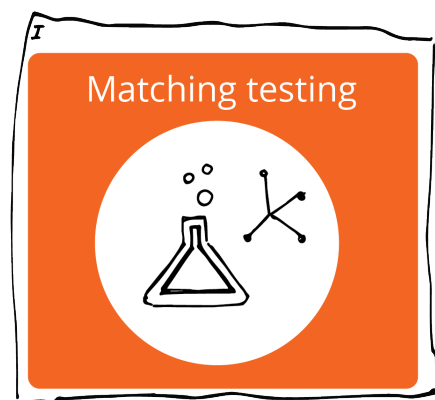
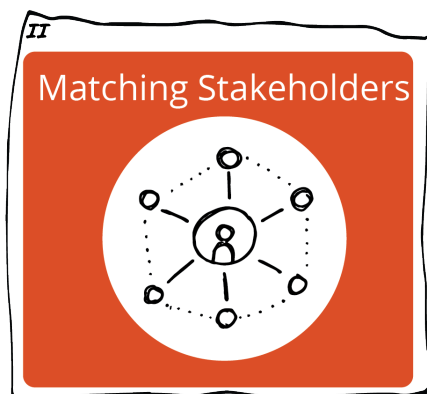


SOLUTION ROADMAP

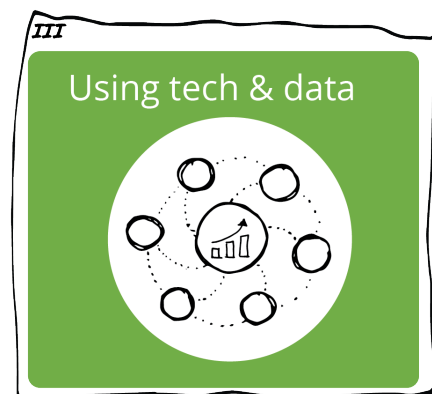
Concepts & Business Models
for food safety issues in Kenya
by team Food Africa



IMPACT
Building an eco-system of testing & certification services available to everyone



IMPACT
Including all stakeholders through freemium and premium services



IMPACT
Data-driven approach, simulating strategic decisions and improved learning by including blockchain and AI technology

The steppingstone of a business model was created during the Nairobi Innovation Week with academia, private sector and public sector. This roadmap is building further on this creative process. We have woven the broad spectrum of creative solutions into this roadmap.

Step one: an ecosystem of testing services

Why

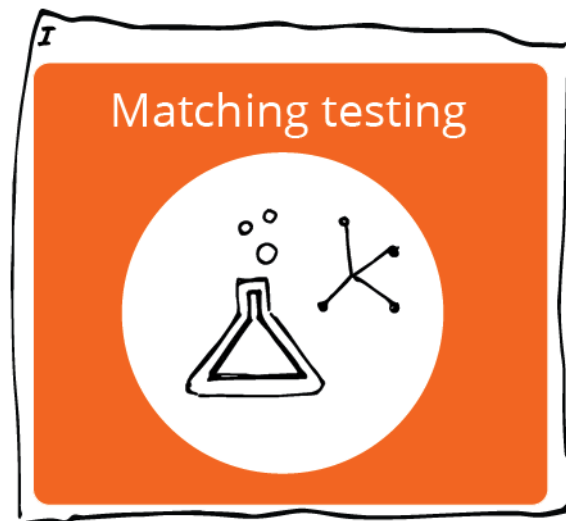
During our fieldtrip we found that testing quality and aflatoxin levels is not a standard practise within the food industry. Because of this, consumers do not know which products are safe or not. There are some stakeholders who test their products on a regular basis. This enables them to improve the quality of their product, however, when we look at the overall food systems and their safety this is not enough . Introducing testing at an affordable pricing for all stakeholders in the food industry is needed to control en improve food quality standards.

What & How









1. Providing the testing service for the producer companies with realible single platform for all the actors publishing the testing data to the public.
2. Providing the follow-up consulting service to improve the quality of foods for the companies which failed to prove the safety of food.
3. Picking up random samples and testing the reliability of labs in the public market and publishing the testing results for the public in the platform that are positive for the providers, meaning that the products contain low aflatoxin levels

Contents

1. The key insights the solution is based on
2. The service concept visualised
3. The service map



Key insights

-  Access to testing
-  Awareness around testing
 - education
 - community involvement 
-  Transparency of testing results
-  Matching
 - facilities
 - equipment
 - knowledge
-  Create trust throughout value chain

Service concept - phase 1



An independent actor that **provides affordable testing services for producers.**

Positive test results* & providers will be published on the digital service platform, so **people and companies can see a list of responsible providers.**

Platform offers information about afla- & mycotoxins as well as other food safety issues, so **people can learn why they should make sure their produce is of high quality.**

Platform aims to **create a better standard for food quality in Kenya by creating positive incentive for companies to test their produce** by getting on the list of trusted providers.



