



Esoko

Digital Finance and Content
Services for Agriculture Markets:
Lessons from Esoko's Ghana Pilot
Project



About the Mastercard Foundation

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About AGRA

Alliance for a Green Revolution in Africa (AGRA) is a partnership-driven institution that is African-led and farmer centered. Established in 2006, AGRA places smallholder farmers at the center of the continent's growing economy by transforming their farming beyond the solitary struggle for survival, into thriving businesses. Our partners include African governments, researchers, development partners, the private sector and civil society working primarily with smallholder farmers - men and women who typically cultivate staple crops on two hectares of land or less. Our five-year strategy (2017 – 2021), aims to catalyze and sustain an inclusive agricultural transformation through integrated, country-based investment plans in 11 countries with a high potential for success. The focus is on increasing incomes and improving food security for 30 million farm households with support that strengthens the capacities of governments and private sector through policies, programs and partnerships that increase productivity and access to markets and finance.

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Glossary

Smallholder farmers	Farmers in non-competitive value chains with landholdings less than 15 acres (6.1 hectares).
Financial inclusion	Access, use and sustained use of financial services and complementary non- financial services.
Account access	The number of adults reporting owning an account in any formal financial institution.
Mobile account access	The number of adults reporting owning a mobile payment account.
Account in use	An account (whether held in a financial institution or mobile money) that has been operated at least once in the last 12 months.
M-Commerce	This is the buying and selling of goods and services using handheld wireless devices such as cellular phones and personal digital assistants.
Range of outreach	The range of financial and non-financial products and services that a household can access at one point of sale.
Scale	Market penetration (the ratio of customers reached to market potential) and/or market expansion (the inclusion of new segments at the market level) as an indication of scale.
Sustainability	While detailed financial analysis will be beyond the scope of these briefs, we will estimate high level measures that allow us to assess whether market expansion is contributing to significant growth in revenue in relation to costs.
Client value	Product range and timeliness (opportunity cost) and qualitative factors such as trust or social value.



Foreword

AGRA's mission is to improve yields and incomes for at least 30 million farming households by 2021 through a series of integrated, country-based programs in partnership with a wide range of private and public sector actors. To achieve this mission, improved access to affordable financial and non-financial services for smallholder farmers seeking to intensify and improve their farm practice is essential.

The emerging digital highways have enabled farmers across Africa to interact with input suppliers and commodity markets more efficiently and more intelligently than ever before. Growth in mobile money usage in Ghana, Kenya and Tanzania make the delivery of financial services to farmers much cheaper and less risky. With a reduction of physical infrastructure required to reach farmers, and as more data on smallholder farmers becomes available for analysis, certification and rating purposes, the transactional risks are greatly reduced.

AGRA, in partnership with Mastercard Foundation has provided matching grants and technical expertise to 22 partners to accelerate their innovative business models for the delivery of financial services to small-scale staple crop farmers in Ghana, Kenya and Tanzania. The interventions support our partners to probe, pilot and scale the digital financial and non-financial solutions that present a business case for all partners and an end-to-end solution for smallholder farmers.

Since the start of the partnership in 2015, we have learned a lot of lessons from farmers, services providers, value chain actors and colleagues in the digital finance and ICT4Ag space. This second series of case studies documents some of the lessons we learned from our investments in:

- Esoko's full-service platform (finance and information) pilot in Ghana
- Lay away scheme with an input distributor in Tanzania

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Digital finance and content services for Agricultural markets in Ghana: AGRA's partnership with Esoko

This learning brief documents some of the key lessons learned from AGRA's investment in the development and deployment of the m-Commerce solution 'Fasiba' offered by Esoko in Ghana based on evidence from Esoko's platform detailing its capacity to support hundreds of thousands of farmers with information services such as market prices, good agricultural practices and weather forecasts.

The m-Commerce solution proposed by Esoko builds on the existing market information platform and call centre for its subscribers as they sought to provide value-added services for the farmers.

The life of Fasiba was short: In 2017, Esoko was split into two companies: Tulaa and Insyt, placing the m-Commerce activities under Tulaa which was transferred to Kenya for further refining and piloting. This meant the end of Fasiba in Ghana, but many of the lessons learned from the early days were taken up in Kenya, building up Tulaa to occupy the niche it does today.

