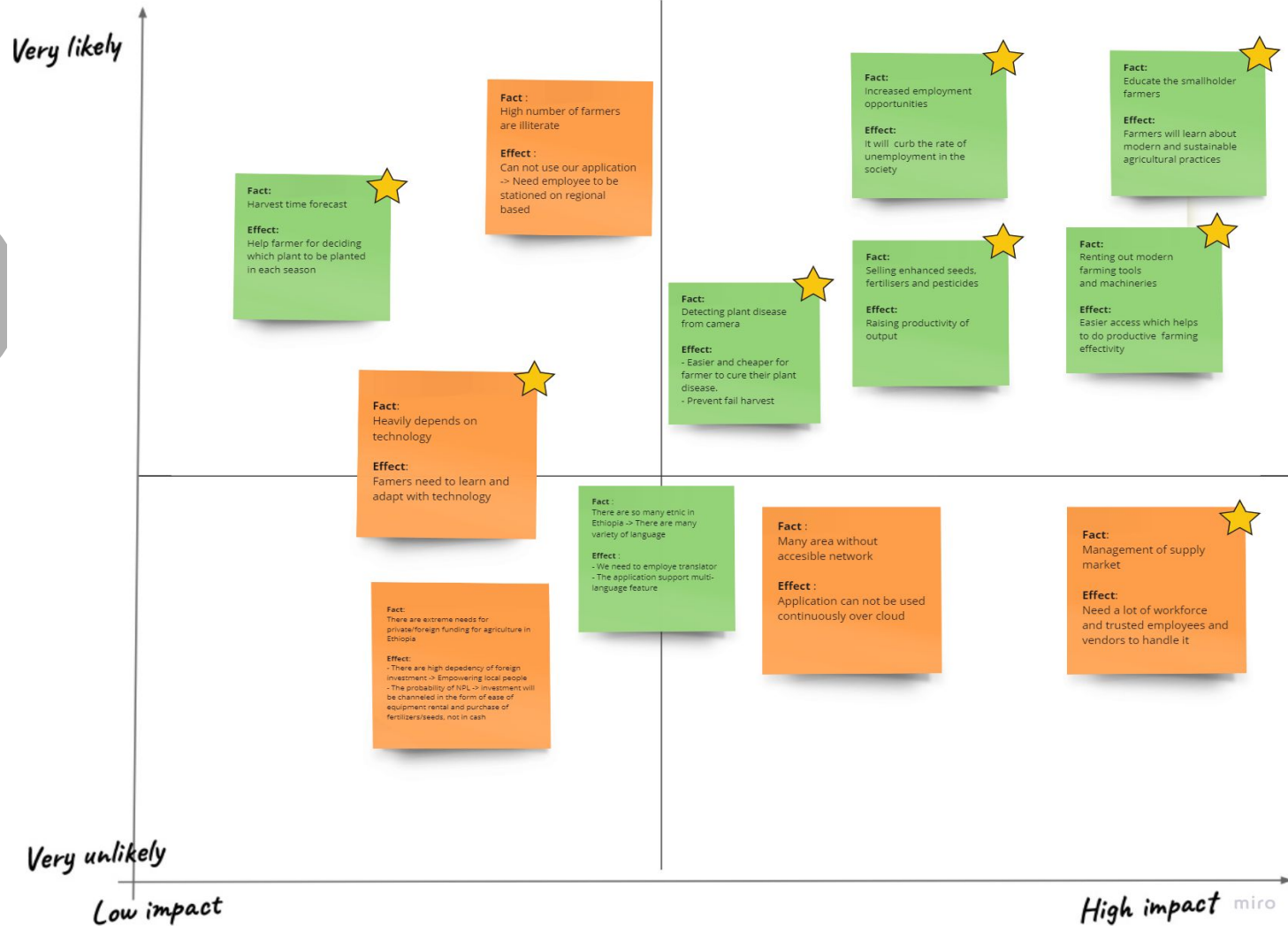
Increase income of smallholder farmers by increasing crop yields leading to overall economic development.

The increase of agricultural output will decrease the price of food, thus ensuring food security and nutrition for all.

Employment opportunities for literate people through our application.

Technology will decrease the load of menial work, which will open the same job scope for males and females.