The free service offers a listing of overall rankings of producers & providers who have good results.



Producers pay a fee for the testing services and in return they receive their test results. With good results they get listed on the platform. With poor results they get access to education to improve their practises.

An example of the service



Organizations can search for more detailed safety records to make sure they collaborate with responsible providers.



Consumers can search for food producers & brands safety levels. They can also find information about the effects of toxins in food and tips on how to minimise their toxin consumption.

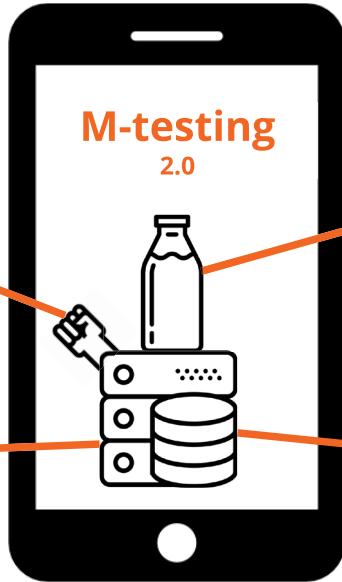
* Positive test results: we mean they only affect the providers positively. This means low aflatoxin levels.

Service Concept - phase 2

The 2.0 features are an addition to all services featured in 1.0.
Utilising the same data but sharing potentially under a different brand.

M-testing is an independent actor that in addition to offering testing also collects and shares ALL testing data gathered from all testing facilities in Kenya (both good and poor results).

M-testing evaluates every testing facility based on the reliability of their results history & equipment by e.g. sending in their own samples to the labs.



The platform promotes access to all food safety information with the goal of creating transparency and trust in the Kenyan food chain.

The main goal of M-testing 2.0 is to create pressure by openly sharing testing data to raise standards for quality of food to improve public health and safety.

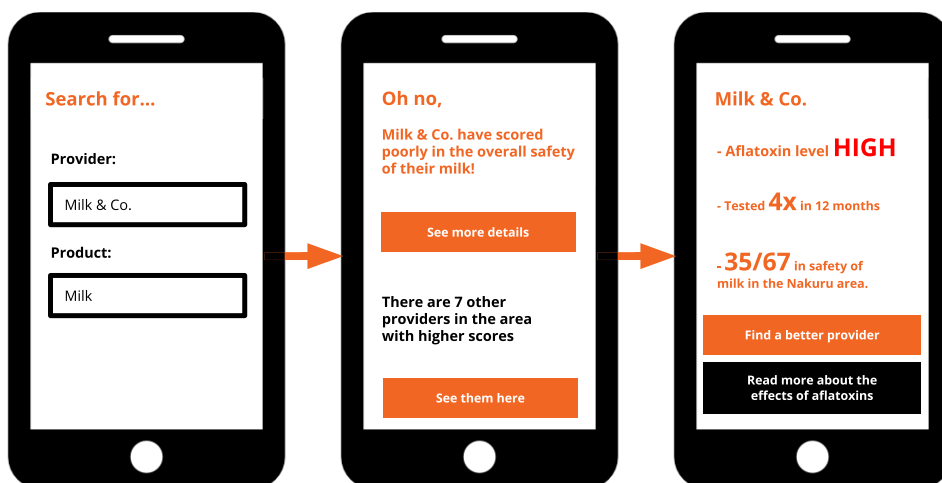


The freemium service offers a simple search by company name & offers access to the food safety certification levels of all Kenyan providers.



The premium service provides access to a detailed listings of all testing history of listed organisations.