This learning paper is useful to digital non-financial service providers who may want to develop financial services as an add-on to their current product offering. It's also useful to donors and investors seeking to understand the pitfalls and challenges in building a full-service platform for small scale farmers. It contains rich content on what to do, what not to do and the how-to of deploying an m-Commerce solution in rural environments where digital literacy and mobile money are not the norm.

Have a great read.



Background

Esoko's mission is to drive the economic empowerment of rural people through digital and content services as well as facilitating financial services. Esoko is a private company registered in Ghana and has been in operation since 2008 when it started providing market prices over SMS to smallholder farmers on development projects. Over time more sophisticated services were developed, including weather forecasts, agronomic advice, survey tools and linking buyers and sellers over a wider range of channels including SMS, voice (IVR) and a call center.

Esoko's vision is to strengthen the entire value chain by providing businesses, associations and mobile operators with a platform of content and software to transform agriculture by developing and offering a full suite of applications to serve varied ecosystem needs for organizations across Africa. Technology is better able to manage supply chains, build farmer capacity and facilitate survey research. Esoko's applications are available across varied markets and on a range of platforms including smart phone, tablet, web, SMS and voice (IVR).

Esoko's partnerships include a range of public and private organizations such as the Ministry of Food and Agriculture - Government of Ghana, Food and Agriculture Organisation (FAO), International Fund for Agriculture Development (IFAD), United States Agency for International Development (USAID), Alliance for a Green Revolution in Africa (AGRA), Technoserve, MTN and Vodafone. Esoko works in 20 countries under different partnership agreements in public sector agricultural projects as well as country resellers and franchises.

In August 2016, Esoko received grant support from The Alliance for a Green Revolution in Africa (AGRA) to help 80,000 smallholder farmers in Ghana overcome the challenges associated with access to affordable and quality inputs in order to increase productivity and incomes. The case focuses on lessons learned from 'Fasiba', a digital finance and information services project and the challenges encountered during the pilot phase.

In 2017, a decision was made to split up the Esoko company. The m-commerce business was placed under Tulaa, a new company, while the survey business was re-branded as Insyt under the traditional Esoko offering as a new product line. Tulaa offers a digital platform that facilitates access to input and output markets for smallholder farmers in Kenya whilst Esoko now offers three product lines including Insyt, Digital Farmer Services and Customized Registration & Survey programs across Africa.


Esoko Ghana in the Rural and Digital Finance Ecosystem



The agricultural sector in Ghana represents 19.6% of GDP and the sector employs nearly 60 percent of the labor force (World Bank). A vast majority of landholdings (~70%) can be classified as below five acres (two hectares) or 'small' and this comes with significant challenges for both agricultural productivity and returns. There are a number of constraints to agriculture and agriculture-related financing since many smallholders lack access to formal financial services and the interest rates for commercial bank loans are relatively high, (approximately 25 to 30 percent per annum at the time of this study). Esoko Ghana's solution 'Fasiba' was introduced to simultaneously address four central challenges in agriculture. Smallholder farmers:

1. lack timely access to affordable and quality inputs like seeds and fertilizers,
2. lack technical know-how on sound farming practices,
3. are not able to access high return output markets and therefore
4. are credit constrained.

Before its implementation, a baseline study was conducted in three regions of Ghana (Brong Ahafo, Volta and Northern) to collect data on smallholder farmers. A total of 314 farmers cultivating either Maize, Rice and/or Soybean were evaluated. This study highlighted critical issues and opportunities for Esoko's intervention. For example, the study found that only 24.5% of the study participants had access to loans from banks for agricultural purposes. High interest rates and the lack of trust in the banking system were the few reasons farmers were unable to access loans.



The use of agro-inputs including quality seeds was also found to be quite low in some areas and was partly attributable to the lack of finance but also to systemic and behavioral issues. Seed systems in Ghana are still transitioning from the public to private sector, yet the two sectors suffer from unique issues relating to quality seed development and distribution. Behaviorally, a number of farmers preferred to rely on saved seed from the previous harvest rather than risk new varieties (with good reason as seed quality is patchy). Similarly, for fertilizer most farmers preferred organic fertilizers and those in waterlogged areas refused to use fertilizer because they said most nutrients were washed away. The baseline showed that of the 84% of total sampled farmers who cultivated maize, only 30.3% used improved seeds on their farms. Although 7.3% of rice farmers used improved seeds, an even smaller percentage used certified soya seeds. This not only affected yields but also the ability of smallholder farmers to compete for high return markets. Actual yields vs benchmarks for the three regions stood at, for example, only 1800kg/ha for maize instead of 4600kg/ha, and rice at 400kg/ha instead of 4600kg/ha.

