Weather Forecasting Model for Farmers in Arusha

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Background

- Weather forecast information in Tanzania is obtained online and radio stations
- 31 weather stations in Tanzania
Motivation

- Agriculture extension officers are limited in numbers
  - Arumeru district 1:3000
- Lack resources to support farmers
- Explore the use of weather information for diseases prediction
Approach

- A model for weather forecast in Arusha
- A mobile application, a portal to deliver the weather information for diseases prediction
- Weather forecast can be accessed offline
Larkin & Fravel (2002), Fusarium wilt diseases are widely known as warm temperature diseases from 11°C to 32°C and optimum temperature for both pathogen and disease development is 27°C to 28°C, F. oxysporum grows well from 10 to 35°C and most severe at 27°C, moderate at 32°C and little at 22°C.

Fusarium wilt generally corresponded to greater severity due to higher temperatures (J. C. Scott & Kolke, 2010).
Data Sources

- NOAA Global Historical Climatology repository
  - Arusha historical climate data for 58 years (from 1960)
  - Datapoints: 6331
  - Missing data for 10 years (random)

- Tengeru Metreological Station
  - Arusha historical climate data for 7 years (from 2010 to 2016)
  - Datapoints: 2365
Way Forward

- Develop algorithm on the weather data
- Determine the relationship of weather information and banana diseases
- Deliver the weather forecast model on mobile application
- Updating the model
THANK YOU