FARM ENTERPRISE ADVISOR ASSESSMENT REPORT
OCTOBER 2019

DFID Market Development (MADE) for Northern Ghana Programme

NATHAN

made
MARKET DEVELOPMENT FOR NORTHERN GHANA

SUBMITTED TO
Department for International Development, Ghana

SUBMITTED BY
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LIST OF ACRONYMS

BDA	Business Development Advisor
BDS	Business Development Services
DFID	Department for International Development
FEA	Farm Enterprise Advisor
FGD	Farm Group Discussions
GHS	Ghanaian Cedi
GoG	Government of Ghana
KII	Key Informant Interview
MAG	Modernising Agriculture in Ghana
MEL	Monitoring Evaluation and Learning
MFI	Micro Finance Institution
MOFA	Ministry of Food and Agriculture
NDA	Northern Development Authority
NGO	Non-Governmental Organisation
NSEZ	Northern Savannah Ecological Zone
PFJ	Programme for Food and Jobs
PSESP	Private Sector Extension Service Provider
SADA	Savannah Accelerated Development Authority
SARI	Savanna Agricultural Research Institute
SHF	Smallholder Farmer
SNV	Stichting Nederlandse Vrijwillingers (Netherlands Development Organisation)
TEDMAG	Technical Education Development for Modernisation of Agriculture in Ghana
USAID	United States Agency for International Development
WEE	Women's Economic Empowerment
WIAD	Women in Agricultural Department Directorate

GLOSSARY

Commercial partnerships	Partnerships formed between agribusinesses to jointly leverage complimentary skills, capacity, coverage and finance
Down payment	An initial payment that is made by the smallholder farmer to the agribusiness at the beginning of the season to cover some of the agribusiness costs.
Lead farmers	Farmers that are charged with organising and coordinating farmer groups through which agribusinesses engage. The lead farmers are often incentivised with discounted products and services.
Pay-as-you-go	These are services provided by the agribusiness for which payment is required immediately, not at the end of the season.
Recovery	Payment in kind through crops produced utilising FEA products and services.
Recovery rate	Recovery Rate: The percentage of SHFs that are able to pay back, in full, the pre-agreed cost of input supplies and services offered under credit terms to SHFs at the beginning of the season, plus any interest or margins charged by the agribusiness.
Surplus	Crops that are produced utilising FEA products and services that are left over after the SHF has paid back the agribusiness what they owe.
Vertical integration	A combination of multiple products and services offered directly by one firm to its farmers, ranging from input provision through to marketing.

SECTION 1. EXECUTIVE SUMMARY

The Market Development (MADE) for Northern Ghana programme is a six-year initiative to develop a sustainable ecosystem of services to help smallholder farmers (SHFs) in Ghana thrive. It is funded by the Department for International Development (DFID) and was launched in March 2014. In line with DFID's overall objective to promote growth and reduce poverty in Ghana's Northern Savannah Ecological Zone (NSEZ), MADE's core agenda is to catalyse and foster the growth of local agribusinesses to ensure that the necessary quality inputs, services and products reach SHFs and are effectively used by them. This in turn allows them to increase their productivity, sell more produce and improve their livelihoods.

The MADE programme has supported partner agribusinesses to adopt and implement commercially viable and sustainable business models (referred to as the advanced model) which are designed to improve their productivity and competitiveness and to raise the yields and incomes of their out-grower SHFs. Working either alone or in association with support enterprises, these agribusinesses deliver a range of improved input products and support services in the form of "services" to their networks of SHFs. A key element of the advanced model is the provision of advisory services. Farm enterprise advisors (FEAs) and business development advisors (BDAs) are trained farm advisors who go door-to-door, field-to-field, offering after-sales service, promoting best practice and supporting small-scale SHFs to grow crops that can be sold for attractive returns. They provide an essential first- and last-mile market link for SHFs located in areas away from commercial centres. They oversee the appropriate use and application of improved inputs and services, leading to improved yields and higher quality crops, thereby covering their costs and securing a healthy return for the agribusinesses providing the services.

As part of the programme's commitment to sustainability in its final year of implementation, this qualitative assessment evaluates the long-term commercial viability of FEA/BDA services. Its findings will inform their longer-term investment and wider adoption. This executive summary includes an overview of the key findings of the assessment. Fuller details can be found in Section 4 below. The report also includes critical success factors for agribusinesses to maximise the commercial success of FEA/BDA services[1] (Section 6) and key recommendations for future donor-funded programmes (Section 7).

KEY FINDINGS

FEA services show clear signs of commercial viability and sustainability

Overall, the majority of the nine agribusinesses assessed demonstrated an ability to sustain delivery of their FEA service to SHFs. The partner firm selection was based not only on the geography, crop focus and size of business but also on the number of FEAs and level of financial support provided by MADE. Out of the 373 FEAs and FEA managers registered by the programme in Year 6, a total of 65 were interviewed. Each of the agribusinesses interviewed during the assessment reported the following early signs of commercial viability and sustainability:

- **Ability and willingness to invest** - MADE has gradually phased-out operational support to its partners, in order to prepare them for the conclusion of the MADE programme, when the real cost of the FEA service will have to be realised through improved performance, and against greater exposure to irregular cashflow.
- **Consistent growth in revenue –** all businesses report year-on-year growth following commencement of FEA services. The market systems approach and adoption of models developed by MADE over the life of the programme have had a net positive effect on turnover ranging from 10% year on year in some cases to 100% year on year in others.
- **Improved recovery rates –** improvements in recovery rates for agribusinesses are also positive, in some cases improving from as low as 50% up to 99%.
- **Increased SHF productivity –** on average, the increase in yield for most crops across all agribusinesses interviewed was approximately 100%.

[1] The difference between an FEA and BDA is a legacy from MADE's initial support to input suppliers and then subsequently to aggregators. BDA is more commonly used term by input suppliers, while FEA is more commonly used by aggregators. From this point in the report, reference to FEAs includes both FEAs and BDA profiles.

- **Raised Confidence –** the confidence of agribusinesses to recover investments has grown.
- **Greater land usage –** the total acreage and plot size under cultivation per SHF has increased as confidence and investment levels, associated with an FEA presence, have risen.

Businesses reported that the FEA model had significantly contributed to these early signs of commercial success. Agribusinesses estimated that between 25% and 75% of their growth was derived from the FEA model. The other most important factor contributing to their growth was the introduction of commercial partnerships with businesses that provide complimentary skills and capacity.

Demand for FEA services is greater than current supply

Every agribusiness interviewed during the assessment reported having to turn away SHFs wanting to utilise FEA services. This was due to a range of reasons, including appetite for risk, higher costs of servicing particular communities, lack of human resource capacity or lack of working capital to roll out services to new communities. This unsatisfied demand for FEA services demonstrates that the benefits of FEAs are visible to the wider farming communities. It also shows that even though new SHFs know they will be paying for FEA services in some shape or form, they are still interested in receiving them.

