15th ACA Annual Cashew Conference

ACA
AFRICAN CASHEW ALLIANCE

A SUSTAINABLE CASHEW SUPPLY CHAIN FOR THE FUTURE

Fully Online

15 -17 September 2021

Digital Solutions for the Cashew Industry

Seth Ogoe Ayim, PMP

BeninCajù
Better cashew, Better lives

TechnoServe
Business Solutions to Poverty ®

Agenda

- Why Digital Solutions
- The Vision
- Solutions
- Implementation Challenges
- Sustainability

Challenge: Lack of Data

- Long-standing difficulty getting accurate, timely data for trade and investment decisions (Benin)
- Market data on production, demand, and quality is a critical input for the nut and dried fruit industry.

TechnoServe Understands the Cashew Industry

- 20+ years of experience
- We've seen that data on:
  - The number of farmers
  - Production area
  - Productivity
- Are simply unavailable or are speculative estimates
- Lack of standardize Online Training

The Vision

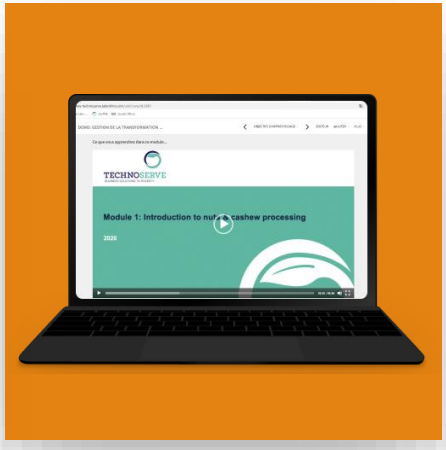
The Vision

- Practical technology & innovation for the cashew Industry
- Scalable reach and effectiveness enabled by digitization
- Sustainable solutions

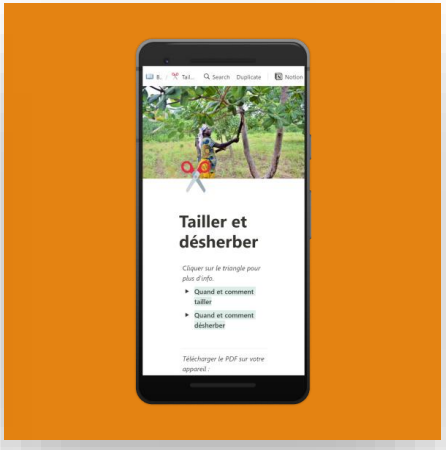
The Current Initiatives of BeninCajù Labs

Drone mapping
for climate-smart agriculture

MOCC
for processors & investors



Chatbot
Digital Field Manual



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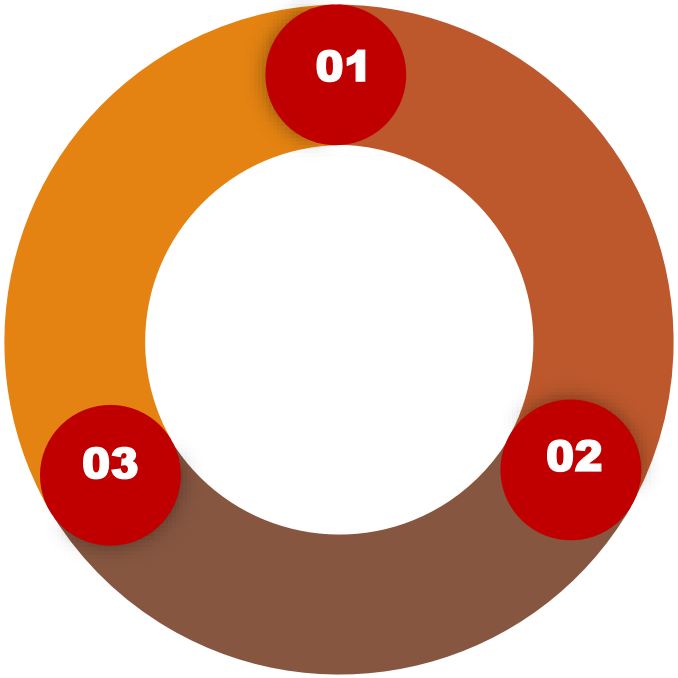
Our Initiatives In Detail

Drone-Assisted Land Mapping for Climate-Smart Ag

CSA action plan & training

1. Policy recommendations
2. Stakeholder tech trainings
3. CSA farmer training



Nationwide cashew mapping

Leveraging satellite and machine learning technologies to identify cashew plantations across Benin

Farm-level drone analysis

Collection of drone imagery for the analysis of current agricultural practices.