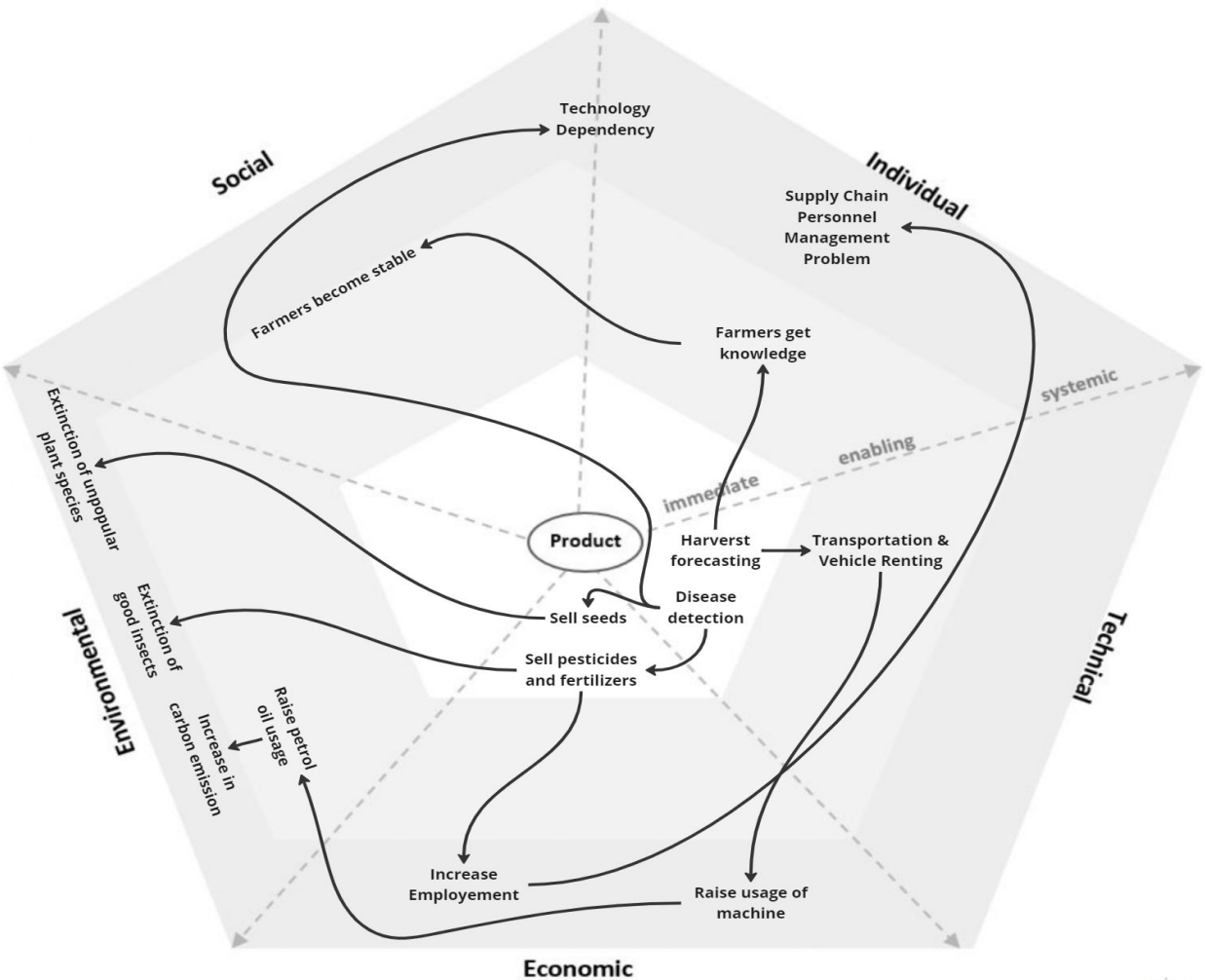
# SusAF Framework Analysis Brainstorming





# SusAF Framework Analysis

## Potential Effects







06

# Business Canvas

## THE BUSINESS MODEL CANVAS

### KEY PARTNERS

- Farmer
- Government
- Private sector: Agriculture Trading Group
- Young Volunteer
- Financial institutions
- Local and National Media

### KEY ACTIVITIES

- Harvest recommendation and training
- Sell pesticides & fertiliser
- Renting agricultural tools
- Running supply chain market

### KEY RESOURCES

What Key resources do our value propositions require?

- Branding
- Employees
- Investors
- Vendors
- Farmers
- Government

### VALUE PROPOSITIONS

- Variety of features, including harvest recommendations.
- Free training.
- Modern agricultural tool renting.
- Marketplace for farmers to sell their products.
- Automatic plant disease detection, and recommendation to cure it.