An example of the service

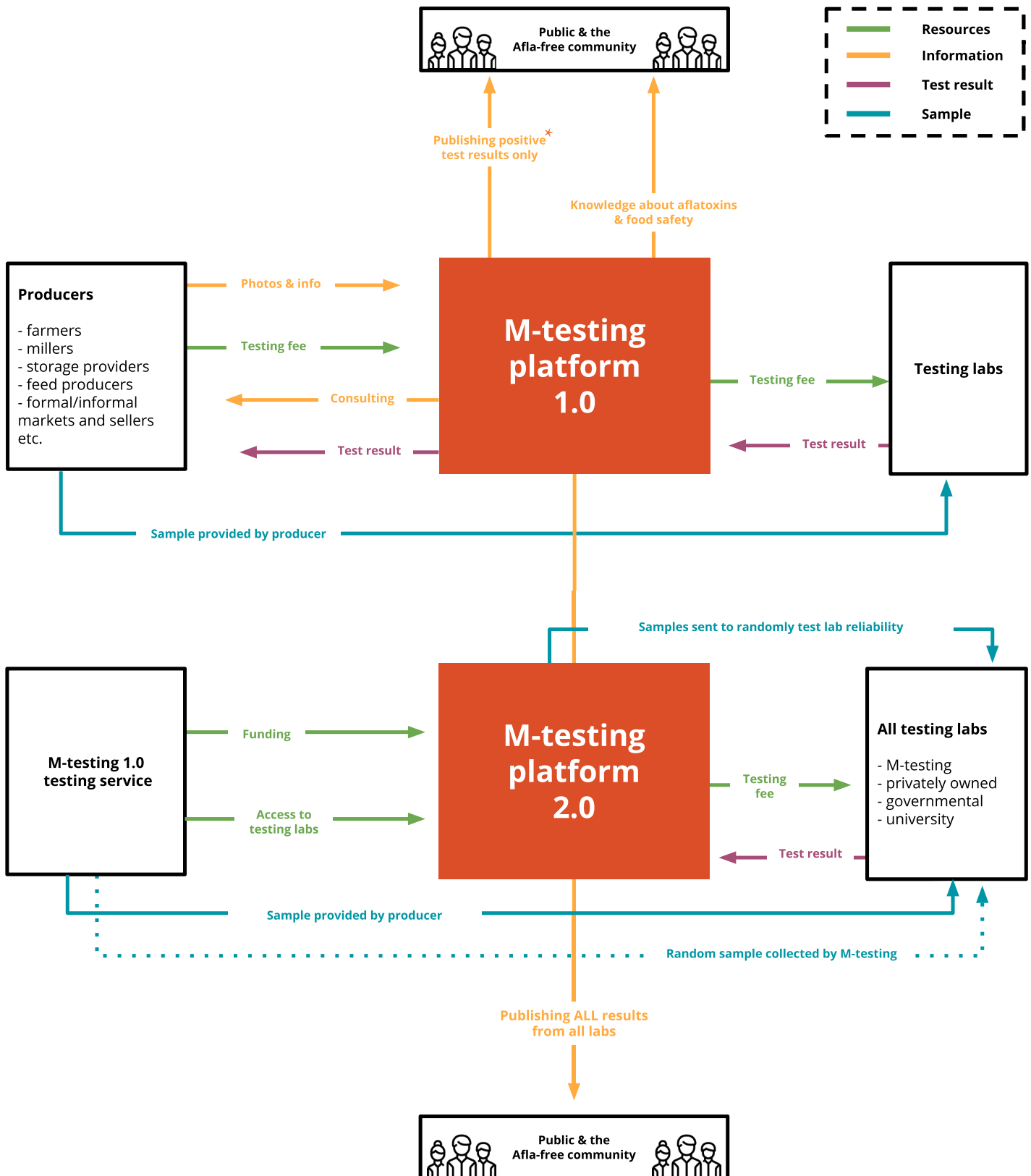


Premium users can see the history of all testing results from all listed providers.



Freemium users can see the level of certification of all listed brands & companies.

Service Map - phases 1 & 2



* Positive test results: we mean they only affect the providers positively. This means low aflatoxin levels.

