DRONE TECHNOLOGY FOR AGRICULTURE SOLUTIONS
AWARDS

AIRBUS BizLab Aerospace Accelerator

#AFRICA 4 FUTURE

AIRBUS BIZ LAB
#AFRICAN4FUTURE ACCELERATOR PROGRAMME 2018

Disruptive Agricultural Technology
Innovation Knowledge & Challenge Conference

THE WORLD BANK
IBRD • IDA

World Bank’s Disruptive Agricultural Technology for Data Analytics and Agricultural Intelligence – 2019

2017 IATA Air Cargo Innovation Award
PROBLEM STATEMENT

- It is difficult to effectively and precisely monitor crop health for farms

- Outdated farming methods that do not leverage actionable, up to date data in decision making.

- Lack of access to quality, and relevant up to date actionable data.
NORMALIZED DIFFERENCE VEGETATION INDEX

Remote sensing technique:
- Measuring plant health and vitality

• Implementing drones coupled with remote sensing technology
• Collection and processing of data to enable smart decision making
• Further use of drone technology in mitigation and administration
VALUE PROPOSITION

- Geo – referenced NDVI map of a farm
- Red areas – Indicate sections with poor health
- Green areas – Indicates healthy areas on the farm
- Possible problems affecting the farm:
  - Weed pressure
  - Pest and disease infestation
VALUE PROPOSITION

• Precise disease and nitrogen monitoring - Mitigation efforts of identified issues focused on problem areas, saving time and resources.

• Easy tracking of farm performance, therefore enabling tracking of effects of different farm inputs.

• Area and boundary management for administrative purposes, in cases of multiple small scale farmers.

• Topography mapping – Digital elevation model mapping for irrigation management.
SMALL HOLDER FARMER MAPPING

Our impact in mapping for agriculture so far:

• Mapped over 2,500 farmers

• Digitised farm data which includes farm ownership, crop and livestock value chains, farm distribution between males and females etc

• Gained insights on sustainable farming practices like water harvesting.

• Assessed impact of challenges to farming e.g flooding
Row based plant counting for yield prediction – to enable harvest and storage planning

Processed map of Bendor farm:
https://www.dronelab.io/map/public/view/19ff771098f54defbd9d8bbf1917a111

High resolution map showing gap areas within plant rows
THANK YOU