Cassava Data-Driven Agronomy

Putting data at the service of agriculture

Objectives

1. To assess potential for early warning system to mitigate weather risks, through scenario analysis for crop resilience to weather-induced pest and disease threats.
2. Describe production situations and quantify pest risks in farmers' field..
3. Develop an app-based monitoring system that provides estimates of cassava production area, yield, and production loss due to biotic and abiotic stress.
4. Enhance the capacity for cassava crop monitoring and pest surveillance by using crowd sourcing toolkits.
5. Provide farmers with a straightforward and vital decision support tool for pest management in cassava production.

IMPACT

- ✓ Reduced yield gap
- ✓ Enhanced adaptive capacity of farming systems to climate change
- ✓ Increased livelihoods
- ✓ Empowered partners

Components

1 2014-2016 Recall Data

- Crop yield
- GPS location
- Pest & disease
- Farming practices

Data Acquisition

- ✓ Pooling existing data through partnerships
- ✓ Modern data capture and management strategies using a mobile app and online DB

2 Weather Data

3 Soils Data

4 Data Mining Team and Partners at Work

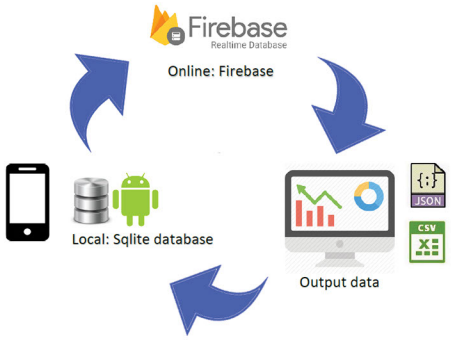
cassavaposter.psd

CROP MODELLING
Recall Data

300 Farmer Respondents

779 2014-2016 Cropping Events

414 Data with GPS locations



Results
and Products

Data Visualization and Online API

https://appdatacollect-3b7d7.firebaseapp.com/analytics/analytics_demo.html

Scientific Research Publication

[title of research publication here]

Data Analysis

- Review, cleaning and formatting of collected data
- Merging of collected data with weather and soils data
- Machine learning

Methods
Data Collection

- Development of mobile app and data archiving system
- Mobile app usability and testing with data collectors
- Field surveys on farmers and online data syncing