Key Partners

1. The Kenyan food safety control system

- KEBS
- NFSCC

2. Food Safety experts

- Our company
- University professors
- NGO program
- Extension service providers

3. Media

- Respected news outlets
- Food Magazine
- Influencers

Key Activities

Listing & Contacting possible labs for Aflatoxin testing

Building a matching platform

Collecting data and creating partnerships with existing labs and producers

Media campaign & community activities

Preparing consulting service package for offered services

Key Resources

Testing labs system

Initial capital to launch

Legal & regulation experts

Food safety experts

Value Proposition

Farmers and feed producers can equally have convenient access to aflatoxin testing under affordable price

Farmers and feed producers can demonstrate safety food and advertise to consumers

Transparent testing result enables local consumers to identify products that are low in aflatoxins

Extension service enables farmers and feed producers to produce more food low in aflatoxins resulting in selling more

Customer Relationships

Aflatoxin safe product promotion via media campaign & community efforts

[Extension service]

Consulting service and propose partnership option for Aflatoxin safe products

Channels

Digital platform

Food Safety community using App

Public & authority organizations

Customer Segments

1.Farmers and Feed Producers

- Middle scale
- Large scale

2.Testing labs

- Own testing labs
- University labs
- Research institute labs
- Private labs

3.Consumers

- Maize and milk consumers
- Farmers
- Food processing company

Cost Structure

- Product development cost
- Labor cost
- Operation cost
- Community building activities
- Testing fee charged by the labs

Revenue Streams

- Testing fee incurred to farmers & producers
- Sponsorship from private company, NGO emphasizing with vision
- Non-refund budget from development program funds i.e. Finnish government research budget for international cooperation
- Subscription fee for testing labs to use our platform in long-term

Step two: including all stakeholders in the value chain

Why

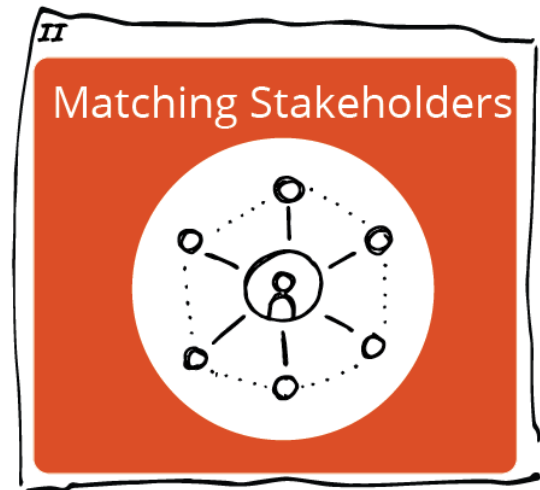
All the stakeholders don't have a proper way of finding potential business partners through the food value chain.

What & How

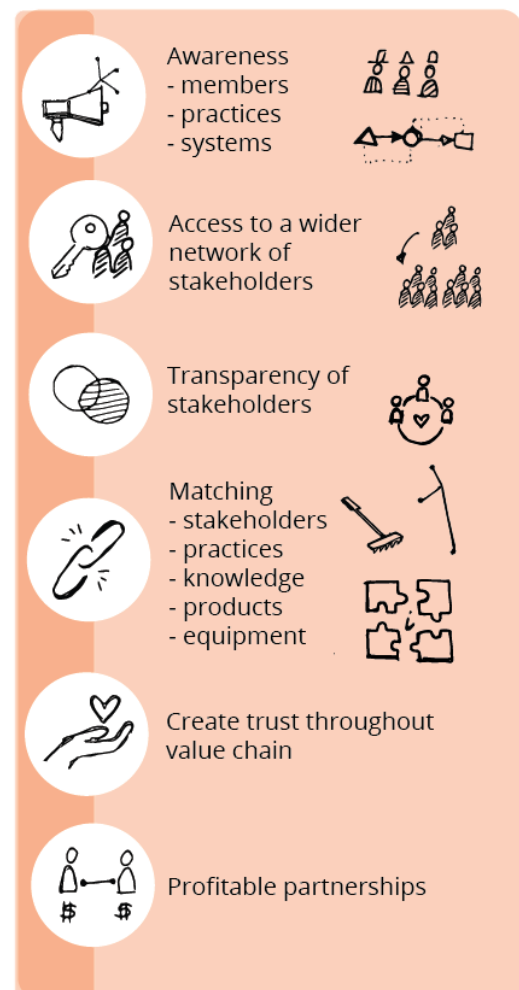
Providing single matchmaking platform where all the actors can register their information and find their business partner based on the given information. The matchmaking platform also provides the extensional information for premium users, including the partner recommendation and reviews of business partners as well as supporting services to help in planning the collaboration, contracting and safe transactions.

