Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
- Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Typical smallholder farmer: *Aggrey (30-39yrs) with his sons in Rwebirizi, Uganda*

USAID
FROM THE AMERICAN PEOPLE

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
- Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Research Approach:

- Adhoc surveillance - Small-holder farmers given smartphones with a simple image collection app
- Farmers send in geo-tagged image data of their gardens - an estimate of 10 - 20 images per week
- An incentive scheme rewards farmers for data uploads based on quantity, [location and quality]
- App can provide immediate diagnosis of plants in the field on top of providing social collaboration features for farmer to connect with other farmers.

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
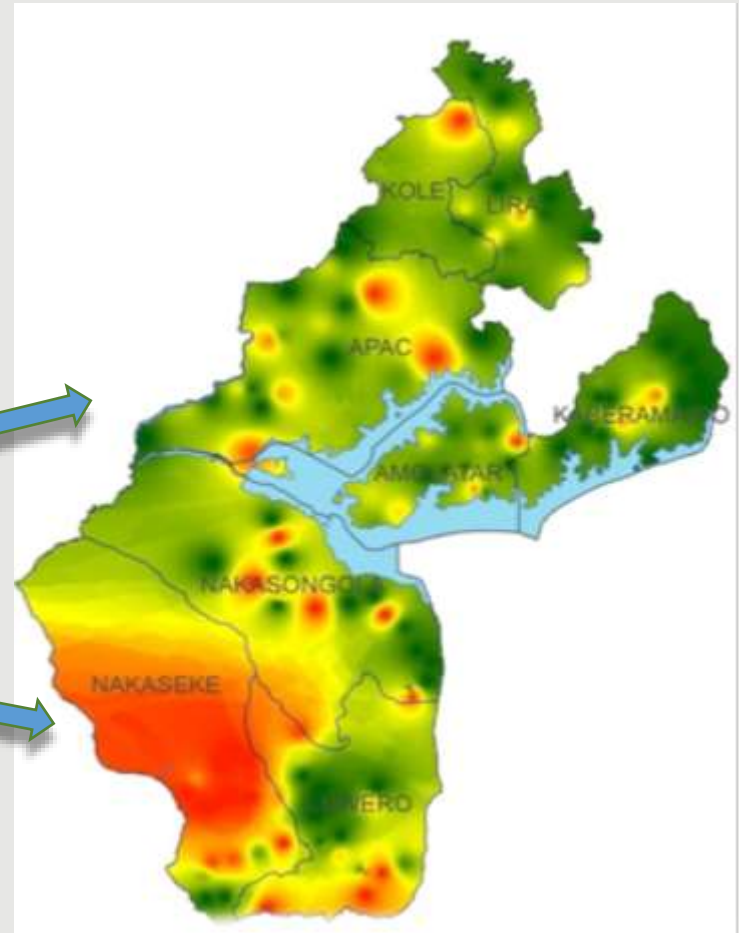 - Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Key results of your research/project so far:

- Selection of 7 main localities in Uganda and over 200 farmers verified for training
- Creation of the Adsurv App for adhoc surveillance data collection (also available on Google Play Store)
- Training of 190 farmers in 7 regions/centers in the different regions of Uganda
- Over 20,000 images so far collected using the system
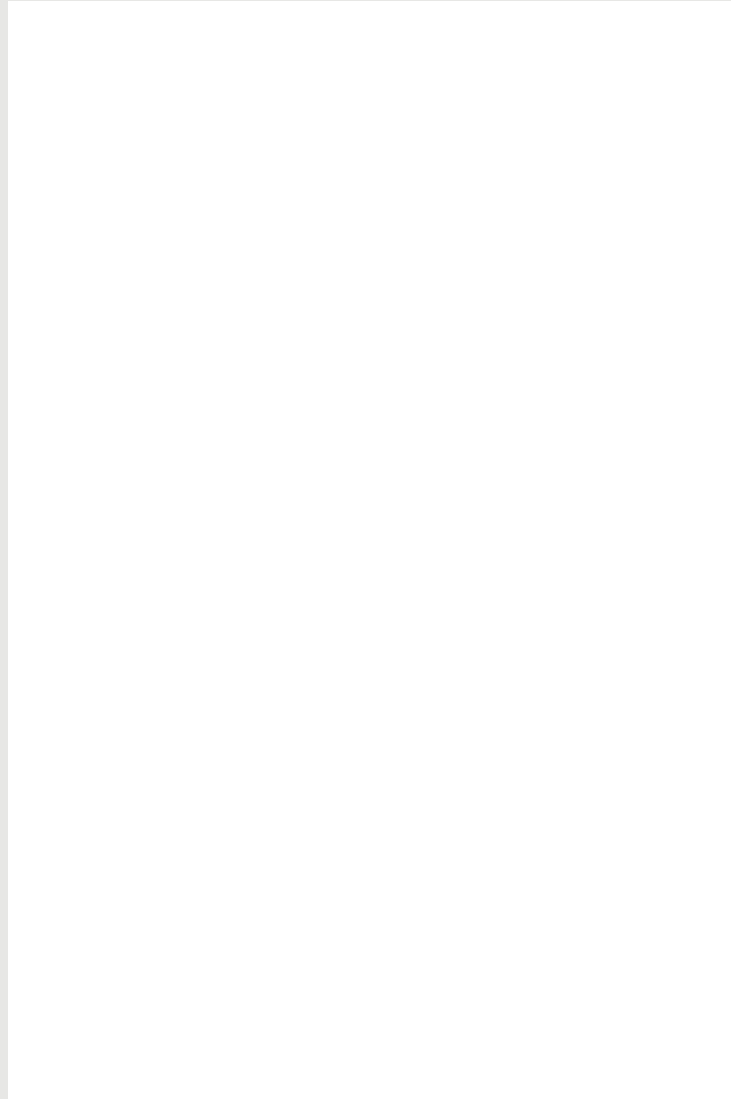- Farmer support structure including a call-center comprising of students setup.