Approaches to FEA services differ based on unique operating environments

Each agribusiness has adopted different approaches to revenue generation, cost management, risk reduction and staff recruitment that are unique to their own operations. There is no 'rule book' that dictates the most commercially viable and sustainable way to approach FEA service delivery. Indeed, the most profitable combination of variables on paper to cover the FEA service may not be realistic or achievable. For example, storage for cereals provides an opportunity to realise higher prices at regular intervals throughout the year, alleviating cash flow constraints. However, most businesses require higher levels of cashflow immediately post-harvest to pay back debt and so on average sell the majority (60%-80%) of their produce instantly to pay their debts.

Approach to risk varies but all agribusinesses prefer to engage with SHF groups

Each agribusiness has a different appetite and approach to risk management. However, all agribusinesses interviewed based their risk management on their relationships with SHF groups, organised and coordinated by 'lead farmers'. This is essentially a group lending model like those used by micro finance institutions (MFIs), and allows the agribusiness to leverage initial screening and due diligence. While FEAs work predominantly with lead farmers, the agribusinesses have a direct commercial agreement with each SHF to deliver products and services in return for payment in kind (recovery).

Sufficient working capital and access to finance is required to establish and fund the delivery of FEA services

FEA service delivery requires careful cash flow management to ensure that SHFs get the right products and services at the right time. This is especially challenging due to the combination of narrow seasonal revenue windows and ongoing high fixed costs. Agribusinesses have secured commercial financial arrangements such as overdraft facilities, bank loans, invoice discounting and warehouse receipt financing to help smooth cash flow throughout the year. Some agribusinesses have also secured long-term credit terms with their suppliers, which has supported more effective cash flow management.

Diverse FEA services are more effective for both SHFs and agribusinesses

Diverse FEA services give SHFs more choice and chance of increasing yields, production and income. Agribusinesses can benefit from integrated margins across a diverse portfolio of services, which ultimately allows them to become more competitive. In addition, a diverse service offering allows the agribusiness to better control the quantity and quality of production.

Commercial partnerships play a critical role in growth and diversification of FEA service delivery

Commercial partnerships are an integral component for the growth of the agribusinesses interviewed during the assessment. Partnering with other businesses that provide complimentary products, services and outreach capacity has supported agribusinesses to diversify their offering to SHFs. In addition,

many agribusinesses have now begun to share risk with commercial partners, which in some cases has allowed smaller agribusinesses an opportunity to access seasonal credit terms.

Harder to reach communities are more expensive to service

Given that FEA services are oversubscribed, agribusinesses are in a position to be selective, both in terms of risk and in geographical outreach. Except for one agribusiness, all partner firms visited stated that the more remote the community, the higher the cost of servicing it, and therefore the less incentive there is to adopt them as out-growers. In some cases, transportation and handling costs can be three times higher in more remote communities. FEA engagement costs such as transportation and accommodation are also higher and need to be factored into decision-making. That said, most agribusinesses are continuing to grow their outreach to remain competitive and to satisfy increasing market demand. As total revenues rise and the cost of the FEA service decreases, so the geographical outreach is forecast to widen to include these remoter communities. Importantly, the recovery rate has been shown to increase where agribusinesses work with isolated farming communities, helping to balance the return on investment.

Recruitment and retention of FEAs requires carefully structured incentives

A recent study by TEDMAG found that 52% of agricultural college leavers want to join the Ministry of Food and Agriculture (MOFA), 40% want to join the cocoa board and only 6% want to enter the private sector. The main drivers for a career in the public sector are stability of monthly income and job progression. In addition, the assessment revealed that MOFA field extension officers on average earn a higher monthly salary than their counterpart FEAs in the private sector. With the exception of one firm that heavily incentivises its FEAs through the provision of land and subsidised inputs to grow their own crops, all lead partner firms interviewed during the study confirmed that their FEAs received remuneration well above the Government's minimum wage (GHS10.65/day). Average monthly salaries range between GSH[redacted] to GHS[redacted] per month, balanced by performance-based incentives such as commissions and performance-related bonuses in both cash and kind.

Sustainability Strategies Post-MADE

MADE has gradually reduced its partner support for the FEA service by increasing the FEA to SHF ratio (1:200 in Year 4 to 1:260 in Year 6) and scaling back operational cost funding. This has given agribusinesses sufficient warning and time to develop their approach to continuing FEA services post-MADE. In terms of how they plan to adapt, the most common response was that they will reduce fixed costs and increase performance-based payments. However, until the benefits of this approach become visible to FEAs, it is not likely to be popular among advisors, who perceive stability of income as one of their key motivators. Another key strategy being considered is to build the capacity of lead farmers to carry out some of the role of FEAs and transform current FEAs into "group" coordinators.

FEA services are scalable to existing and new SHFs

MADE has tested the FEA model with a relatively small number of agribusinesses across Northern Ghana. Each has demonstrated early signs of commercial success and, as seen above, has reported more SHFs demanding their services than they have capacity or interest to supply. Subject to a series of critical success factors identified in Section 6 of this report, agribusinesses and investors in the industry are now in a position to scale up FEA service delivery. Scale can be achieved by maximising the potential of existing SHFs receiving services, helping them to commercialise their operation further and to utilise more land. In addition, scale can be achieved by rolling out FEA services to new SHFs in other parts of Northern Ghana and further afield.

SECTION 2. INTRODUCTION

This section of the report provides details of the sampling methodology and the reason for selecting each of the agribusinesses interviewed. It also outlines the key questions used in interviews and discusses the limitations of the assessment.

FEA ASSESSMENT METHODOLOGY

Of the thirty-one (31) MADE partner agribusinesses and thirty-one (31) support enterprises, nine were selected for interviews, to explore their interpretation, successes and challenges in implementing the farm enterprise advisor (FEA) model. The sample represents a broad cross-section selected according of the following criteria:

- **Geography.** Three agribusinesses in each of the three geographic regions (Upper West, Upper East and Northern).
- **Lead and support enterprises.** Six lead enterprises and three support enterprises. In one case, a combination of both was selected, Akandem Farms (a lead enterprise) and Johil Farmers Solutions (a supporting enterprise).
- **Land under cultivation.** A range of land sizes under cultivation, representing a range of average SHF land sizes covered by each agribusiness.
- **Crop types and diversification.** A range of crops, including cereals, legumes and vegetables, as well as different types of relationships with downstream buyers.
- **Scale of SHF outreach.** A range of minimal to major SHF outreach coverage.
- **Number, capacity and gender of FEAs.** A range of FEAs, capacity, engagement types and gender.
- **Percentage of MADE-level support.** Agribusinesses ranging from low to high levels of MADE support as a % of the agribusiness's investment budget.
- **Length of partnership with MADE.** Some businesses that have been partnered with MADE from Y1, such as Noyine Maltinga Enterprises and Antika Company Limited, along with others that are more recent additions to the MADE portfolio, such as Agriaccess Limited.