600.000 ha of agricultural land under **cashew cultivation**

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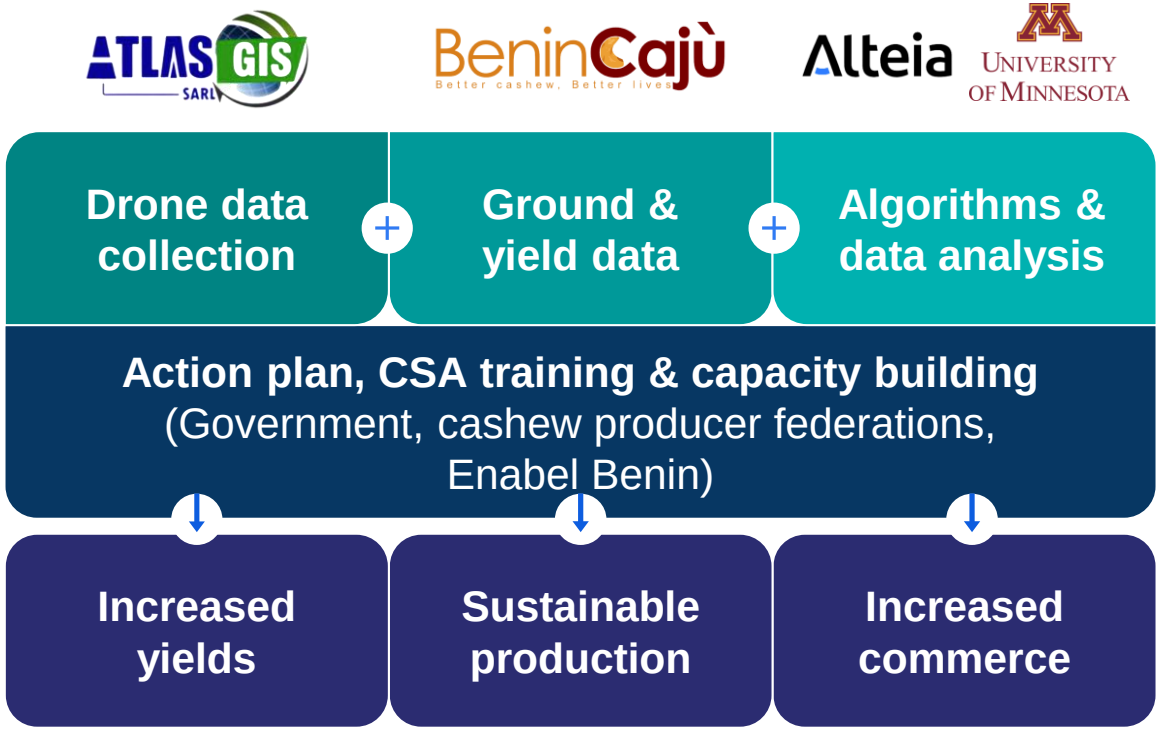
A Multi-Stakeholder Approach to Deploying a Novel Technology Solution

