Digital partners integrating AKILIMO

AKILIMO
we know cassava
Supporting Cassava Growers with Agronomic Advice through 3-2-1 Service
Cassava static content is one of the agricultural contents on the 3-2-1 service of which include topics on cassava variety contact details, safe herbicide/pesticide application, land preparation and stem sourcing, fertilizer application and cassava maize intercropping.

3-2-1 callers who listened to the topics are provided with general informative agricultural advice on how they can grow cassava.
Calls and Callers

(April 2019-November 2020)
Total calls - 50,211
Total Unique Callers - 43,316

2019 Vs. 2020
Calls-9,364
Call-40,847
Callers-8,343
Callers-35,388
Calls on Static Content and Themes Accessed (April 2019-November 2020)

- cassava variety contact details has 44% of total calls
- Cassava Variety contact details, Agribusiness, Land preparation, and planting and weeding are the most accessed topics
Callers Demography (April 2019-November 2020)

English and Hausa are the most popular languages with 19% and 57% respectively.

Females represent 42% of callers, 58.4% are Males.
Next Phase: Dynamic Content for Cassava Farmers

Following extensive research on best practices, the project developed new sets of content to provide cassava growers with tailored advice on fertilizer, intercropping, best planting practices, weed control, scheduled planting and harvesting, after responding to a set of multiple-choice questions.

Unlike the previous static content, a caller may receive different messages depending on their response to the multiple questions (Dynamic)

This will be integrated into the existing cassava static content
Learnings on Integrating Content into 321

- Optimization of the trees to fit into an Interactive Voice Response (IVR) format and achieve high accuracy of result
- Understanding of the IVR functionalities and use of predictions to fit into IVR
- Use of callers response to provide best advice suitable for them.

Use and Application of the Content

- Use of survey to collect callers’ feedback
- Continuous monitoring of the content
Promoting 3-2-1

- Radio programs
- Meetings with Farmers
- Flyers and other IEC materials
Integration and Dissemination of ACAI DSTs through Esoko

1st December 2020
Why do we do what we do?

Esoko tries to understand the needs of each farmer

Will it RAIN tomorrow?

Which crops are SUITABLE for my farmland?

What VARIETY is suitable for my Agro-ecological zone?

How will I control these perennial PEST and DISEASES? I have tried everything, nothing seems to work…!

What INPUTS do I use to achieve best yields?

WHERE can I buy the inputs?

WHAT is the price of the inputs? Is it genuine?

HOW can I communicate to the inputs company?

Who will BUY my produce?

What PRICE will I get?

What do ACAI farmers want to know?

How will I get the information?

Who will answer my questions?
3 ACAI Systems are up and running

- MIS
- Insyt
- Kplus
Current experience in numbers

- Females: 26%
- Youths: 28%
- Farmers: 739,809

Age of the farmers:
- 5-10: 22%
- 10-20: 22%
- 20-30: 18%
- 30-40: 16%
- 40-50: 12%
- 50-60: 6%
- 60+: 2%

Agronomy SMS Sent:
- May: 0
- June: 161915
- July: 334466
- August: 16128
- September: 88905
- October: 86276
- November: 52119

Total: 739,809
Farmers in Zanzibar Using Kplus to train
Key Learnings

- Offering a bundle of services is key
- Dissemination has to be channel agnostic (SMS, Voice, Live experts, Radio, video, Paper based)
- Original content has to be developed for modern dissemination channels
- Partnering with media companies (TV and Radio) is important for scaling up and out
- The social-cultural aspects of the diverse communities have to be taken into account during dissemination
- Post COVID-19, we realize use of ICT technology cannot be overemphasized
Key Observations

• Level of acceptance of the new content by end users, other stakeholders
  • Handeni DAICO expressed plans to buy their own smart projectors
  • EAs are installing Kplus App on their phones and also on the previously circulated projectors (noting the richness of the content)

• Any early use and uptake of content or signs of uptake
  • Too early to ascertain uptake because we started when the season was on
  • Follow up MEL to be carried out for qualitative knowledge uptake
  • Hoping to see some adoption data for the coming season

• Integration forecast – expertise required and maintenance
  • Riding on Knowledge plus guarantees maintenance and innovation
  • Future content and application update and upgrade respectively to be supported by partnerships with TARI/DAICOs and Agribusinesses
  • ACAI farmers will have access to content from other value chains
Next steps for ACAI Tools Integration