The consultant was supported by a member of the MADE team throughout the interviews in the North and in Accra. See below the list of agribusinesses selected for interview, and the primary and secondary reasons why they were selected.

Table 1: List of agribusinesses selected for interview and supporting justifications

AGRIBUSINESS	REGION	PRIMARY JUSTIFICATION	SECONDARY JUSTIFICATION
[redacted]	N	High average number of acres of support given per farm at 9.67 acres	Very large total land size under cultivation at 17,604 acres
[redacted]	N	Service delivery acreage limits on new customers to reduce risk and balance cash flow	Diversified service offerings including access to land and irrigation
[redacted]	N	Limited crop portfolio with a more socially oriented approach to business	Support Enterprise into aggregation and working closely with lead firm dealing in agro-input supplies
[redacted]	UE	Wide crop portfolio and diversified service offerings including storage	High average acreage per SHF for Groundnut, Maize and Rice.
[redacted]	UE	Primarily in groundnuts, plus a groundnut processing operation	Has been working with MADE since Y1 so a possible opportunity to measure impact over a longer timeframe
[redacted]	UE	Primarily an input supplier with a focus on vegetables	Support enterprise with business focus in agro-inputs supplies, and working a lead firm with business focus in aggregation
[redacted]	UW	A large sorghum aggregator	Large off-taker agreement and credit agreement with Guinness Ghana
[redacted]	UW	High capacity FEA manager. Large number of FEAs. Commission payment model	Has been a MADE partner from Y1 so opportunity to assess effectiveness over longer timeframe
[redacted]	UW	Largely in retail of agro-inputs and chemicals for all markets	Support enterprise working with a lead firm which focuses on aggregation of cereals and legumes

In addition to the owners and managers of the agribusiness partners, the consultant and MADE team also met with the following stakeholders:

- **FEAs**. Farm group discussions were held with FEAs from three agribusinesses ([redacted], [redacted] and [redacted]).
- **Smallholder SHFs**. The consultant facilitated two farm group discussions with SHFs ([redacted] and [redacted]).
- **Other donor projects**: ADVANCE and GIZ
- **Ghana Commodity Exchange (GCX)**.
- **Avnash (a large rice miller).**
- **MOFA Extension Directorate.** The consultant met with Regional MOFA extension agents in each region, as well as HQ staff in Accra.
- **Technical Education Development for Modernisation of Agriculture in Ghana (TEDMAG)**.

The assessment team began discussions with agribusiness owners by asking the following questions on the effectiveness, challenges, opportunities and sustainability of the FEA model:

- How effective has the FEA model been for your business to date?
- What are the main challenges to FEA service delivery for your business?
- What are the major opportunities for you to grow FEA service delivery (and your business)?
- How do you plan to continue operating at the same scale (or larger) after MADE support has come to an end?

These resulted in a checklist of topics to cover in each discussion, including approach to revenue generation; costs; risk; productivity; ability to access finance in the future; incentives; capacity of FEAs;

confidence of buyers; gender; technology; and wider adoption of the model. This checklist can be found in Annex 2 of this report.

This qualitative data was backed up by Ghana MADE programme monitoring data and also by information provided by agribusiness partners. Learning from the experience of the MADE gender assessment, the team sent out requests for specific data in advance of the meetings, in order to make the meetings more effective.

LIMITATIONS TO THE ASSESSMENT

Several issues impacted the assessment. Where possible the team identified solutions to overcome the challenges. A summary of the limitations encountered is listed below:

- **Varying availability of commercial data makes it difficult to compare businesses** – although the team sent specific requests for data on revenue, costs, volumes, pricing and profitability, very few agribusinesses were in a position to provide concrete data in these areas. As with many business owners and managers in Northern Ghana, they would claim to have 'the numbers in their heads', but at times this felt somewhat fabricated for the audience. A minority of businesses, however, were able to share detailed Excel spreadsheets with profit and loss accounts over a period of several years. Differences in the data available have made it challenging to provide direct comparison across the sample of agribusinesses interviewed.

- **FEAs and SHFs were pre-selected by the agribusiness owners** – the team carried out a series of farm group discussions with FEAs and SHFs, which were useful to understand the model from the perspective of implementers and recipients. However, the participants in these farm group discussions were selected by the business owners, with a potential risk that only the most successful groups were selected.

- **Presence of family members inhibited openness and participation** – at some of the meetings, family members of the agribusiness's owner or of senior staff were present. This meant that participants were not able to participate freely in the discussion, for fear of saying the wrong thing. In one particular meeting this became so apparent that the consultant had to split the meeting into two separate groups.

- **Discussion points were often sensitive and related to personal terms of engagement** – as with any discussion on personal income and terms of engagement, these topics were a sensitive issue in group interviews. This was particularly the case where the consultant and team were exploring monthly salaries, allowances, commissions and bonus payments, especially in the case where there were differences in terms of engagement between FEAs.

- **Limited understanding of SHFs that are not accepted into the FEA model –** the majority of agribusinesses reported that as a result of SHF group screening and company due diligence activities, they turn down more SHFs than they accept onto their programme each year. It was beyond the scope of this assessment to understand what happens to these SHFs, whether they continue their operations or become labourers in other areas of the market system. A growth multiplier study may be a useful exercise for DFID to commission in the future, to better understand this wider potential for impact.

- **Early signs of commercial success and adoption need to be followed up in the future** – the FEA model is still a relatively new one for agribusinesses in Northern Ghana, and while the overall finding of this assessment is positive and provides evidence of commercial sustainability, further assessments should be carried out in the future to assess the continuation and wider adoption of the FEA model by other industry players.

SECTION 3. THE CONTEXT

FEA IN MARKET SYSTEMS

The Ministry of Food and Agriculture (MOFA) provides extension services to SHFs in the form of information, training, communications and awareness campaigns. In addition, MOFA implements a large nationwide programme called Planting for Food and Jobs (PFJ), which has five main pillars: supply of improved seeds; supply of fertilizers to farmers at subsidised prices; free extension service to farmers; data management through E-agriculture; and improved marketing opportunities for produce after harvest. This programme is partly funded by the Canadian government's Modernisation of Ghana (TEDMAG) programme.

The seven SHF rights developed by Ghana MADE

In order to achieve widespread growth in the agricultural sector in Northern Ghana, SHFs need the right quantity and right quality of inputs and services at the right time, at the right price, applied at the right time and in the right way.

This public sector-led solution to improving agricultural growth in Northern Ghana has limited investment and human resources, however. The target ratio of extension specialist to SHFs is 1:500. However, MOFA reported to the consultant that in some districts this ratio is as high as 1:12,000. Until 2018 there was a total freeze on recruitment of extension officers within MOFA, and therefore this extension-to-SHF ratio has been static at best. During meetings with MOFA, it was revealed that a new wave of recruitment of 2,700 additional extension officers was launched in 2019, with the objective of improving the ratio. Even so, if this recruitment wave does support better extension-to-SHF ratios, the operational effectiveness of the service needs to be considered for growth to be realised.