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Key insights

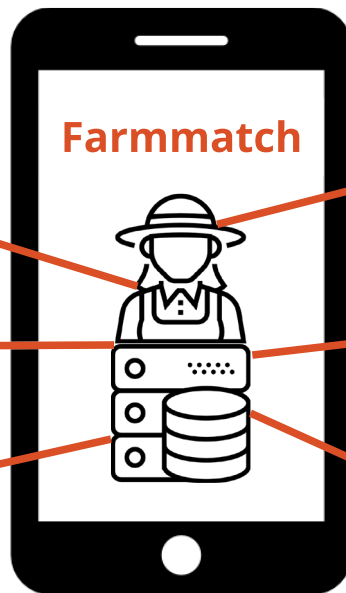


Service Concept: Farm-

Farmmatch gives farmers and other food chain stakeholders **the power and freedom** to find & decide who they want to work with.

Farmmatch evaluates the user-profiles based on peer-feedback and other data **to make ensure safety & accuracy.**

At Farmmatch users describe their produce, ways of production, test-results & quality as well as **set their own requirements for their potential collaborators.**



Farmmatch premium users can use the platform to **set up & handle the whole transaction process** from payments to setting up the pick-up schedule.

Farmmatch offers **suggestions based on data** in e.g. pricing, best time to sell/buy, testing facilities & farming practises.

Farmmatch offers premium users access to a variety of consulting services to **help them improve their business.**



The free service offers a limited number of matches per day.



Premium service includes an unlimited number of matches with suitable stakeholders. Premium members get access to extra features such as statistics as well as access to in-depth evaluations of other stakeholders.