# Business Canvas

## Customer Segments



Farmers, Agri business holder, Unemployed people

## Channels



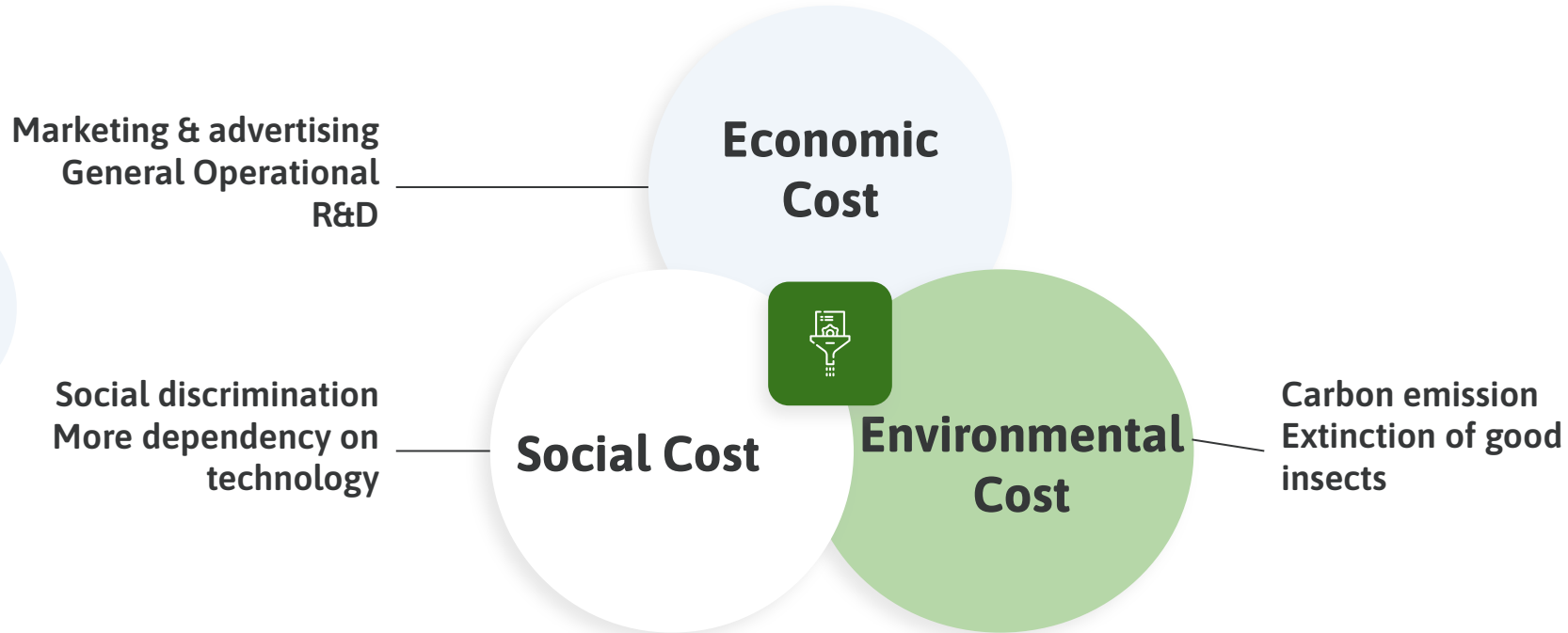
Offline Advertising, TV & Radio Advertisement, Seminar at the village hall.

## Customer relationships



- On demand support
- Long-term collaboration with vendors
- Free training
- Discounts on renting tools

## Cost structure



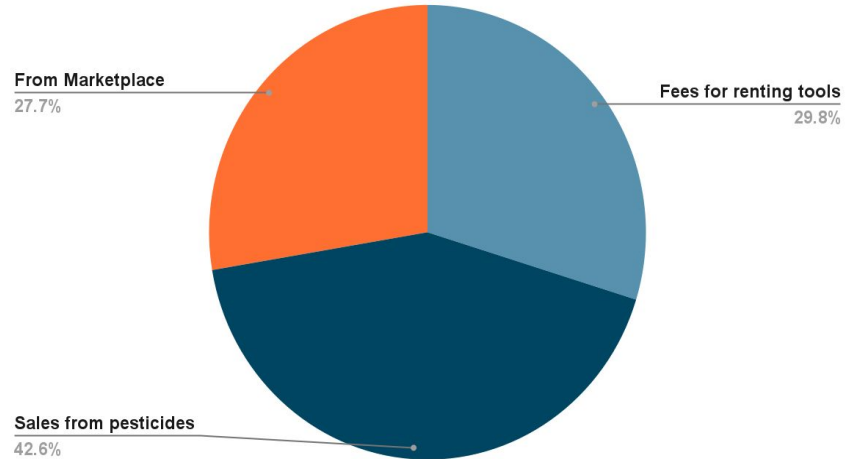
## SOCIAL BENEFITS

- ❑ New employment opportunities.
- ❑ Trained farmer.
- ❑ Same job opportunity for male and female.
- ❑ Decreasing hunger.

## ENVIRONMENTAL BENEFITS

- ❑ Positive impact on the environment from promoting sustainable farming practices.
- ❑ Reducing chemical usage in farming.
- ❑ Plants more durable to the disease.
- ❑ Preserving land solidness.

## Revenue Streams



# Kiitos!

Does anyone have any questions?



*QR code to Prototype*



# References

- [https://www.theglobaleconomy.com/Ethiopia/Employment\\_in\\_agriculture/](https://www.theglobaleconomy.com/Ethiopia/Employment_in_agriculture/)
- <https://data.worldbank.org/?locations=ET>
- <https://www.usaid.gov/ethiopia/agriculture-and-food-security>
- [https://europa.eu/capacity4dev/project\\_psnp\\_ethiopia](https://europa.eu/capacity4dev/project_psnp_ethiopia)
- International Monetary Fund. (2017). The Federal Democratic Republic of Ethiopia: Selected Issues. In <https://www.imf.org/> (9781484388662/1934-7685). Retrieved February 16, 2023, from <https://www.imf.org/en/Publications/CR/Issues/2018/12/04/The-Federal-Democratic-Republic-of-Ethiopia-Selected-Issues-46435>
- Matouš, P., Y. Todo, et al. (2013). "Roles of extension and ethno-religious networks in acceptance of resource-conserving agriculture among Ethiopian farmers." International Journal of Agricultural Sustainability 11(4): 301-316.