By contrast, the FEA service is a private sector-led solution that is fundamentally different from public sector extension, as it goes beyond the provision of extension information and provides practical door-to-door, field-by-field, supervision of the delivery and use of diverse products and services, sometimes on credit. The FEA model is designed to ensure that the principle of the 'seven rights' detailed in the text box above are met. Agribusinesses make their returns on the delivery of the FEA model through aggregating and marketing the harvest. There is a clear alignment of incentives between the SHF and agribusiness to ensure that these rights are delivered, as both are set to benefit commercially. MADE has been working with partner agribusinesses to implement a ratio of 1 FEA to 260 SHFs, with, in most cases, lead farmers acting as intermediaries.

MOFA's Food and Agriculture Sector Development Policy (FASDEP II) recognises the benefits of a private sector FEA service to compliment MOFA extension in providing cost effective and speedy services to support agricultural growth. The Directorate of Agricultural Extensions Services has developed a web portal to help disseminate information on Private Sector Extensions Service Providers (PSESPs), which includes a directory of actors and contact details. However, most of the organisations listed in the directory are donor-funded projects employing public funds, rather than private agribusinesses that have a commercial stake in delivering private extension services. Other objectives of the Directorate are to develop standards and guidelines for private extension and to provide capacity-building for private extension providers.[2]

These efforts to harness the private sector to deliver extension services are not widely known or appreciated by MOFA staff, especially in the regional offices. Against a backdrop of limited government resources and past recruitment freezes, it is important that private extension is not seen as a competitor to the public sector or vice versa. Instead, policy and programming for extension and wider government programmes should look to compliment private sector models and, where possible, provide incentive structures that can support its scaling up. Some ideas on the need for complimentary of both public and private solutions are provided in Section 7 of this report.

[2] (http://www.privateextensionghana.com)

Demand for the FEA model

> "We turn away many more SHFs than we accept each year now, but we don't keep track of those that we turn down"
>
> [redacted], *owner of* [redacted]

All MADE partners interviewed during this qualitative assessment confirmed that since the introduction of the FEA model, demand for FEA services has exceeded supply. In other words, more SHFs want to sign up to receive FEA services than businesses have the working capital, human resources or appetite for risk to support. In some cases, agribusinesses report that SHFs have seen the benefits in terms of increased yields and while they are fully aware that they are currently paying for the service in some shape or form, they are willing to pay more for it in the future, as long as the benefits continue to be realised.

Further downstream within the value chain, traders, buyers and wholesalers who demand greater consistency, quantity and quality of supply, also see the value of advisory services delivered close to the point of production. Ensuring the 'rights' of the SHF through the FEA model helps to meet these demands. However, demand from most buyers is quantity-driven rather than quality-driven, which aligns with the way that FEAs themselves are incentivised in their terms of engagement with agribusiness owners.

Pushing supply with no price differentiation for quality creates a 'flat market' in which buyers provide agribusinesses with minimum quality specifications (moisture content, levels of debris, split grains) and take a 'pass or fail' approach. Within the 'pass' category there are very rarely additional pricing incentives for premium quality. The Ghana Commodity Exchange (GCX), launched in 2018, provides a four-tier grading system for a portfolio of cereal crops which is tied to Ghana Standards Authority specifications. Providing structured incentives for agribusinesses to deliver higher quality should eventually cascade down to FEAs and will ultimately provide increased income opportunities for SHFs.

Supply of the FEA service model

Despite only being a pilot programme which currently supports 31 lead agribusinesses and 31 support enterprises, there is a diverse range of approaches to the supply of FEA services. There is no rule book and each agribusiness has adopted and adapted the service provision to suit their specific needs and capabilities. Agribusiness offer FEA services alongside a range of other 'services', such as the provision of mechanisation, climate smart and irrigation services that are suitable for the specific crops and communities they serve. Sometimes the provision is straightforward, offering one or two services; sometimes providers leverage key services from commercial partners; and sometimes they are more vertically integrated, and provide a full range of services directly themselves. The FEA's coordinate the delivery of these services and ensure they are delivered on time and applied correctly.

From a risk management perspective, the advanced model of service and input supply delivery is a variation of the traditional MFI SHF group lending model, helping agribusinesses to leverage relationships within communities. Businesses undertake initial screening and due diligence of new SHFs and then enter into informal or formal contractual arrangements to manage recovery activities. The FEAs play a key role in ensuring all parties to the agreement comply with the arrangements. Beyond this, however, each agribusiness has a different appetite for risk, with some providing greater levels of choice to SHFs in terms of products and services available, while others have a more fixed 'formula' type service which is less flexible. FEAs may be expected to supervise the delivery of complete and complex bundles of services, while others will focus on only some.

Aggregators that have a vested interest in the quantity and quality of the end product will tend to offer a broader range of services while input suppliers have traditionally focused on the retail of their products. The growing trend in northern Ghana is for input suppliers to operate as support enterprises to aggregator businesses and to relinquish FEA service provision (formally called BDA – after sales services) to FEAs engaged by the more integrated business. In addition, aggregators are likely to have more working capital than most input suppliers, and so are in a better position to invest in the FEA services.

Early signs of adoption of FEA services from wider industry players

Some agribusinesses interviewed for this assessment reported that other agribusinesses are starting to copy their advanced model and FEA service component. In 2018, Avnash recruited a team of eight field officers to support quantity and quality of paddy supply. These field officers provide technical information and advisory services and link SHFs with key service providers. While this is a very basic interpretation of private sector led FEA services, to lead the new team, Avnash has recently hired a manager who used to be an FEA manager for one of MADE's previous partner firms.

SECTION 4. ASSESSMENT FINDINGS

The overall finding from the assessment is that the farm enterprise advisor (FEA) service is commercially sustainable and will continue beyond the lifetime of Ghana MADE. Seeing as FEA service delivery doesn't have a 'rule book' and has multiple interpretations, agribusinesses will find it easier to adopt and adapt the model to fit their specific needs. The vast majority of businesses interviewed during this assessment have logical strategies to sustain their service provision beyond 2020.

However, in reality it is likely that a small number of MADE agribusiness partners will not continue to offer FEA services after the end of the MADE programme or will reduce the scale and scope of their offerings. Two of the nine agribusinesses interviewed were identified as being at risk of not sustaining the same FEA services following withdrawal of MADE support. One of these is a small support enterprise that has not diversified its own services beyond retail of inputs. The other is a larger aggregator that has significant exposure to risk due to limited revenue generation strategies, as well as a higher than average level of lending to each SHF.

Early signs of commercial success for agribusinesses

For the majority of agribusinesses there are already some clear signs of commercial success. The following headings summarise the key indicators of commercial success experienced to date.

