

Improving Agribusiness Services Delivery in Ghana through ICT-enabled Extension.

Background

Ghana has an active market for both traditional and ICT-based extension services with 1.5 million Smallholder farmers to only 2600 government extension officers (AIS, 2017). Government provides most embedded agent-led extension services and the private sector and NGOs mainly provides ICT-based extension services. The large demand for good quality agent-led extension services is unmet in part because of insufficient government funding for extension operations. The role of the private sector in the provision of ICT-enabled agricultural advisory services has become imperative due to challenges limiting effective delivery of public agricultural extension services. Access to credit and inputs has remained a major component of any extension service package. Financing extension services delivery in Ghana has largely been government and donor-driven in the past. This is occasioned by the visible absence of private sector participation and a viable business-model as key components of existing extension service packages. Who pays? is often the question left answered. Without sustainable business models, ICT-enhanced farm extension services will not scale to millions of farmers. How can government,

stakeholders and other resources be mobilized? to offer effective ICT-enabled agribusiness services? Or how, can the private sector participate in the agribusiness extension delivery system without reducing the trustworthiness of the information provided?. How can cell phone service providers be involved in “win-win” models of agribusiness services delivery?. Such win-win models include service providers being able to gain customers or reduce their “churn” (the number of customers jumping from network to network), while delivering the service to customers at discounted rates. “Grameen Foundation implemented the Achieving Impact at Scale project” as a follow-on activity to the ICT Challenge project, introducing mobile-enabled agents into provision of extension services within private agribusinesses. The project introduced several new elements into provision of extension/businesses services, including use of farmer profile to tailor services, assessment of individual learning needs, and farm planning and budgeting. This study appraised all the unique services of AgroTech Smart Ex which provides quality agribusiness advisory services to agricultural value chain actors and to determine the type of farmers served by the agribusinesses and implications for moving towards more “privatization of agricultural extension services. This brief, and corresponding full report, provide an analysis of the unique AGROTECH options for

sustained agribusiness advisory services delivery to smallholder farmers in Ghana.

AgroTech Smart Ex: A Tool for Agribusiness Services Delivery

The farmer management feature provides programmed visits or Agent routine tied to key crop growth stages or farm operations, to deliver appropriately timed advice and/or demonstration to the farmer. The farmer discovery and enrolment feature enables the Agent to register, and document farm practices and activities of farmers prior to joining the AgroTech Smart Ex Coaching Scheme. The Technical Support through the Value Chain Linkages provides access to contact addresses of value chain service providers, including financial institutions, transporters, agricultural inputs and output dealers such as fertilizers and agro-chemicals, ploughing and haulage services. The Access to information and Knowledge Content depository provides a collection of information and knowledge on crop production, processing and marketing and Optimized farm practices. Data collected by the mobile application through agent interactions are stored and analyzed by remote servers and accessed by the mobile application, helping the agent to understand the background of the farmer, his/her learning needs and requirements and track performance. The activities of the agent are also tracked and the data is available to supervisors via internet link leading to progressive

Monitoring, Evaluation and Learning (Fig 1).

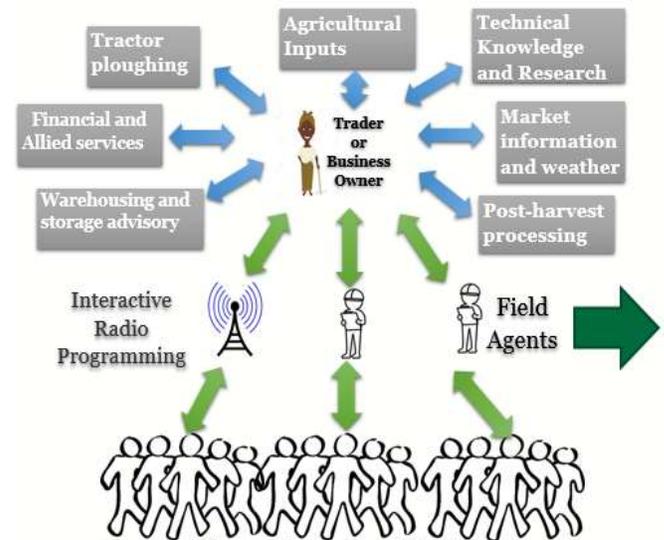


Figure 1. Some key elements of AgroTech Smart EX.

With the AGROTECH approach, multimedia extension management platform that enables last-mile stakeholders to leverage ICT and human networks to provide extension advisory services to farmers enables farmers to address challenges encountered. The approach incorporates interactive interface and permit user engagement and progressive monitoring through the value chain linkages developed. Furthermore, the live listeners' radio component makes it possible for non-targeted smallholders and beneficiary smallholders to interact and seek further advice from extension agents and community agriculture specialists (agents); while others receive periodic sms on specific issues on their mobile phones. Smallholder farmers are also armed with periodic market and weather information which empowers them for informed business decision-

making (Fig 1). The gendered-component target female farmers in the production of major staple crops (Fig 2). Membership of farmer-based organizations (FBOs) and participation in FBO activities enhances group access to credits (Figure 2).



