EAFF _THE E-Granary initiative and THE GAFSP PROJECT

After approval of its new strategic plan 2013-2020, EAFF embarked on a process of implementing the new plan. The process involved several meetings with the leadership and the CEOs of the various member organizations in what is called the Naivasha I &II meetings – the sole purpose of the meetings was to introduce the new orientation of this plan which necessitated change of mindset of the membership majority of which was inclined towards development and needed to tilt towards business.

The leadership meetings were followed by laying the groundwork for the next steps – these steps included

- Development of an agri-business strategy.
  This was done in consultation with members. The conclusions were that we needed a strategy that aggregated farmers for the purposes of accessing input and output markets, financial services such as credit and insurance, value addition, mechanization and agriculture extension services.
- Development of agribusiness tools.
  These tools were meant to help farmers in decision making, they included a directory of value chain actors from prioritized commodities in EAC i.e. maize, rice, cassava, livestock (meat and milk) and potatoes, we also did a price trend analysis for the same commodities 2011-2015, study for an import substitution strategy, documentation of the cross boarder EAC trade procedures, list of agriculture commodity standards for approved commodities in EAC.
- Piloting Business to business approaches.
  We supported regional trade of rice and maize between Uganda, Tanzania and Kenya where we signed >40 MoUs, worked with about 25 off-takers and >60 farmer groups and co-ops and made cumulative sales of 27,000MT worth >8M$. The project was so successful that management felt advised on the need to develop a system to manage such partnerships in the future.
- Establishment of an aggregation platform.
  After consultation it was considered inevitable to embrace mobile technology for the purposes of achieving aggregation of farmers to access the services listed under the agribusiness strategy, thus the launch of the e-Granary.
- Proof of concept of the platform.
  There was need to ensure that the platform was robust enough to be used by small-scale farmers. Several things were considered, from the users side we looked at - mobile penetration, ease of use, simplicity in questions asked, tailor made for target value chain; from EAFFs side we looked at the typology of partnerships needed, the analytics from data collected, the revenue streams and potential for sustainability.
- Enterprise level roll out of the platform.
  Owing to the huge potential of the e-Granary in terms of transforming agriculture, it was viewed that it would need a private company to operate it owing to the kind of partnerships

needed to make it successful. As such EAFF leadership approved a proposal to establish a company and EAFF ltd was born.

e-GRANARY Key technologies to date

A USSD application that helps farmers register themselves, report production data and request a loan.

A web app that helps field assistant and group champions collect data on inputs required and registration

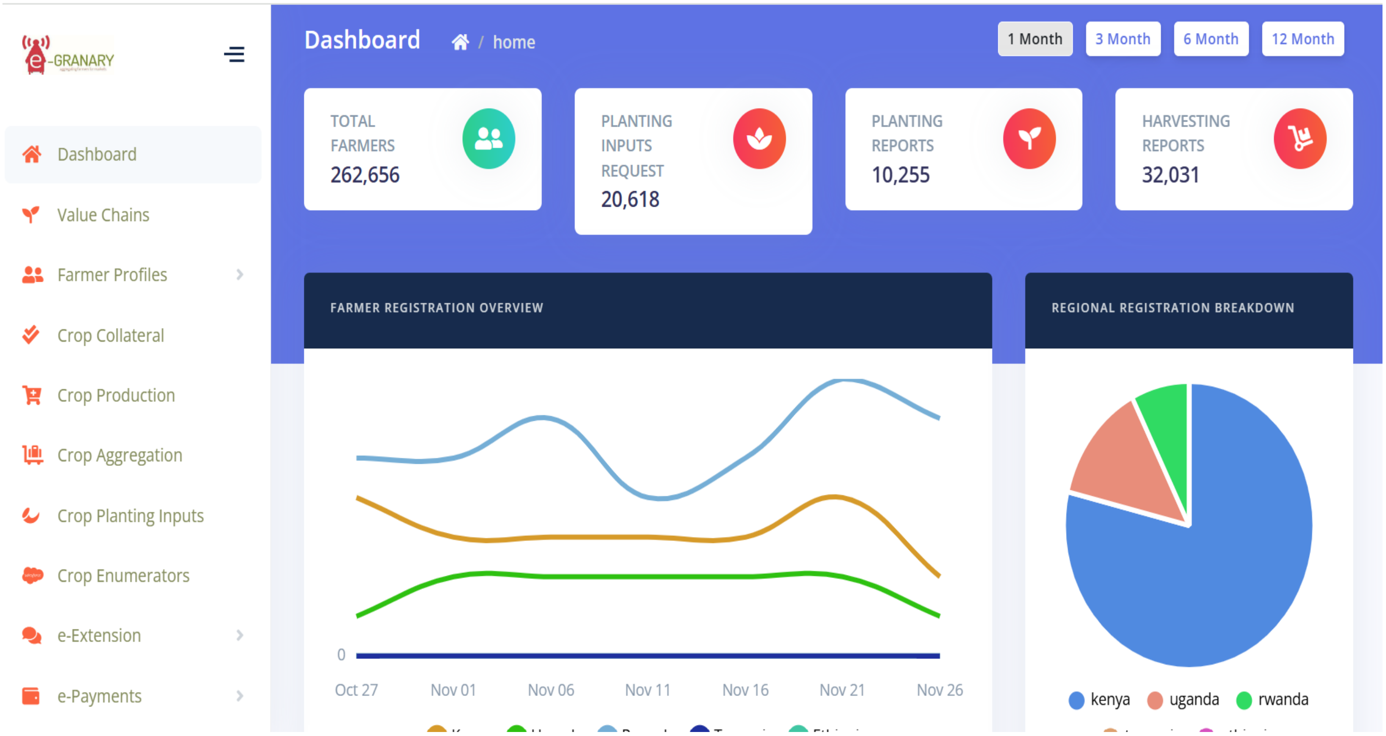
Outbound Voice web app for sending audio messages to farmers. Messages can be customized to farmers local language