- **Growth in revenue –** all businesses report year on year growth since the establishment of the Advanced Model. For example, Antika Company Ltd reports a steady 10% year on year growth in turnover, Seyan Enterprises reports 20% growth, while some businesses have experienced significant growth and could be categorised as high-growth start-up companies, such as Rujo Agri-Trade, which has experienced 75%-100% growth in turnover year on year for the last four years.

- **Recovery rates have improved –** improvements in recovery rates are also positive. In some cases, such as Antika Company Ltd, rates have improved from as low as 50% to 99%. However, it is recommended that reporting on recovery rates should be taken as anecdotal, as most business do not seem to know the precise percentages, especially when breakdowns for individual communities and different crops were requested.

- **SHF yields and net benefits have increased –** yields are reported to have increased across all agribusinesses that implement the FEA model. In a farm group discussion carried out during this assessment, SHFs that supply to [redacted] explained that maize yields have increased from five bags per acre to 10 bags per acre. The increase in cost for SHFs to make this increase in yield is from three bags to five bags. This represents a significant increase in net benefit to the SHF (an increase from two bags net profit to five bags net profit per acre farmed). On average, the increase in yield for most crops across all agribusinesses interviewed was approximately 100% increase in yield.

- **Confidence and land coverage under the FEA model increased –** all agribusinesses interviewed operate progressive lending programmes to reduce risk when signing up new SHFs, starting with service provision for two acres and then scaling this up if recovery is successful. As the confidence of agribusinesses to recover their investments grows, so does their support for supporting greater acreage of land.

Businesses cannot pinpoint exactly how much of their growth is attributable to the introduction of FEA services as there are too many external variables that may also be factors, such as market pricing, climate etc. However, they all indicated a significant contribution of their growth has been as a direct result of introducing FEAs. Some estimated 25%, whereas others estimated up to 75% as a direct result of the introduction of FEA services.

Aside from the FEA service, the other most important factor that has led to their growth is the commercial partnerships they have developed with businesses that provide complimentary products and services. The importance of these commercial partnerships is strengthened when partners extend credit on seasonal terms, which is the case from large input suppliers such as [redacted] and [redacted].

Strategies for sustaining FEA services post-MADE support

Each of the agribusinesses interviewed were asked how they plan to sustain FEA services after the operational support from MADE comes to an end. The following categories of responses were provided.

- **Reduce fixed costs and increase commission-based payments** – some businesses are planning to decrease their monthly FEA salaries slightly and provide a more formalised commission payment. [redacted] and [redacted] mentioned that they may explore a commission of 5% of the value of the bag for each bag recovered above a fixed yield target.

- **Pass the cost on to the SHF** – where possible and where SHFs have expressed willingness to receive FEA services, agribusinesses will charge additional fees to the SHF to cover the cost of operational support that MADE has been providing up to now. For example, Akandem Farms has in principle agreed with SHFs to charge GHS 5 per bag, on top of the standard price of fertiliser.

- **Engage FEAs in other business activities** – some businesses, such as [redacted], have indicated that they plan to engage FEAs during the off-season to carry out other income generation activities, such as weaving, basket making etc. The margins generated from these off-season activities will be used to cover salary costs.

- **Building capacity of lead farmers to deliver FEA services** – this is a strategy that [redacted] is exploring, whereby the role of the lead farmer is modified to deliver some FEA services. In turn, the FEA's role would take more of a coordination function.

- **Cross-subsidising costs and funding through increased profi**t – some businesses, such as [redacted] and [redacted], have indicated that in the short term they will use existing profits or margins from other parts of their business to subsidise the operational costs of the FEAs.

The most common response from agribusinesses was to reduce fixed costs and increase commission-based payments. Until the benefits of this become visible to FEAs, this approach is not likely to be popular among FEAs, who perceive stability of income as one of their key motivators. This is especially important in the context of MOFA, an alternative employer, which is perceived as a stable 'job for life'.

Another comment made by a number of agribusinesses was that MADE has gradually reduced their operational support for the FEA model over recent years. This has given them sufficient warning and time to develop their approach to continuing the model. As an example, in year 5 of MADE, the total MADE budget was GHS [redacted], with a partner contribution of GHS [redacted], representing a 30:70 co-investment ratio. This represents a significant reduction in the level of MADE support compared to previous years.

Risk management strategies

After analysing the initial screening and due diligence carried out by the SHF group, FEAs do their own background checks and due diligence, which will include measuring the land to be serviced. Some businesses, such as [redacted] and [redacted], use Garmin devices and GPS tracking apps for land measurement, whereas others rely on sight and estimation. Another common risk management strategy implemented by all of the agribusinesses interviewed is a progressive lending scheme for new SHFs. This normally starts off with a 'starter pack', lending products and services for 1-2 acres in the first season, but this can quickly scale up once the SHF can demonstrate a reliable track record of recovery.

There are significant differences, however, when it comes to the level of choice of products and services being offered to SHFs. The higher growth and larger agribusinesses tend to provide a more prescriptive fixed 'formula' service to SHFs, in order to exercise greater control over what goes in the ground and how it gets managed. This ultimately gives the agribusiness more opportunity to control variables. Some companies, such as [redacted], impose even stricter conditions. For example, they only

accept rice SHFs that can can guarantee access to mechanised harvesting, as they have learnt that there is a shortage of labour at harvest time, which leads to timing issues and unreliable recovery.

Regular monitoring visits by FEAs would appear to be a straightforward approach to managing how and when products and services are being applied. However, there seem to be large variations in approach across different agribusinesses. Some aim to carry out only five field visits a year, whereas other FEAs live within the communities that they serve and are available at all times. This reflects the interpretation of the model and level of hands-on support and monitoring offered, but it also demonstrates different appetites for risk across the agribusinesses.

Finally, some agribusinesses, such as [redacted], have started to pilot crop insurance products to manage risk, though when questioned further, the owner was not in a position to disclose details on the policy or its price.

> "New SHFs must accept the full package of products and services, because then we can control what goes in the ground and what comes out."
>
> [redacted], *owner of* [redacted]

Approaches to revenue generation

There is one key agricultural season in Northern Ghana, which is when cereal crops are grown and harvested. There is also an off-season, which is when vegetables under irrigated conditions are cultivated. This creates two obvious windows for revenue generation for agribusinesses. Outside of these, agribusinesses undertake the following approaches to help smooth revenue:

- **Storing crops until prices rise** – all agribusinesses interviewed for this assessment had access to storage, either their own or leased. The price differences between harvest time and the off-season can be large. For example, maize can be bought for 1-1.20 GHS/kg immediately after harvest, whereas when stored it can generate 2.5-3 GHS/kg. Some agribusinesses have their own storage facilities, such as [redacted], which has an 80MT GCX-approved storage facility, whereas others lease storage for approximately 1 GHS/bag/month. Although all agribusinesses expressed willingness to store crops until prices rise, the reality is that 60%-80% of the recovery gets sold immediately at harvest time, in order to generate cash flow to meet costs and repay loans. The only companies that do not store are [redacted], which delivers consistent supplies of sorghum throughout the year to [redacted], and [redacted], which uses the groundnuts aggregated for further processing into end-products. Further processing to raise commodity value without the expense and uncertainty of storage is an option worth considering for a number of the larger partner firms.