3 Phases of Integrate the ACAI tools to the Esoko Applications Suite

• Phase 1: Pilot ACAI tools in Zanzibar, lake zone and coastal region (Completed)
  • Register the consortium member’s farmers
  • Develop SMS and video content for ACAI tools to support
  • Disseminate SMS and video trainings on ACAI support tools

• Phase 2: Scale number of farmers using the ACAI support tools
  • Use Radio and Tv to popularize use of AKILIMO DSTs
  • Increase use of Kplus interactive video trainings and SMS to reduce the need for face to face training
  • Increased business to business partnerships for sustainability

• Phase 3: Integrate the AKILIMO Apps onto the Esoko suite of applications (software engineering)
  • Fertilizer recommendation tool will be built into Kplus
  • Collaboration with TARI and DAICOS for content updating
HELLO!
I’m Arifu
What can I help you learn?
AKILIMO and the chatbot

Available without airtime or internet

Interactive, narrative-based and engaging content

Available on any type of phone

Personalized learning paths based on segmentation

Different topics to suit all your learning needs

Hi! It's Arifu. Pick a number to start learning:
1. Land preparation
2. Applying fertilizer
3. Intercropping
4. Planned planting

Different topics to suit all your learning needs

Available on any type of phone

Interactive, narrative-based and engaging content

Available without airtime or internet

Personalized learning paths based on segmentation
• Arifu in conjunction with IITA-ACAI conducted a series of field research activities in Nigeria (Ogun and Oyo States) and Tanzania (Eastern and Lake Zone) with cassava farmers to test the functionality of the Cassava Recommendation Engine on the Arifu Chatbot and get farmer insights on their experience navigating the chatbot.

• A total of 63 farmers were interviewed to understand their current farming practices, challenges, goals, learning needs and experience navigating through the chatbot

Key Findings

• Majority of cassava farmers 85% (Tz) and 89% (NG) own and use feature (basic) phones. They have no internet connectivity abilities.

• 60% farmers in Tanzania and 90% in Nigeria easily navigated through the learner journey on the chatbot without support.

• Majority of farmers in both countries thought the language (English, Yoruba, Pidgin and Swahili) was simple and easy to understand. There were few recommended updates, which have now been effected.

• Majority of farmers (90% in both countries) preferred the blended version of content (content containing relevant tips for each use case + input questions) as opposed having input questions only.

• Poor quality network quality in some areas of Lake Zone slowed down the testing process and led to failure in getting recommendations.
Development of the Chat Bot

New Functionalities

- Skip logic added guided by user input.
- Reference check on free form responses on:
  - Planting month
  - Region
  - District
  - Confirmation reference
- Improved precision recommendation based on the above new features.

New Languages & Integrations

- Nigeria
  - Yoruba
  - Pidgin
  - English
- Tanzania
  - Kiswahili
- Telcos Added - Tanzania
  - Tigo
  - Vodacom
  - Zantel
- Telco Added- Nigeria
  - MTN
  - 9mobile
Next Plans

• The first phase of the project which is in the final stages involved Arifu's chatbot delivering tailored cassava recommendations directly through simple mobile phones in Tanzania and Nigeria.
• Phase two will see the service expansion for cassava recommendations in Rwanda.
• Finally, we will expand the chatbot functionality to potato for the Rwandan smallholder context. The aim is to provide customized fertilizer advice with higher agronomic efficiency and reduced nutrient losses to the environment.
• We will conduct a combination of SMS and phone surveys to determine the proportion of users effectively applying the recommendations in their field, and the influencing factors that positively impact uptake. Feedback will inform all players on what farmers want and result in future demand-driven technology development and dissemination.
• New content on Financial and Business Education
Scaling to next users through secondary partnerships

AKILIMO
we know cassava
Why secondary partnership?

**Context**
Various bottlenecks affect scaling of AKILIMO tools with partners in the field

**Goal**
Improve scaling and sustainable use of AKILIMO tools through integration into partners’ operations

**Challenge**
Change the prevailing situation in Nigeria and Tanzania and engage secondary partners to bundle the use of AKILIMO with other services
Main steps taken

Step 1: Information from primary partners

Step 2: Follow up and profiling

Step 3: Multi-faceted actions to engage secondary partners

Scaling constrained

Scaling working better with secondary partners

Step 4: Engaged and trained on integration of AKILIMO into operations
Steps with selection criteria

- Obtained information on secondary partners from primary partners
- Followed up and profiled secondary partners
- Partners engaged in meetings and training on AKILIMO
- Constraints scored and prioritized
- 22 partners integrated
- 61 partners trained
- 95 partners profiled

