The Digital Revolution in Agriculture

...Positioning for Success

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Today, there are more than 7 billion people on the planet, a figure that’s expected to reach 9.6 billion by 2050.

If these numbers hold, overall food production will need to double in a relatively short period of time to meet demand to feed the world’s population.
Digital technologies and analytics are transforming agriculture, making a farm's field operations more insight driven and efficient. Digital-based farm services, referred to as "precision agriculture," are helping to improve financial performance and boost yield.
Potential Opportunities in Smart Agriculture

- Remote Monitoring Systems of Pests:
  - Automatic pest sensors
  - Pest population forecast
  - Pest behavior analysis

- Remote Visual Monitoring Systems:
  - Energy efficiency
  - Autonomous operation
  - Surveillance of critically endangered species of term
  - Optimal scheduling
  - Real-time image capturing

- Colony Collapse Disorder:
  - Beehive entry-exit analysis
  - Bee behavior analysis

- Automatic Greenhouses:
  - Adaptive environment control
  - Pest monitoring
  - Increasing productivity of crops
  - Productivity forecast

- Microwave Pest Elimination Machine:
  - Low-cost, high efficiency
  - Non-destructive operation
Precision agriculture (PA)

Precision agriculture (PA) is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops.
The Agricultural Sector in Nigeria is one of the key drivers of the economy. It has the potentials to open up more employment opportunities, create wealth and guarantee adequate food for our rapidly growing population.

Digital Agriculture is an emerging field in Nigeria focusing on the enhancement of agricultural and rural development through improved information and communication processes.
Challenges

Multiple Software Solutions
- Not aligned with farmer's expectation
- Does not support most policy formulation

Ecosystem
- Farmer
  - Poor crop yields
  - Devastating losses from pests
- Agent
  - Job frustration
  - Underperformance
  - High turnover
- Agro-Input Industry
  - Unrealized sales
  - Little customer loyalty

5Gs
- Globalization
- Global warming
- Growing populations
- Growing new economies
- GM crop production

Agricultural Production
Identifying agricultural lands and mapping them to farmers.

Problem of traceability and transparency in agricultural production.

Integrity of data.

Infrastructural challenges in rural areas.
What we are doing>>>

Introduction of GIS for Soil Mapping across the country to guide each state to enable them produce crop of comparative advantage

Use of AMIS-CAPI System to ensure the integrity of data captured by enumerators

Provision of Broadband to access network in the rural areas

Seed Certification under the Ministry NASC
1. **e-AgricTech Stakeholder Forum**

The forum will bring together, the existing innovators and enable government share its policy direction with them which will enable the creation of sustainable and research guided solutions.

2. **e-AgricTech Hub**

Through this hub, the upcoming innovators will be familiarized with the challenges facing agriculture in the country at the value chain level for them to provide innovative ideas and solutions to the problems.
3. e-Agriculture Web Portal
4. The HITCH

FMARD is working with its consultant to deliver content to the underserved.
Conclusion

There are so much opportunities available in this growing Digitalization in Agricultural Sector. The fourth industrial revolution is here, we cant deny it and as a nation, we need to take advantage of it and properly position ourself in the this emerging opportunity to grow the economy.
Thank you