In terms of opportunities, Esoko noted that mobile phone access was high at approximately 90%, although only 53% of the population was able to understand short messaging services (SMS). A comparable number (58%) used integrated voice response, although less than 50% of the farmers actually had a mobile money wallet and 17.5% used this to save.

In this context, *Fasiba* aimed to improve access to finance, quality inputs, know-how and output markets. The service was based on strategic partnerships with agro-input dealers, financial institutions and Mobile Network Operators to create a virtual marketplace where farmers could access farm inputs and finance. Esoko helped set up a 'package' of inputs that could be used per acre and farmers could pay for the package through a layaway plan using mobile money. The layaway options were made flexible to account for different planting cycles and cash-in and input collection were both to be facilitated with the assistance of mobile agents. These agents included Vodafone's (Esoko's mobile money partner) mobile money agents as well as Esoko agents.

The *Fasiba* service leveraged other solutions – for example where Vodafone promoted farmers groups and offered free calls between Farmers' Club members with a dedicated SIM. Esoko had been testing value added services (VAS) such as weather information, market prices and extension, for these clubs. They also provided agricultural content and services via mobile channels to agribusinesses and NGOs under a business-to-business (B2B) model on a per subscriber basis, as well as to end customers. Esoko's cloud hosted mobile platform allowed any user to customize their network and areas of interest, to profile recipients, then send or receive field data to them (prices, offers, stock, training reminders, compliance, agriculture tips, bids and offers, nutrition information, etc). All these services can be accessed via basic mobile phones. Esoko was therefore well positioned to offer a full platform of support services to smallholders.

However, expanding *Fasiba* proved to be challenging at two levels – 1) in terms of the design and pricing of product and services and 2) in terms of partnerships and on the ground implementation. These are discussed in detail in the following two sections.

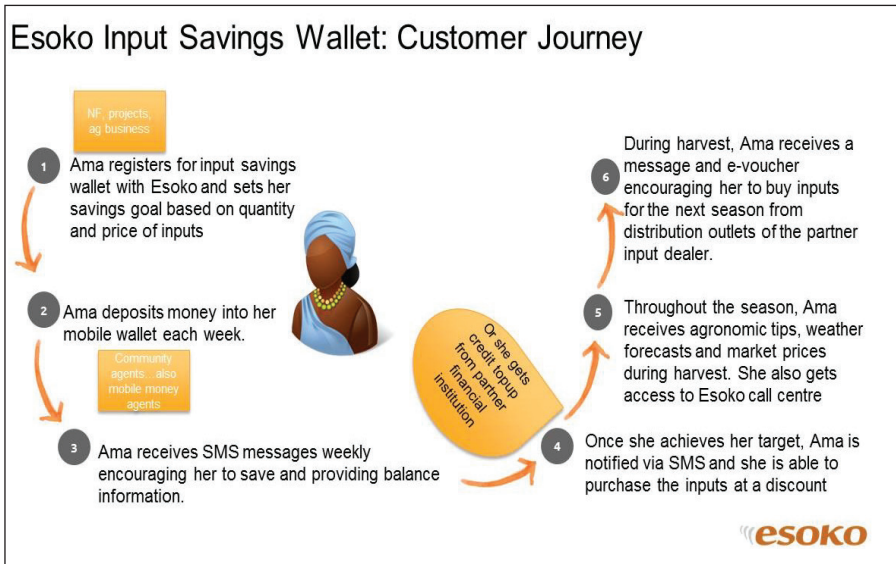


Products and Services: Initial Design and Challenges

The initial assumption at *Fasiba* was that a good quality, affordable and manageable package of inputs, complemented by agriculture information services, would encourage farmers to save up for inputs and improve productivity and incomes. As Esoko was negotiating the package on behalf of a base of 1000 smallholders, the anticipation was that discounted rates would be negotiated for the inputs package from RMG, an important inputs distributor in Ghana offering the input package on credit.