An example of the service

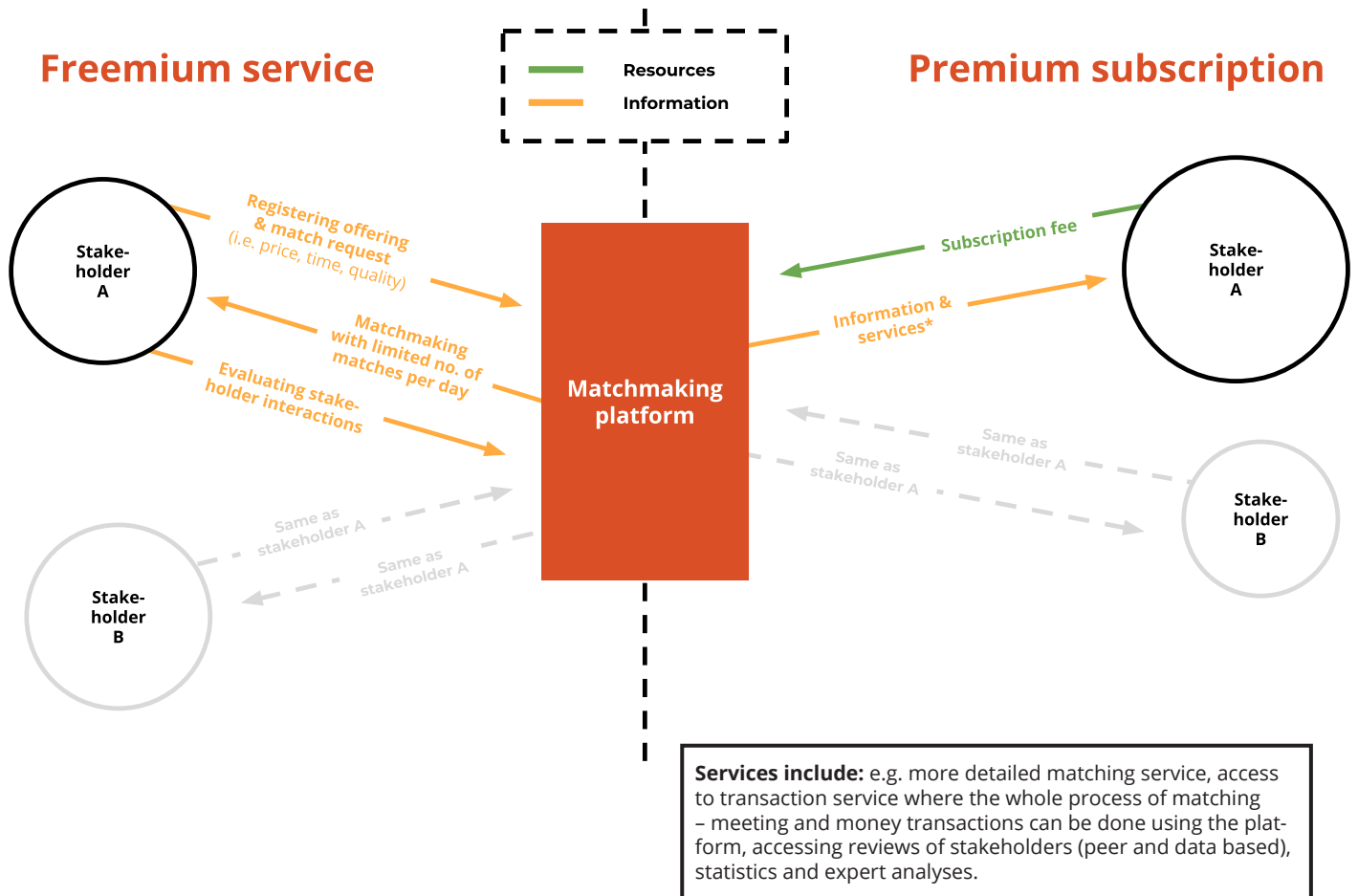


Organizations can look for new collaboration partners. Farmmatch offers an easy way to set up new partnerships.



Especially small scale farmers can use Farmmatch to find middlemen or other necessary stakeholders to make sure they can sell their produce for a set price, at the right time.

Service Map



Key Partners

1. The Kenyan food safety control system

- KEBS
- NFSCC

2. Food Safety experts

- Our company
- Uni professors
- NGO program
- Extension Program

3. Media

- Respected news outlets
- Food Magazine
- Influencers

Key Activities

Building the matching system

AI algorithms for result recommendations

Testing pricing model

Launching campaign

Maintaining database and algorithm to ensure high quality in matches

Key Resources

High tech workforce

Rich Network

Legal experts

Experts and outside partners to offer special services in e.g. contracts, insurance etc.

Information sources for food value chain development

Value Proposition

All the stakeholders in the food value chain can easily find each other for either business or nonbusiness purposes.

[Business Partner Matchmaking]
Stakeholders can capture business opportunities via systematically analyzed recommendations for partnership and planning by AI technology from the platform.

[Advice Partner Matchmaking]
Stakeholder can reach out for available resources and seek help from experts, NGO and public organizations.

Customer Relationships

App review & feedback

Customer care services

Promotion campaign

Trial package

Channels

Digital platform

Seminars & conferences

Food Safety community using the Application

Agriculture & farming communities

Customer Segments

1. Farmers
2. Feed producers
3. Food & dairy companies
4. Testing labs & quality control companies
5. Brockers
6. Retailers
7. Supplement agriculture product & services companies
8. Government agencies, NGO, Experts
9. Consumers

Cost Structure

- Product development cost
- Labor cost
- Operation cost
- Community building activities

Revenue Streams

- Paid subscription revenue stream
(Like Tinder+, paid users can get more valuable information and unlimited matches that bring value into their businesses)
- Sponsorship from development project & corporates

Step three: data-driven solutions to improve learning

Why

Lack of access to transparent information across the food supply chain, including information about the stakeholders, quality testing data, pricing data etc. Data-driven learning to build resilience in strategic decisions. This may be useful in the changing systems and even weather conditions.

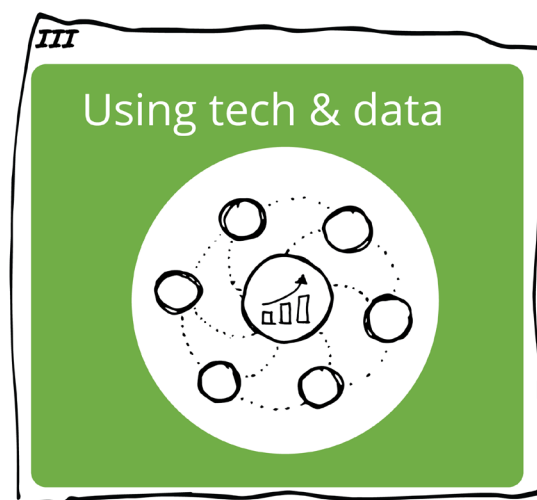
What & How

Providing access to all the data gathered in single data platform from the previous two stages, and publishing the data to all the participants.