Call centre application for managing support to the farmers

Web dashboard- for managing reports and users.

Store Management system- Developed to digitize farmers aggregation stores and improve data and information flow to buyers

Dashboard



Data capture is done by farmers through their mobile phones using a USSD application. USSD application is appropriate for this solution since any phone can access the application and most farmers do not have smart phones. EAFF's field team supports farmer registration. The data includes besides the farmers name and mobile phone numbers, their national ID, location, details of farming e.g. crops grown and yield for each of the farmers. As farmers register, eGRANARY verifies their identity by checking the Government database which has a record of all citizens. Farmers are then able to provide the size of the farm, production data, amount of seed used, amount of fertiliser used, as also the amount of labour hired and related wages. Additionally, at harvest time farmers log the amount of harvested. For instance, in Kenya, farmers can access the application from any phone by dialing *492# in Kenya.

Elements of eGranary Business Model:

- **Market efficiency:** Eliminate several layers of middlemen to connect low-cost producers directly with end buyers. e-GRANARY also secures supply contracts giving farmers a predictable and consistent market. e-GRANARY platform connects smallholder farmers clustered in viable economic producer groups on one end and large off-takers on the other end. This ensures farmers are paid very fair prices for their commodities and also allows them to sell in bulk since the off-takers have capacity to absorb large quantities.

- **Forward and Supply contracts:** EAFF enters into partnership with off-taker (i.e ETG) to provide certified seeds and fertilizers to farmers and also to buy the harvest. The off-taker agrees to provide a floor (minimum) price as part of the forward contract; this price will not be static but will vary depending on product availability, season and prevailing market price. This kind of agreement ensures farmers' access to certified inputs required to boost productivity but they are also guaranteed a market because of supply agreements between farmers and ETG negotiated by EAFF. Furthermore, the off-taker is assured of the quality of the produce.

- **Pooled purchasing:** Aggregate farmers for advantageous rates/bulk purchase discounts and ease of access for certified inputs, small loans, and crop insurance. We give access to trustworthy low-risk farmers to our network of service providers

- **Digital payments:** Farmers now receive payments via mobile money. They can pay for inputs, rent tractors and save, all through the power of their mobile phones. Also access to credit is through the mobile digital platform.

- **Farmer groups:** It's very expensive to serve individual smallholder farmers. We aggregate farmers into viable economic groups to make them worthwhile to serve for our network of service providers. Aggregation of smallholder farmers into groups both links producers with off-takers and helps achieve economies of scale along the value chain. It also helps smallholders to meet the standards and requirements of modern markets and address other barriers to access, and supports farmers to improve their productivity through increased access to services and markets, and enhances their competitiveness by reducing the transaction costs of companies choosing to work with them.

