Accessing key data with smart enablers for small holder farmers

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Abstract: Smallholder farms in sub-Saharan Africa number around 33 million, represent 80% of all farms in the region and contribute up to 90% of food production in some sub-Saharan African countries. Because of their relatively weaker position vis-a-vis the other value chain participants (in terms of finance, education, rural location and other factors), the smallholder farmer is often the one who is significantly more affected by unequal or insufficient key information and data. While this gap in information is most acutely and directly felt in terms of markets and price, it is also equally pervasive in the planning, production and postharvest management aspects of smallholder agriculture All these factors have pushed the small holder farmer's life with agriculture as an occupation of gamble especially for key questions like; What produce can I grow where I live? When should I sow/plant/harvest/market it? How should I sow/plant/ harvest/market it? How to minimize food waste? among many others. However, among the technologies invented in the past few decades, smartphones have gained large market shares among various user sectors due to their usefulness, ease-of-use, and affordability. They have paved way for equitable and fair access to key data and information through applications designed specifically to address the farmer's needs in the food chain ranging from pre-planting planning, planting, cultivation and harvest and post-harvest processing related phases. Moreover, smartphones are nowadays equipped with various types of physical sensors and also support integration of Artificial Intelligence, Big Data and IoT which make them a promising tool to assist diverse farming for rural farmers who previously had limited access to up-to-date agricultural information (e.g., market, weather, soil and crop disease) and assistance from agricultural experts and government extension workers.

Author Information

I am a graduate Researcher, an agro-Technologist, Data scientist, Information systems developer with a bachelor's degree in information Technology, Certificate in Open data, Certificate in feeding a hungry planet, certificate in sustainable cities, certificate in computer skills. I am also a senior information and communications manager at Youths in Technology and Development Uganda whose main mission lies in Digitizing Agriculture, ICT4 Rural Development, Open Data in Agriculture and Nutrition, Youth Empowerment and Community development.

I have spoken and attended on a number of open data workshops both locally and internationally. My key technological interests include; Data science, Artificial intelligence, and Internet of things.