Figure 2. Engaging women farmers with AgroTech Smart Ex.

AgroTech Smart Ex mobile application is designed to improve agribusiness productivity and profitability. It is primarily a tool for field agents and business owners to ensure that investments with outgrowers are well managed by supporting smallholder farmers and outgrowers to optimize their decision-making process through coaching and handholding (Figure 3). The coaching and handholding, through an agreed farm management plan, also promotes business self-discipline. The model is in recognition of field experience which

shows that smallholder farmers need more than information and demonstrations to take up or adopt technology. The deviations from the usual practice stem from a lack of disciplined approach to implementing the required actions and inability to deal with change in policy, product specifications, price fluctuations etc. that require complex analysis to arrive at a good decision. The smallholder farmer needs trusted coach with access to vast sources of information and knowledge.



Figure 3. The AgroTech Concept

The study found out that agricultural advisory services were needed not just by farmers but also by other players including inputs and financial service providers as well as other agri-distributors. In

addition to production-based support services to farmers, the business model proposes provision of farmer data to financial institutions and input suppliers for a fee as well as engagement with large buyers and processing units to secure market for produce of registered farmers. The radio AgroTech program and video tutorials on the need for application of crop-specific fertilisers accounted for the adoption of good agronomic practices (GAP) (Table 1).

Table 1. Key outputs from AgroTech Smart EX in Ghana

Key outputs	No. farmers
Farmer feedback	15,000
Farmer profile	10,400
Radio reached	490,000
Voice reached in local languages	24,000
Video and SMS	33012
Access to credit	2076
Access to input and output markets	1067
Capacity building on GAP	1079
Contact with AEAs	1053
FBO membership	1121
GAP adoption	2439

ICT-enabled platforms had the intention of achieving more systematic forms of extension delivery, and thus has the potential to support a variety of innovation-intermediation role. It also emphasizes database development and the collection of farmer

registration data (names, locations, farm size, crops grown, and in the case of Smart Ex also farm development plans etc.) as a basis for enhancing service delivery and innovation-intermediation. A service provider’s repository to facilitate value chain linkages, and enables the digitizing of agents monitoring activities to track agents and identify emerging issues on the ground with urgency.

Policy Implications

Many farm businesses in Ghana remain basic and are unable to grow and improve on their competitiveness. They require credit to operate efficiently and to grow. However, lack of credit is one of the key constraints to growth. Financial institutions and other credit providers in turn indicate high rates of default in credit repayment as one of the reasons why credit lending to farmers is not commonplace. There is a general lack of credit reporting and farmer performance data, which would facilitate lending, and help expand access to credit. There is the need for closer supervision, tailored coaching, and efficient farm record management to improve farm performance, profitability, credit repayment and assessment of credit worthiness. AgroTech Smart Ex provides robust agribusiness facilities to achieve this.

From the assessment, there are prospects for partnership with other existing ICT platforms in Ghana to scale-up the model. The AgroTech Smart

Ex package permits a last-mile progressive monitoring and records keeping by smallholder farmers and this must be sustained by engaging private extension institutions. The private extension players should also provide credit to smallholders to enter into high return farm or non-farm livelihood activities. Government should strengthen, resource, and build the capacity of institutions to train and offer support to smallholder farmers. These institutions should have a separate wing for smallholder farmers to see to the needs of smallholder farmers to help them adopt innovations. The financial viability of Community Advisory Specialists (CAS) and Private Institutions to act as effective delivery channels, feasibility of engaging with delivery channels to demonstrate their effectiveness and capacity to deliver services and showing a real proof of willingness of farmers as well as other institutions to pay for these services should be addressed. This ICT-enabled package when implemented fully would have significant impacts on the income of adopters as well.

Radio, video, text messaging, mobile apps and other information communication technologies (ICTs) can reach more farmers more frequently with quality agricultural advice, and can complement traditional extension services. AgroTech Smart Ex combines radio and ICTs for participatory radio services that allow farmers to learn about agricultural improvements and provide feedback so extension

officers understand their information needs. The model supports the private sector to deliver extension alongside other business services with ICT-enabled devices and interactive radio. The technologies used are scalable and reliable, allowing for important agricultural information to reach more farmers, more frequently. Thus, AgroTech Smart Ex extends the reach of agricultural information, improve the efficacy of local extension services and promote lasting behaviour change among small-scale farmers, so they can increase yields and improve food security.

Further Reading

1. This policy brief is drawn from the full report, “*Technical Report of Data Analyses from AgroTech Smart Ex. Application in Ghana*”, Grameen Foundation, Ghana, 2017, which can be found at (www.grameenfoundation.org).
2. AIS 4th Advisory Committee Meeting Report, 28th September, 2017. Grameen Foundation Ghana office, East Legon, Accra, Ghana.

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