Value Chain Analysis and e-GRANARY Interventions

Input supply level

- Unorgnized traders, govt policies not sufficiently conducive
- Quality and cost is always questionable

e-GRANARY is ensuring - Quality certified inputs

Timely delivery

Producer level

- Unavailability of required inputs
- Increasing cost of inputs
- Lack of supportive interventions (credit, crop insurance, extension services)

e-GRANARY is ensuring - Availability of certified inputs to farmers at an affordable cost

e-GRANARY is providing credit bundled together with crop insurance and credit life

Responsive extension services

Capacity building

Post harvest level

- Lack of necessarily equipments and technology
- Limited knowledge in post harvest mngt techniques

e-GRANARY is ensuring - Access to Post-harvest management capacity building and appropriate technologies

Contract system for assured market

Processing level

- Poor and costly infrastructure
- Private sector not very interestedin investing in Agric
- lack of supportive policies

e-GRANARY is helping to encourage private sector players, especially financial institutions invest in agriculture – smallholder-based agriculture

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worse for small holder farmers
- huge transaction costs in serving farmers
- Weak linkages and cordination among service providers

By aggregating farmers for markets through producer cooperatives and community-based organization, e-GRANARY is reducing the cost to serve farmers for the service providers.

This is also ensuring linkages and coordination among service providers

Consumer level

- Poor market information knowledge and gap
- weak implementation of consumer protection act

e-GRANARY is ensuring the right information regarding production and especially marketable production is available to the

e-GRANARY GAINS UNDER GAFSP PROJECT

Increased market access: e-Granary design focused on the forward contracting approach that sought to provide farmers with access to reliable and predictable markets. This framework meant building an ecosystem of partnerships from the off-taker backwards to the input provider. As such, e-Granary targeted creating a value proposition to the farmer; while ensuring that farmers working together would assure other value chain actors upstream such as input providers and financial partners of a secured market hence affording them access to certified inputs and affordable credit. E-Granary organised consultative meetings with national farmer organizations that resulted in the identification of regions with potential farmers; and partnerships were established with value chain partners. Business to business (B2B) meetings were held for the farmers to better understand the terms of engagements and the products available for them in the market. E-Granary implemented a data management solution and captured data for farmers through farmer organisations using mobile phones able to run on an Unstructured Supplementary Service Data (USSD) application.

The project registered 55,494 smallholder farmers, 35,922 and 19,572 in Uganda and Rwanda respectively. These registered farmers were members of Farmer Organisations (FOs); in Uganda the project on-boarded nine Farmer Organisations (FOs), under the National Alliance of Agricultural Cooperatives (NAAC) and seven District Farmers Associations (DFAs) under the Uganda National Farmers Federation (UNFFE) while in Rwanda seven FOs in seven districts were recruited. Under sub-component 1.1, the project piloted a market linkage model by profiling off-takers and organising Business to Business (B2B) meetings with off-takers and by mapping and profiling farmer aggregation centres to increase market access for farmers produce. The project progress report at completion reported that 10,936 Metric Tonnes (MT) (8,593 in Uganda and 2,342 in Rwanda) of commodities valued at US$ 3.73 million had been traded against a target value of US$ 4.5 million which was an 83% achievement for the project.

Indeed, the outcome assessment carried out by the project indicated at completion, 93% of the farmers felt satisfied with services available on the e-Granary

Increased financial services. This sub-component focused on addressing the access for financial services challenge by smallholder farmers, who in many instances were viewed as a high-risk by financial institutions. The e-Granary partnered with financial institutions such as Equity Bank, Vision Fund Uganda, KCB Rwanda and Micro-Finance Support Centre to develop farmer centric financial products. The project reports indicate that 24,053 farmers were linked to financial institutions and received either seeds or fertilizer on credit, including 9,347 farmers in Uganda and 14,706 farmers in Rwanda. These farmers received financial literacy training from the banks (Equity Bank Uganda, Vision Fund Uganda, Post Bank Uganda, KCB Rwanda and Vision Fund Rwanda

Increased access to extension services: Throughout the reporting period, e-Granary had supported 46,678 smallholder farmers with access to extension messages on climate smart and resilient techniques and this was a 212% achievement against the targeted 22,000 smallholder farmers at design. In addition, 7,437 of these farmers had received voice messages focusing on Good Agricultural Practices (GAPs).