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
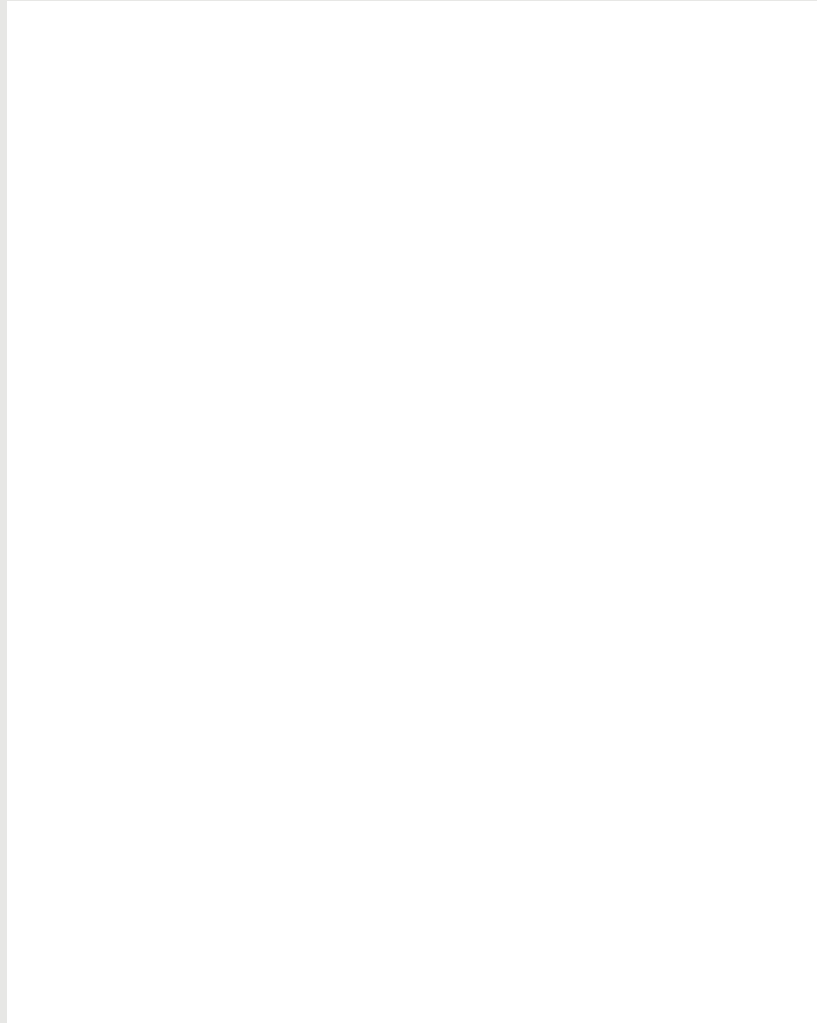## - Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
 - Ernest Mwebaze | *AIR lab | Makerere University, Uganda*
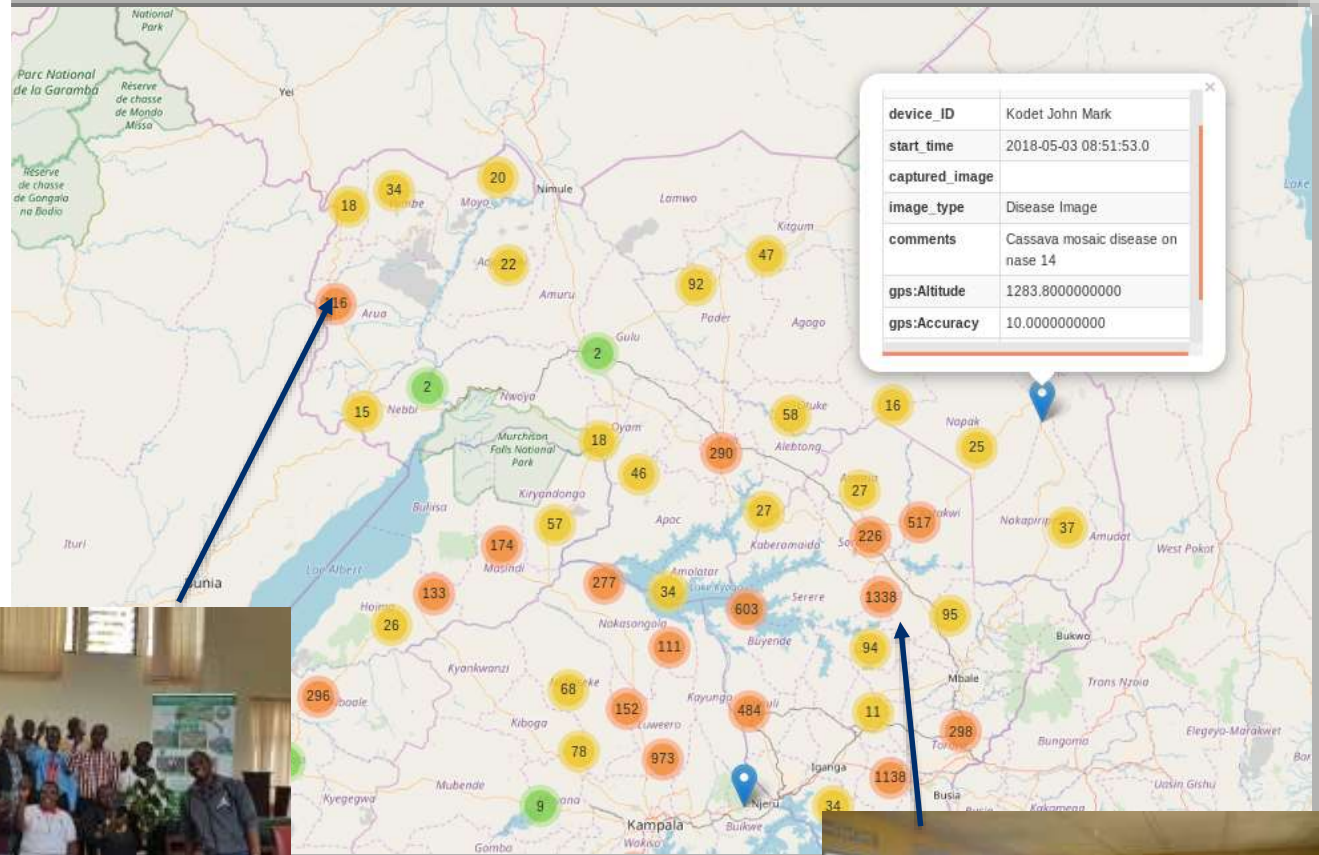
Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
 - Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
- Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Scaled deployment of smart-phone agro-applications for field based diagnosis and real-time surveillance data collection
- Ernest Mwebaze | *AIR lab | Makerere University, Uganda*

Top next steps for your project:
- Make the incentive mechanism more sensitive to location and quality of upload
- Develop dashboard for data for our government collaborator
- Do on the fly spatial analysis based on uploaded data

How data and results from your project will impact stakeholder decisions and the development problem:
- Weekly disease outlook over the country will enable evidence based decision making by our government stakeholder
- Field based diagnosis by the farmers will allow them apply local interventions in their fields.

Challenges you have faced in collecting meaningful data:
- Incentivizing farmers is problematic, we saw a huge drop in uploads at the onset after the training.
- Technical challenges related to infrastructure e.g. network failure problems