- **Deposits and down payments** – some agribusinesses charge cash deposits or down payments on certain products or services, in order to improve cash flow and reduce risk throughout the year. For example, where possible [redacted] charges a 30% deposit at the land preparation stage of the season. Others do not charge deposits, either because it reduces the demand for products and services from SHFs or they prefer to collect one payment in recovery at the end of the season.

- **Creating 'pay-as-you-go' services** – some agribusinesses take payment for some of their services on a pay-as-you-go basis. This is mostly for mechanised services, particularly when these services are being bought in from a third party. Nearly all agribusinesses charge for tractor services on a pay-as-you-go basis. The only one interviewed that provides tractor services and doesn't charge for it on a pay-as-you-go basis was [redacted].

- **Counter-season activities** – agribusinesses that focus purely on cereal crops are expanding their dry season activities in an attempt to generate further revenue through the off-season. Some are expanding their portfolio to include vegetables, while others, such as Agri-Trade Company, are establishing irrigated rice cultivation through leasing of equipment.

- **Using agents to source crop throughout the year** – [redacted] does not store sorghum before selling on to [redacted]. Instead, the company sources sorghum from agents

during non-peak times throughout the year, which is then traded on to [redacted] with a small margin. 55% of the volume that Agriaccess sells to [redacted] is sourced from agents. This allows the business to provide consistent supply throughout the year, generate more consistent cash flow, and at the same time reduce the cost and risk of storage.

Finance arrangements

The FEA service model requires working capital for establishment, implementation and scaling up. For most agribusinesses, this means that they require access to finance in some shape or form. Each agribusiness has a unique way of approaching this, but the following broad categories of finance were identified during the assessment:

- **Overdraft and credit facilities** – [redacted], [redacted] and [redacted] have loan facilities with [redacted], although interest rates are extremely high at between 25-40%. [redacted] has a credit facility with GCB. Interestingly the only agribusinesses that do not have formalised overdrafts or credit facilities are [redacted] and [redacted], which are both female-owned.

- **Credit lines with suppliers** – [redacted] has negotiated eight-month credit terms with their commercial partners [redacted] at 0% interest. In addition, [redacted] has eight-month credit on all input products from their commercial partner [redacted], which attracts a 12% interest rate. The total value of this credit line is currently GHS [redacted]. These credit lines tend to be very patient (full season).

- **Invoice discounting** – this allows agribusinesses to access finance to the value of their outstanding unpaid invoices. The bank provides a bridging loan to cover the payment terms, using the invoice as collateral. [redacted] has such an agreement with [redacted] for their invoices to [redacted]. In return for extending their payment terms from 30 days to 90 days, [redacted] has agreed to pay the interest on the loans. This type of financial arrangement requires a strong commercial partnership between the agribusiness and the buyer.

- **Warehouse receipt finance** – this allows agribusinesses to access finance using crop in approved storage warehouses as collateral. [redacted] is a good example of a GCX-approved warehouse that is able to access finance against the collateral stored in the warehouse. IFC has also supported [redacted] with warehouse receipt training. This is still a relatively new and under-used means of finance for agribusinesses in Northern Ghana.

- **Donor funding –** GIZ intends to make an input credit facility of €1[redacted] available for agribusiness in the Upper West region, including for MADE partner firms such as [redacted], [redacted], [redacted], [redacted], [redacted] and [redacted]. In addition to this GIZ facility, there are numerous other donor-funded grant opportunities for agribusinesses, such as the CIDA-funded Modernising Agriculture in Ghana (MAG) programme, the USAID-funded Advance, which provides grants for equipment and SNV, which has a grant programme called Hortifresh.

- **Working capital from parent or subsidiary companies** – [redacted] is a good example of how different companies within the [redacted] group have helped to support the cashflow of others, and in particular the scaling-up of the FEA service model.

Diverse FEA products and services are more effective for both agribusinesses and SHFs

Agribusinesses that offer a diverse set of products and services beyond inputs, information and aggregation show signs of more accelerated growth. [redacted] and [redacted] are good examples. This extended range of services also improves control and risk management when recovering crops. Providing this diverse range of products and services can broadly be achieved by striking a realistic and achievable balance between the two following approaches:

- **Vertically integrated approach –** under this approach, the agribusiness itself provides a diverse range of products and services to the SHFs, using equipment, machinery, facilities, capacity and resourcing it has invested in to deliver these services. [redacted], [redacted] and [redacted] are examples of relatively vertically integrated business models that provide wide-ranging products and services to SHFs.
- **Leveraging commercial partnerships –** under this approach, the agribusiness focuses on its core strengths and capacity, and identifies partners to provide products and services to them or on their behalf. All of the businesses interviewed during the assessment had commercial partnerships of greater or lesser depth to cover gaps in their own capacity. Some businesses, however, were more heavily reliant on commercial partnerships to sustain their operations, such as [redacted], [redacted] and [redacted].

The following observations were made during the assessment:

- **Diverse service offerings are more attractive and effective for the SHF** – diverse services give SHFs more choice and a greater chance of increasing yields, production and income. Some businesses are going so far as to provide SHFs with storage and a voice in deciding when to sell to the market.
- **The more vertically integrated the business is, the more competitive it can be –** more vertically integrated businesses can make more cumulative margins and spread different margins across different activities. This also allows businesses to create promotional activities and cover costs from margins elsewhere.
- **Commercial partnerships can offer progression to vertical integration** – some of the businesses have aspirations to become more vertically integrated and are using the partnerships as stepping-stones to do so.

Timing is a key challenge for effective FEA service delivery

In line with one of MADE's 'seven rights', the most pressing challenge for the effectiveness of the FEA service model is getting products and services to SHFs at the right time. The following specific challenges were identified during the assessment:

- **Timing of third-party services** – this is particularly challenging for mechanisation services, as limited tractor ownership among agribusinesses leads to outsourcing to third parties. Those third parties are always extremely busy during peak periods. There is often no guarantee that the services will be delivered at the right time, which has a direct impact on the quantity and quality of production. MADE is currently promoting climate-smart agriculture techniques. If progress is made in this area, it would partly help overcome a shortage of mechanised services at peak times.
- **Timing of input distribution –** the "opportunity windows" for applying inputs appropriately are very small, and therefore SHFs need the right products at the right time with the right advice. FEAs are unable to deliver the inputs themselves on motorbikes, and so rely on third-party transportation solutions. Again, at peak times, it can be extremely difficult to identify available transportation solutions. This is especially the case in more remote areas, where there are no reverse supply chain options for transporters.