Enhanced capacity of farmers on structured trade and financial literacy: The project targeted 12,800 smallholder farmers to receive capacity building in structured trade and financial literacy. E-Granary reported that 12,954 (101%) had received these trainings with 6,080 and 6,874 farmers being trained in Rwanda and Uganda respectively. The e-Granary approach entailed development of a curriculum and training materials. These trainings also used a Training of Trainer (ToT) approach and the ToTs were trained on financial literacy, good agronomic practices, crop protocols and on the e-Granary system. The objective was to make sure the trainings were cascaded to the smallholder farmer level. The ToTs therefore served as champions who then carried out trainings to other farmers.

e-GRANARY Lessons

- Offering **multiple services reduces costs and risk, drives uptake and builds customer loyalty**: From the start, e-Granary intended to build a bundled service offering, layering on new services one by one
- A **platform approach** can reduce development costs and crowds in diverse capabilities: e-Granary did not want to build out new service capabilities from scratch and instead made a "platform play" to leverage other service providers
- A **farmer-centric / user experience approach is crucial to ensuring product-market fit:** Designing a product with the farmer value proposition front and centre ensures product is tailored to farmer needs
- **Trusted, high-touch channels can drive customer uptake and improve stickiness**: Farmers respond best to trusted channels – in particular other farmers. Also, having reliable physical touchpoints for in-person engagement makes a difference.
- **Loan product structure is critical given farmer income is lumpy and volatile**: Loans require longer tenors and flexible repayment structures to match crop cycles. Appropriate structuring can significantly increase repayment rates
- We **can not copy and paste the model across countries as each country** has its own socio-political and development contexts which require longer set up processes, adaptation and evaluation of business model.

CHALLENGES

- Side selling – Farmer Groups/Cooperatives lack funds to aggregate from buyers who want to be paid cash and farmers end selling to any buyer at farm gate buying in cash.
- Lack of min price guarantee from the off takers not indicated in contracts- Apart from ETG all the other buyers have not been willing to commit to a minimum price. Only one offtaker from the whole offtakers list of about 20 engaged.
- Poor Post –harvest practices especially due to lack of relevant post-harvest management equipment which end up affecting the quality of the commodity availed to the market. Cost of Driers cited as the most expensive.
- Efficient sourcing system is perceived to be complex, costly and/or risky to set up in the short-term and buyers seem not motivated to make the necessary investments especially for low value crops.
- Sometimes a reluctance on part of smallholders (and companies) to honor contracts when prices change significantly especially where crops are political like maize
- Postharvest Quality- Difficulty experienced by farmers in meeting stringent quality requirements. Most farmers produce substandard grain.
- Lack of social cohesion within POs and contradictions between commercial and social objectives – For Example, YARA in Uganda, the input service provider doesn't work with farmer group scheduled to have an election within the year from experience
- Insurance Services-Most farmers who benefitted from Financial services paid premiums but responses during perils by specific insurance companies, left the farmers uncompensated.

Project implementation

At design, the envisaged development trajectory for e-Granary was highly ambitious. GAFSP MMI grant, e-Granary's business model was set to be for whole value chains and to cut across a variety of crops. However, with the need to get to know the markets better and to pilot digital solutions, this was deemed too wide reaching; it was not feasible to engage in whole value chains at once. It was therefore decided that moving forward, e-Granary would focus on one value chain and facilitate in the most critical functions within its comparative advantage (marketing and linkages with off-takers).

During implementation, several changes were made to the project design; dropping activities in Tanzania and lowering expectations in Rwanda. In hindsight, reducing the scope of the interventions more drastically might have produced better results in terms of the likelihood of sustainability of the investments; as would more strategic exploitation of e-Granary as a regional company, in addition to the country-specific aspects. Farmers interviewed during the outcome assessment, indicated that they are quite happy with the services received.

It was also noted that the COVID-19 pandemic clearly caused challenges for e-Granary and caused distortions to the market. Additional financing was obtained by the project team, however, the tangible impacts of this support was not yet to be quantified. Within EAFF and e-Granary, the relevant project structures have been put in place to engage with farmers, and from the operational side, the web platform provides the infrastructure for customer relation management; to handle payments; and in planning, forecasting and logistics.

The limited funding, the rise of Covid-19 and limited movement of people and goods, there was change in staffing especially in supervision missions and this led to challenges in the implementation of the project.