Disruptive Agricultural Technology Challenge – Agrocares’ solution

APRIL 5-6, 2019 | NAIROBI, KENYA
**How to improve SHF productivity in Kenya?**

Kenya is facing an unprecedented soil fertility crisis, we contribute by on the spot testing & action.

### Key issues:

- Only **5%** of farmers have access to soil nutrient information.
- Most farmers decide *‘in the blind’* on fertilizer application.
- Africa **loses** $9.4 billion each year worth of soil nutrients\(^1\).
- Africa **can** generate $71,8 billion income with good fertilizer applications.

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Our solution: a Scanner & smartphone App

Put the information in the hand of the farmers

Real-time, affordable, on the spot and easy monitoring of soil fertility

Key stats Kenya:

- Launched in 2017
- 10,000+ no of transactions
- 430,000+ grants total revenue
- 138% 2018 revenue growth
- Retail price/ unit $3950 + $2230
- $10 millions Africa investment
The SoilCares Advisor Africa App

Parameters:
- Nitrogen (N)
- Phosphorus (P)
- Potassium (K)
- pH
- Organic matter level
- CEC

Soil Status

Parameter

- pH (EC) Low
- Organic Carbon Low
- Total Nitrogen Adequate
- Total Phosphorus Adequate
- Potassium (excl.) High
- Cation Exchange Capacity Low
- Soil Temperature 24.8 °C

Actual Nutrient Need (in kg)

Parameter

Soil Correction Plan

Crop Variety
- Maize
- Plant Hole

Target Yield 1,500 kg

Before Planting
650 kg Agricultural Lime
2300 kg Compost or Animal Manure

At Planting
Option 1: 25 kg urea & 40 kg KMP
Option 2: 25 kg urea & 4.5 kg DAP
Option 3: 30 kg CAN & 4.5 kg DAP

Place the fertilizer at the bottom of the planting holes, put 10 cm of soil on top, add the seed and cover the seed with soil.

6 weeks after
You can topdress when your crops are 6 weeks old and healthy into pests, sufficient rains.

Soil status

Recommendation Alternative crops

Alternative crops
- Potatoes
- Beans
- Grains
- Vegetables

agrocares
nutrient intelligence
We are 2 years in business with

……. trusted advisors to the farmer to expand the quality of services with valuable soil testing

Service Providers

Current network
38 partners

Extension officers
Wards, NGO’s, Foundations

Input Providers
Crop Trade

Currently working
in 27 counties

Corporate business partners

Today partnering with
10+ private companies

Examples of current partners:

New Downtown, Meru Farmer Center, Fadhili, IPM, Solidaridad, AMPATH plus, Caritas, Sidai, Farming System Kenya, CGA, Kalro-SRI, Makamiti, Nyeri, Vijana Reloaded
Bungoma, Trans Nzoia, Uasin Gishu, MEA, ETG, DigiFarm-Iprocure, Shalem Investment
How to scale our business

Expanding on all 3 partner segments

• Grow the network of trusted advisors to 500+ points
  • Service Provider growth rate +75% p.a.
  • Link to extension platforms & programs
  • Expand corporate partner basis per value chain
• Continued capacity building (CoP, Marketing, Events)

Key to scale: How to financially facilitate the network partners to get to the scanners & licenses
Adding value in the Kenyan AG chain

What is in it for the farmer?
• Higher yields
• better income & livelihood
• Better AG practice
• 80+ crops available

What is in it for the value chain?
• Improvement of crop quality
• Improved AG policies
• Improved soil
• More effective eco systems
• Data mining on county level

What is in it for the partners?
• Growing AG competence
• Sustainable service portfolio
• Better income
• Data access & innovation

What is in it for the AG based economy?
• Job Creation & improved livelihood
• Productivity increase
• Data based innovation
• Sustainable value chains
• Export opportunity on quality

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Support us in Scaling today
38 SME service providers and 27 counties
Meet the Team

Manager Kenya
Mr. Geoffrey Rono

Commercial Manager
Ms. Mukami Gitau

Soil Scientist
Mr. Daniel Masika

AgroCares Managing Director & CCO
Mr. Rob Beens

AgroCares Chief Agronomist & Foundation Director
Dr. Christy van Beek

Project Manager & Trainer
Mr. Florent Mournetas
Market size evaluation

Population that is economically active in agriculture
16,000,000

Total number of farms (FAO estimate 2014)
2,750,000

Number of farms without access to soil tests (estimate)
2,000,000

Scanners needed for 1000 farmers
2,750

Market size = 2,750 scanners

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<tr>
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<th>2017</th>
<th>2018</th>
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<tr>
<td>Market penetration (number of scanners sold)</td>
<td>67</td>
<td>109</td>
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<tr>
<td>Market penetration rate</td>
<td>2.4%</td>
<td>3.9%</td>
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We are reaching the innovators
We need to reach the early adopters

It takes 10 years to reach majority users with a disruptive service -> ambition to reach early majority in 3 years
High Level Business Model

Financial impact/investment per unit

- $3950 per scanner CAPEX*
- $2230 for an annual unlimited access license
- $4800 Earning capacity per service provider**

* Life cycle scanner = up to 5 years
** 800 analysis * 6 $ = 4800 $/year

Retail Break Even Point

*Y ax – price in KsH
ROI for Agrocares with service offer

- **R & D – start up investment** $30 mio +
  - Of which Africa Investment $10 mio

- **Commercial offer (retail)**
  - Equipment retail offer $3,950 Cost price, subject to scaling
  - Recurring subscription $2,230 Margin model on volume

- **Full marketing & service support**
  - On equipment included
  - On upgrades and online service included
  - On training, support & development included
  - On App development & maintenance p.m.

- **ROI Soilcares Africa Investment** 3 - 5 years (adoption rate)

- New services **Feed & Leaf** will support scaling & recurring license earning model to grow databases & services globally
Financial impact for 3 year scale-up plan

- Equipment (scanners): $3M
- Smart phone license: $1.5M
- Community of Practice: $0.2M
- Capacity building: $0.2M
- Network building: $0.2M
- Kenyan Office Costs: $1.3M

$6.5 Million to accelerate adoption and scale
$4.5 Million to support the partners
Risk management to reach 1 mil farmers

• Speed of adoption for disruptive solution to stakeholders & partners

• Access to working capital to support the early adopters

• Scaling as mean to lower cost price of scanner & applications
  - $3,950 should decrease 50% in 2022
  - $2,230 should can decrease 25% in 2022

• Speed of developing a partner network
  - Growth rate of the partner base for service providers and corporates

• Risk mitigation
  - 2 years experience with a working, on the spot solution
  - Strong back up of the global AgroCares team
  - Economies by having other solutions ready → Feed & Leaf
  - Easy (AP)I connection to digital network partners delivering all inputs to the farmers
  - Easy access to input and output data by AgroCares portal