In addition, offering extentional services to the premium users, i.e. the consulting service for the long-term profitability based on the farmers resources and goals.

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Key insights



Access to technology and data



Awareness of technology and data



Transparency
- value chain
- transactions that are safe



Data-driven approach
- education and information
- global trends and interdependencies
- farming practices

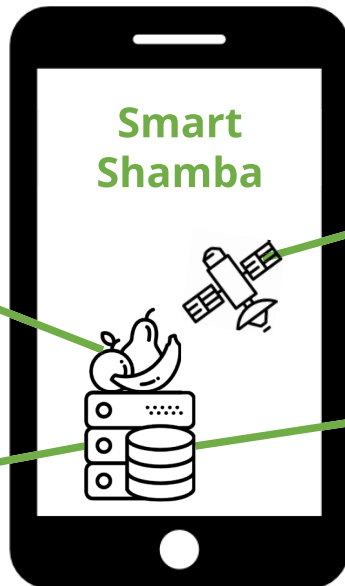


Create trust
- data
- technology
- system



Global connectivity

Service Concept



Smart Shamba is a **simulator that helps users find what type of crop or farming methods work best for their location & resources.**

Suggestions are based on AI & weather data. **Changes in climate are simulated and visualised to show the long term costs & benefits of all options.**

Smart Shamba offers **accessible & visualised expert knowledge** in e.g. farming practises, soil & nutrition, climate change & smart financing for all scales.

Platform offers simulations & tools such as checklists to help people **change their practises to support positive long-term development.**

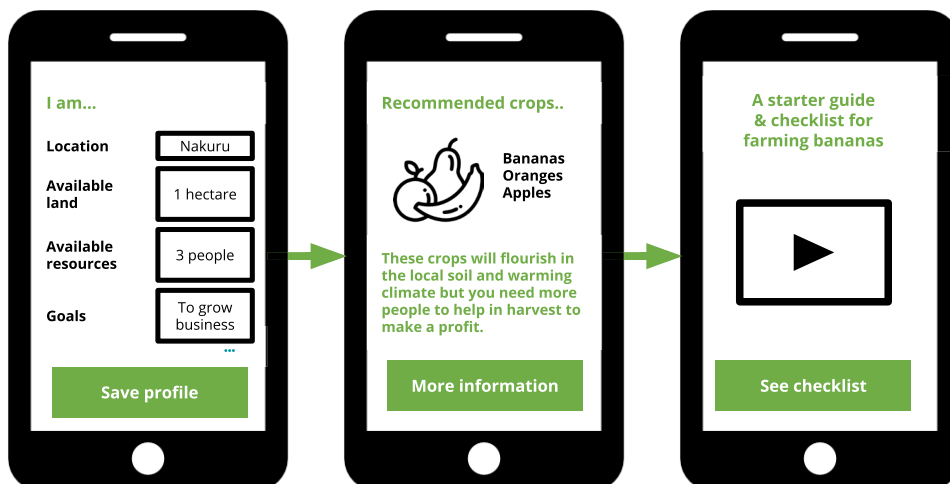


The free service offers access to all accumulated data from previous stages of development.



Producers pay a fee for the testing services and in return they receive their test results. With good results they get listed on the platform. With poor results they get access to education to improve their practises.