The more remote the community, the less commercially viable it is to service

The majority of agribusinesses expressed willingness to work with as many communities as possible, both from a commercial and a social perspective. However, within the context of excess demand for FEA services and finite capacity of businesses to supply these services, many businesses are not actively targeting 'harder to reach' communities because they involve higher delivery costs. Agribusinesses that are currently working with more remote communities have explored solutions to reduce costs, but many have now started to reduce service delivery to these areas.

For these remote communities, costs are reported to be at least 20% greater. Transportation is one area of additional cost, but FEA time, accommodation and allowances are also factors. For Agri-Access Company Ltd, for example, the average transportation and handling costs from the field back to their facility in Wa, Upper West, is GHS 4-5/bag. They have had to scale back engagement with one

particular community, [redacted], as transportation costs have risen to GHS 15/bag. Despite working with the transportation company to see if any products could be delivered to [redacted] before crop-collection to cross-subsidise the costs, this was not possible. [redacted] also report transportation and handling costs to be as high as 15 GHS/bag from some communities. Agribusinesses are reluctant to charge higher prices to SHFs in these areas to cover the additional costs, as they prefer to have flat and simple pricing structures.

Other considerations to factor into the correlation between geography and commercial viability include the climate. During the rainy season, many communities are referred to as 'overseas', as they are often inaccessible. Agribusinesses do not prioritise these communities, for obvious reasons.

[redacted] is the only exception, as they actively target harder to reach communities in order to fulfil their social aspirations. They also report better recovery rates in more rural communities, because those SHFs often have less choice and therefore recovery is higher. However, this approach presents significant additional exposure to increased costs and greater risk, due to a reduced ability to regularly monitor the application of products and services.

Creating attractive incentives for FEAs

> "All FEAs love working for the business and they feel like it is their own business to grow"
> [redacted], *owner of* [redacted]

Private sector agribusinesses must create an environment where FEAs like their work and see it as a platform for both their own personal development and the growth of the business. However, a recent TEDMAG study revealed that 52% of agricultural college leavers want to work for MOFA, 40% want to work for the cocoa board, while only 6% want to work in the private sector. A high-level comparison between public and private engagement packages for agricultural college leavers helps to unpack this finding and is summarised below.

Table 2: High-level comparison between public and private engagement packages in Ghana

AREAS OF COMPARISON	PUBLIC SECTOR (EXTENSION OFFICER)	PRIVATE SECTOR (FEA)
Salary Allowance	• GHS [redacted] /month (certificate qualification) • GHS [redacted] /month (diploma qualification)	• Ranging from GHS [redacted] /month depending on experience and performance.
Contract Length	• 12 months a year. Contracts are seen as 'lifetime' contracts.	• Eight months a year. The remaining four months are not formalised.
Pension Contribution	• Yes – this is part of a government employment contract.	• No – this is not common.
Social Security and National Insurance Trust (Snit) Payments	• Yes – extension officers are formalised employees.	• No (not common). This means that despite FEAs being contracted they are not employees they are contractors.
Access to Work Motorbikes	• Yes – they are provided for official use. However, they are limited in numbers.	• Sometimes but not always. Many FEAs are recruited with motorbikes.
Opportunity to 'Moonlight'	• There is more opportunity to moonlight, as performance is not so closely measured.	• Less opportunity to take on additional work without consent of the business owner, as it would be too obvious during peak times. FEAs are loyal to their businesses.
Personal Development	• MOFA provide ongoing training and capacity development.	• Ongoing training and capacity development is provided by some

		agribusinesses and development projects. • Entrepreneurial opportunities are offered within some agribusinesses, allowing FEAs to use the business as a platform for their own growth (Allah is Able is an example of this).
Bonus Payments (In Cash and In-kind)	• Bonus payments neither in cash nor in-kind are formally available for MOFA staff.	Bonus payments come in the following different formats within the private sector: • Commission based on each bag recovered. • Commission based on % of sale price. • Discounted or free inputs and services for their own farm operations. • Other in-kind payments such as crop from demonstration plots, food products, even zinc sheets for construction projects.

There are significant benefits in terms of stability and longevity for public sector extension officers. This is balanced out by performance-based incentives within the private sector. Despite these performance-based incentives, MOFA is still perceived by most students as the preferred employment route. An observation made during the assessment was that most of the commission-based incentives were unstructured and at the discretion of the owners. This is not likely to provide the necessary confidence to college leavers to attract them to the private sector. This means that agribusinesses must aim to formalise, structure and visibly demonstrate their performance incentives to graduates in order to attract them to the private sector.

Recruitment of FEAs

> "The FEA job is cool and at the end of the day, everything always comes back to farming"
>
> [redacted], *FEA Manager of* [redacted]

Unfortunately, this quote from an interview with FEAs does not sum up the wider perception of agriculture among youth and students. Agriculture is often perceived as the 'last resort' subject to study, and parents of older generations are reportedly do not encourage their children to pursue a career in agriculture. Agriculture is still seen as a traditional manual labour industry employing people in fields with hoes. This perception, combined with the option of other potential careers in service sectors, leads to an unmotivated labour market for agribusinesses. As a result, the following prioritisation of attributes were identified by agribusinesses when recruiting new FEAs:

1. **Passion and commitment for agriculture** – these qualities are highly sought-after and prioritised over other attributes for most agribusinesses. Businesses only want to recruit FEAs that actively want to be engaged in the agricultural industry.
2. **Agricultural qualifications** – certificates, diplomas and degrees in agriculture are all important. However, some agribusinesses, such as [redacted], actively recruit FEAs who have business qualifications rather than agricultural qualifications.
3. **Local community networks and social capital** – recruiting FEAs who are from and live in the communities they will serve is important, as they will have the necessary social networks to gain trust with communities. In addition, this will reduce the logistics and accommodation costs for the business. However, many agribusinesses do not see this as a key priority, as they can leverage the social capacity of lead SHFs.
4. **Gender** – all businesses interviewed said that women are more trusted in the community and would likely lead to higher recovery rates. However, only a very small proportion of female FEAs were engaged by the businesses interviewed. Of the 315 FEAs who work for MADE's lead

partners, only 39 are female. There is a significant shortage of availability of potential female FEAs for agribusinesses.

Specific and relevant capacity-building for FEAs

There is currently a mismatch between the needs of FEAs and the curriculum delivered at agricultural colleges. Agricultural training has traditionally been focused on production, and on preparing students to deliver extension services. The FEA model is much more than provision of information and advice on production, as it includes wider aspects of the market system, including farm business management, provision of supporting products and services, commercial acumen and downstream marketing.

TEDMAG have recently developed a training manual called '*The New Extension Agent*' that incorporates these wider aspects of the market system that are as relevant for the delivery of FEA services as production. Incorporating these wider aspects of the agricultural market system into ongoing capacity-building and training programmes will provide a foundation for changing the negative perception of a career in agriculture.