Farmers were registered with a USSD short code with the help of Vodafone's agents, allowing Esoko to obtain the basic farmer profile, their input requirements, savings goals and frequency. Farmers could save by transferring funds from a mobile money account, depositing cash at an agent or transferring funds from the mobile wallets of friends, relatives etc. Once the Esoko mobile wallet was credited the farmer would receive an SMS confirmation and their savings balance. Once the savings goal was achieved the farmer received a mobile voucher and passcode to access inputs at the agro-dealer shop. The inputs were to be offered at a 15% discount from prevailing market rates. A typical lay-away target was 300 Ghana cedi (USD 75) for one acre (0.4 hectares) and 700 Ghana cedi (USD 175) for two acres (0.8 hectares). The savings tenure was approximately five months with the option of weekly or monthly payments.

The anticipated customer journey was as follows:



However, farmers had diverse preferences when it came to inputs and a pre-packaged combination was not of particular interest to everyone. Also, not everyone was familiar with the layaway approach. Technologically, the platform was new and as with any application, Esoko was refining a number of features even as the time for input sales approached. Even as the project was being rolled out, the government announced an input subsidy, which meant that farmers were unwilling to pay for all the inputs in the package. Competitively

pricing the products also proved to be challenging as the main agro-input partner, RMG Ghana Ltd., was unable to commit to a discounted price in time for pre-harvest input sales. For farmers who had started to set aside savings, this was a setback – and they called for their savings to be returned. The effect on the pilot was its inability to establish a positive customer experience in this process.



Partnership and Implementation Challenges

Fasiba was initially successful in lining up a number of important partnerships. Other than OCP Morocco for fertilizers, RMG Ghana Ltd was the main agribusiness in terms of input supply. A separate partnership with Gundaa Produce Co. Ltd. was aimed at ensuring offtake for 2000 maize farmers. The Esoko mobile wallet was designed in partnership with Vodafone.

“If you want input dealers, they want exclusivity,” observes an Esoko staff member. A number of issues came up in the contract design with the input supplier that affected partner coordination. Right from the start, the input supplier was not entirely bought into the project. For instance, the initial MoU did not anticipate that the input dealer would be involved in the downstream distribution of the inputs and there wasn’t a specific binding agreement, thus RMG could step back from supplying inputs and input credit at any stage of the project. They faced their own constraints when it came to how the package was priced. For example, fertilizer prices are regulated by the government making it difficult for a supplier to anticipate the discount levels in advance of sales.

In terms of implementation issues, the ramp-up in registrations did not happen fast enough to ensure buy in, optimal pricing and inventory management from the input dealer. For instance, where the planting of a particular crop starts in April, the layaway scheme should have been marketed in June of the previous year to ensure that most savings targets were completed by February in the current year. However, this process was not started on time partly due to the absence of agents and partly because the product was still under development.

During the pilot, Esoko completed 15,262 registrations of which approximately 27% used the platform for varied services. There were a total of 4,151 transactions for the layaway scheme. Despite the challenges encountered in the pilot program implementation, the pilot developed the backbone technology platform and learning for the launch of the new company, now known as Tulaa.



Lessons Learned

Complex platform: Delivering agriculture finance posits a multitude of issues and platforms often try to solve all of these simultaneously. The pilot may have benefitted from starting with a simple solution, seeing whether that scales and then allowing a staged introduction of diverse services. In Esoko's case offering a layaway scheme, SMS reminders, agronomic tips, weather information and other content services at the same time did not allow for focus on the core offering which was the savings scheme.

Government subsidies: Agriculture inputs subsidies are a preferred political and economic development tool for many governments. For a new platform seeking to offer input related financial services, it can be difficult to navigate pricing, distribution and quality challenges in a market where subsidized inputs are on offer. It may be best not to work with inputs that are a part of government subsidy programs. A similar challenge was encountered in Tanzania with the fertilizer subsidy scheme.

Partnerships: Ensuring that commercial partners buy-in to a project calls for a significant level of negotiation and joint coordination. Ideally each party needs to share the risks and costs of the pilot, making sure there is adequate "skin in the game" and focus from all partners. Also, coordination risks abound in digital agriculture finance pilots as there are a number of overlapping markets – inputs, credit, technology – as well as the critical issue of timing with agriculture seasons. While it is often difficult for a new entrant to address these issues at their level, there needs to be an optional plan on how a pilot may best function with a minimal set of partners to begin with.



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