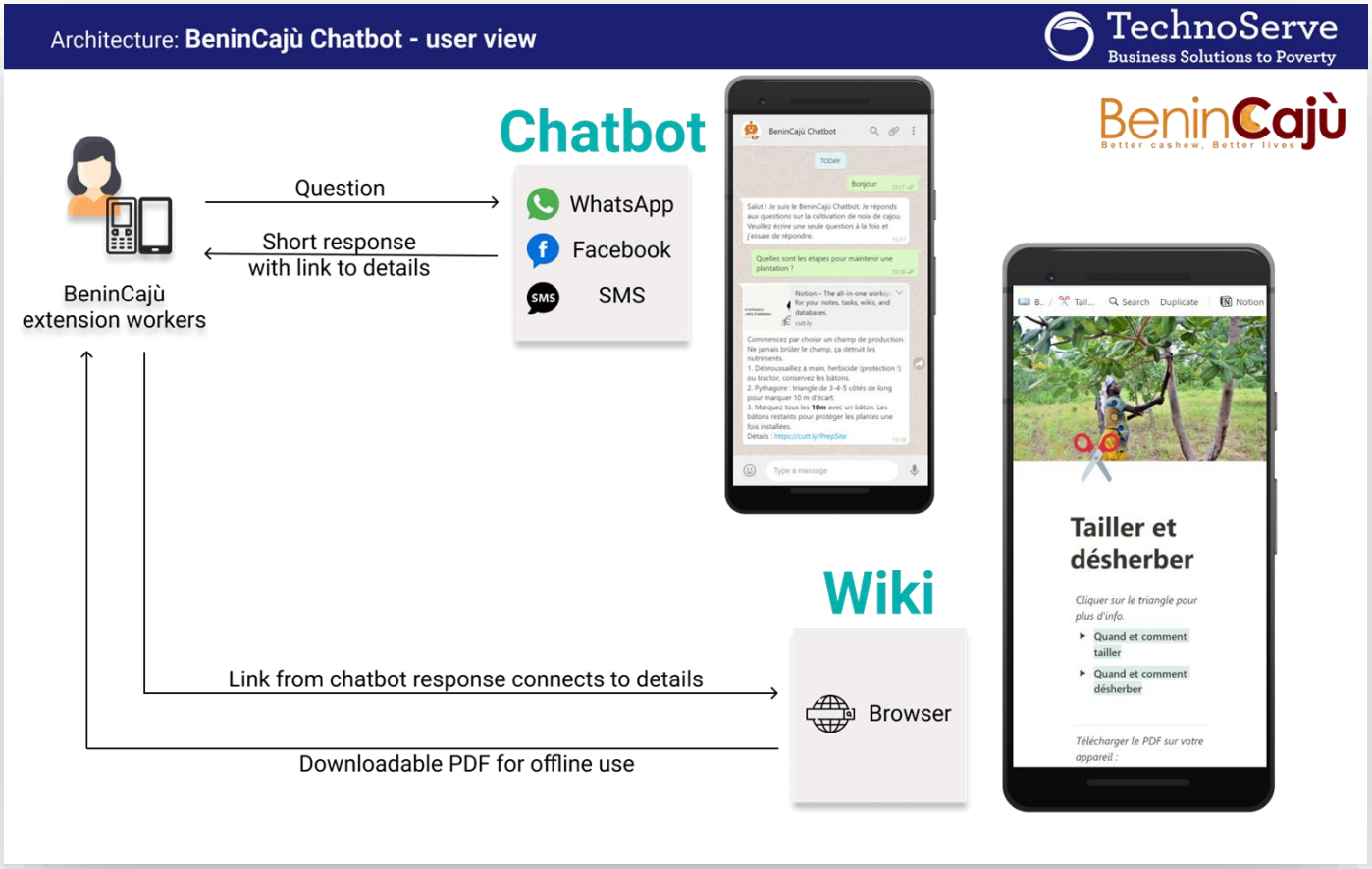


What Have We Achieved So Far?

- **1.900 plantations mapped**
  across 5 departments, 17 communes
- **2.5 million drone images**
  with 180k trees **largest tree crop data set for Africa**
- **Collines map: 240.000 ha cashew**
  First of its kind, with estimated accuracy of 80%

MOOC—Massive Open Online Course

WhatsApp & SMS Chatbot with Online & Offline Wiki for Extension Agents



Implementation Challenges

- Mapping farms
- Right level of intervention yet to be tested (GoB vs. cooperatives)
- User need for chatbot not fully confirmed
- Respond to data privacy concerns

TechnoServe Is Working to Ensure the Sustainability of the Program

Collaborative Capacity Building

- Trained over 34 ATDA4 technicians, in In partnership with the Ministry of Agriculture
- Scheduled workshops to received key feedback

Funding

- Fully funded tool development
- Donated about 25+ smartphones and over 30 KOR kits to ATDA4 facilitate work in the field

Government and Industry Partnerships

- Coordinating with GoB for approval and validation of digital tools
- Working with ACA to develop joint certification standards

Working with Universities to Build an Agritech Ecosystem

- Developing courses and research agendas, working with Benin University professors and doctoral students
- Focus on improving the understanding of national cashew cultivation - yields and GAP

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Next steps

- Pilot testing
  - get user feedback during the 2022 harvest
- Complete work on the geospatial dashboard
  - Integrate additional data layers with training, nursery data
  - Validate machine learning cashew plantation predictions
- Get consensus on training content
  - Formation des transformateurs
  - Matériel BPA pour les producteurs

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Thank you

Seth Ogoe Ayim, PMP

sayim@tns.org

technoserve.org