An example of the service

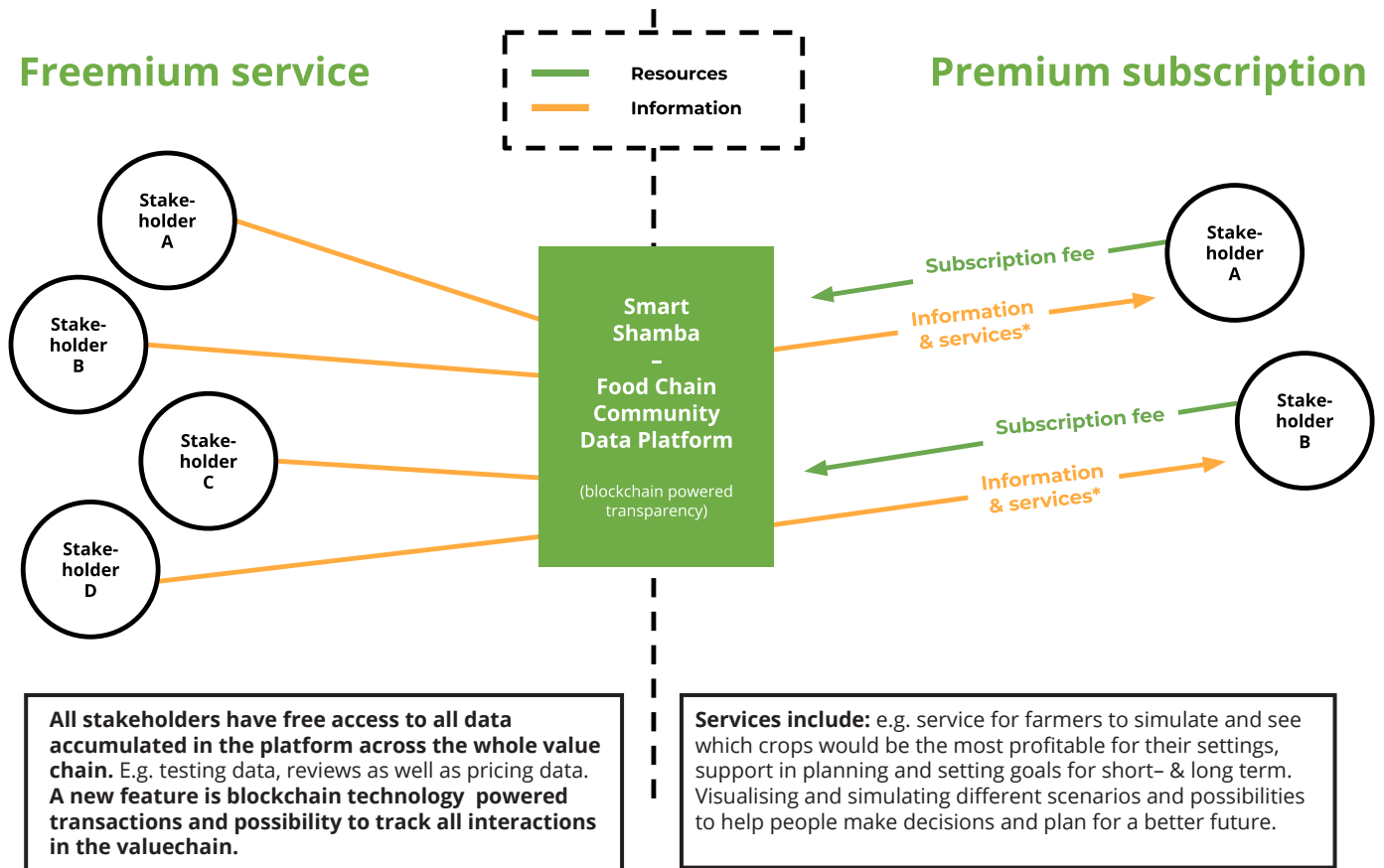


Organizations can access in-depth expert data.



Farmers can use the platform to explore their options around farming as well as get tips on how to best make the change from one crop or farming method to another.

Service Map



Key Partners

1. Food Safety experts

- Our company
- Uni professors
- NGO program
- Extension Program

2. Media

- Respected news outlets
- Food Magazine
- Influencers

3. Bank, Investors, VC

4. Development Program

5. Global development institutions tackling climate change

Key Activities

Build up expertise and algorithm for farming simulation service

Creating the models and algorithms for forecasting and analysing geographical data and weather patterns

Communicate the benefit of changing farming practices

Building relationship with supported stakeholders from ecosystem

Key Resources

Farming practices experts

High tech workforce

Legal experts

Accurate geographical and weather data

Value Proposition

The platform will open all the trustworthy information of stakeholders in the whole value chain for users.

The platform will provide simulation services for improving and changing crop/food and dairy production.

Customer Relationships

Facilitates network & partnerships for farming development such as investor, bank, sustainability program, climate change management etc.

Video tutorials and checklists to support changes in farming

Channels

Digital Platform

In person consulting service

Development projects

Farming communities

Customer Segments

- 1. Farmers**
- 2. Feed producers**
- 3. Food & dairy companies**

Cost Structure

- Product development cost
- Labor cost
- Operation cost
- Community building activities
- Pattern or expert research publication

Revenue Streams

- Paid subscription revenue stream
- Paying users can get consultancy service for farming plan and execution by simulation technology.
- Sponsorship from development project & corporates
- Income from collaboration partners that the service brings business