Selection criteria:
- Existing network of farmers/EA structure
- Working in cassava value chain
- Model of dissemination exists
- Relevance of AKILIMO to primary work
- Willingness to integrate AKILIMO for use
- Sustainable use of AKILIMO with farmers

295 partners mobilized
Process of engagement

Checking partners’ capacity:
1) Assessment through an agreed checklist and analysis criteria
2) Key partners selected
3) Follow up plan developed including capacity building
4) Scaling promoters engaged and trained to follow up on selected partners with grant support from RTB
Bottlenecks identified

**Input**
- Seeds, herbicides, fertilizers, etc.
- Limited access to improved seeds
- High cost of inputs e.g. fertilizer
- No specific fertilizer blend for cassava
- Limited application of fertilizer
- Poor access to financial credit facilities
- Poor input distribution system

**Production**
- Smallholders, Big/Commercial farmers
- Poor access to mechanization tools
- Poor access to improved seeds
- High cost of transportation & delivery arrangement
- Use of yielding potential varieties
- Lack of awareness on use of Fertilizer & herbicide in cassava production
- Limited access to outlet market
- Diseases & Pests
- Low price of cassava fresh root

**Aggregation**
- Brokers & Intermediaries
- Unstructured market and pricing system
- Poor infrastructures
- Price fluctuations
- Limited knowledge
- Difficult in profiling
- Limited financial capital for seed production

**Processing**
- Local and Industrial producers
- Low supply of volume required
- Poor linkage between producer & processors
- Limited knowledge of cassava
- Limited financial capital for HQCF
- High cost of producing HQCF

**Marketing**
- Retail and wholesales traders
- Low market price
- High cost of cassava products (HQCF)
- Low quality of processed products
- Unreliable market for cassava
- Lack of big processors

**Consumption**
- Individual and industrial consumers
- Low shelf life of local varieties for consumptions
- Low awareness of local products
- Low use of cassava products
Key bottlenecks

Major bottlenecks for the farmers are access to market, credit and quality inputs.
Linkages among partners

- **Input**
  - Seeds, herbicides, fertilizers, etc.
  - Smallholders, Big/Commercial farmers
  - Brokers & Intermediaries

- **Aggregation**
  - Local and industrial products

- **Processing**
  - Processing companies
  - Lead firms (Nestle, Dufil...)

- **Marketing**
  - Lead firms and marketing outfits

- **Consumption**

**Arms-length linkage**
- Order contracts or preferred supplier arrangements
- Operational service against payment
- Contractual relationship

**National Research Institute (NRCRI, TARI, ZARI, NAERLS, DAICOS)**

**Association of Cassava Producers**
- TACAPPA (TZ), NCGA (NG)

**TFDA/TBS**

**NAFDAC SON**

**Ministry of Agriculture**
Outstanding Partners and Farmers reached

**Nigeria**
1) Soladuke
2) Jairus ogbu
3) Perfect Impact
4) IEVPS
5) Cato Foods
6) NCGA Delta
7) Cedro Royal
8) SUFAN
9) Gemehaam Bees Ltd
10) KOLPING
11) OGADEP

**Tanzania**
1) Kwambogo
2) Mtama DC
3) TYEGD
4) Bagamoyo DC
5) Lindi DC
6) Farmers Group
7) BIHARAMULO DC
8) BUNDA DC
9) Handeni DC
10) Chalinze DC
11) KOLPING
12) CAPAFO

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Lessons learnt

1) KOLPING, CropLife, Kilimo Joint, Cedro Royal are working with primary partners to bundle use of AKILIMO with inputs, markets and credit

2) Integration of AKILIMO into partners operations will sustain the use especially, with cassava producers and processors

3) KOLPING (Nigeria) had integrated over 100 lead farmers as community based AKILIMO extension service providers

4) A grant to work specifically on scaling AKILIMO – which covered the value chain analysis, partner mapping and other promotion activities with secondary partners was secured from RTB
5) Sustainability of AKILIMO within government structures is getting more support in Nigeria and Tanzania

a) DAICOS (Tanzania) approved commencement of AKILIMO integration into all existing government cassava documents and NAERLS signed MoU with ACAI to integrate AKILIMO into existing cassava manual and national farmers helpline

b) Ogun State Government (Nigeria) approved integration of AKILIMO into extension package of the government extension outfit (OGADEP)