MADE has been providing direct training to FEAs, which has been well received. MADE has also supported Damongo College to develop an FEA-specific one-week training course. This needs to be continued and rolled out on a commercial scale in order to continue to deliver FEA-specific training curriculums. The products and services of FEA service delivery are constantly evolving and so training and capacity must be regularly updated to reflect this.

Data management and technology is key for growth of the model

> "If we want to look serious with the banks, we need to have good data. And we need the banks in order to grow."
>
> [redacted], *owner of* [redacted]

MADE has worked to improve data collection and management systems within partner agribusiness, which in some cases were non-existent before their partnerships. However, only a small number of agribusiness interviewed had formal records and data on key commercial aspects of their business. Those that did were quite comprehensive, but others did not utilise computers or basic technology. This has a direct impact on the ability to access finance and make strategic evidence-based decisions.

MADE is currently developing the M-Access software, which is designed to offer businesses better data collection and management services. However, it seems that there is still some uncertainty about 'who pays, who does' going forward. Many agribusinesses interviewed said that they would be willing to invest in technology such as tablets required for the M-Access software (such as [redacted], [redacted], [redacted]). Others, often smaller companies and input providers were less interested in the software and requirement to invest in tablets ([redacted], [redacted] and [redacted]). Some companies, such as [redacted], are ahead of the curve and have moved to mobile money payments in an attempt to save SHFs time and money when payments are made.

Opportunities for potential investment in the FEA service model

The following opportunities for investment in the FEA service model were identified and discussed with agribusinesses and other stakeholders during the assessment:

- **Ongoing private sector-led capacity-building services** – there could be commercial opportunities to set up ongoing training and mentoring services for FEAs directly to businesses. This could perhaps be focused more on practical advice and training rather than traditional qualification-based training.
- **Franchise models for FEAs to grow outreach** – there could be a range of risk sharing 'franchise' opportunities' for businesses to grow their model. This could be implemented through FEAs themselves 'stepping up' to become a business within a business ([redacted] has one FEA who is apparently doing this). Or it could be other businesses in the industry themselves, perhaps with a unique offering to generate scale (geography, finance, etc.).
- **Mechanisation leasing services** – a larger, more reliable and more efficient mechanisation leasing service to agribusinesses is demanded by business. However, the skill level of many

tractor operators is minimal, and plant and equipment are frequently unavailable due to poor handling and maintenance.

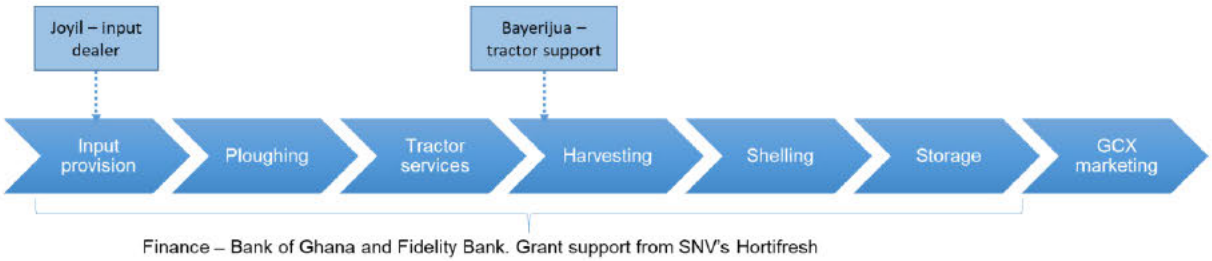
- **(Decentralised) quality-graded storage services** – more decentralised storage services that are linked to the GCX and their quality-grading would help to move the market from a volume focus towards a quality incentivised market.

SECTION 5. AGRIBUSINESS SNAPSHOTS

The following section of the report outlines key business specific information identified during the assessment, including background and size of business, the growth trajectory since the MADE partnership, commercial partnerships, approach to finance, risk, revenue and costs, and engagement and incentives of FEAs.

Snapshot 1 – Akandem Farms

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted]. It also demonstrates how and where the agribusiness is supported by commercial partnerships, as well as finance arrangements.



BACKGROUND ON BUSINESS	Established in 2011. The owner was previously an SHF and has won several awards for farming. Currently has 4 tractors and 3 shelling machines. Vertically integrated service provision from inputs through to marketing, both with commercial partners and individually. Has a small GCX-accredited warehouse (80 MT capacity).
GROWTH SINCE MADE PARTNERSHIP	Has been working with MADE for 3 years. SHF outreach has grown from 400 to over 2,000 SHFs. Growth in volumes aggregated since the introduction of the FEA is extremely large. Before the FEA model – 30,000 bags of maize, now approximately 100,000 bags of maize. Rice aggregation has increased from nearly nothing to 30,000 bags per year.
COMMERCIAL PARTNERSHIPS	[redacted] is an input dealer. [redacted] deals in tractor services and business development advisory services.
STRATEGY TO SUSTAIN SERVICES POST-MADE	The business will add a small service fee of GHS 5 to each bag of fertiliser in order to recover the shortfall of MADE support. SHFs are willing to pay this increase as they have seen the benefits of the FEA model.
RISK MANAGEMENT	[redacted] provides SHFs with the ability to generate higher revenues through quality-grading (implemented by GCX) and an ability to store until prices are higher. This differentiation from other aggregators has incentivised SHFs to sell to [redacted] and increased recovery rates. [redacted] run a lead SHF model to support due diligence and risk management. [redacted] is also piloting crop insurance products. The business operates a gradually increasing level of products and services by year, starting with a maximum 2 acres of support in the first year.
REVENUE GENERATION AND COSTS	Most SHFs are engaged into the programme by paying a 30% deposit at the beginning of the season. In addition, they charge for tractor services on a 'pay-as-you-go' basis. The business stores approximately 60% of crop at harvest time. Storage beyond their own unit is charged at 50 peswas/bag/month. GCX offer a quality-grading price structure which [redacted] utilises when possible. [redacted]'s high degree of vertical integration allows the business to cross-subsidise some of its less profitable products and services.
FINANCE ARRANGEMENTS	Credit facility with Bank of Ghana for GHS [redacted]. Also has a [redacted] facility. Planning to benefit from warehouse receipt finance shortly and has a partnership with IFC for warehouse receipt training. Has just received a grant of € [redacted] from SNV's Hortifresh programme to support vegetable farming and aggregation.
FEA ENGAGEMENT AND INCENTIVES	FEAs are engaged with a contract for 8 months of the year. The monthly salary is between GHS [redacted]. FEA managers can receive monthly salaries of GHS [redacted]. Other benefits include crop from demonstration plots and an informal bonus based on recovery rates.
FEA RECRUITMENT	Local languages and social network are more important than qualifications. Agricultural certificates are the most common qualification of the business's FEAs. It is a challenge to find FEAs that are really committed to agriculture. They currently only have 1 female FEA but would like to hire more as they are perceived as more trustworthy within the community.

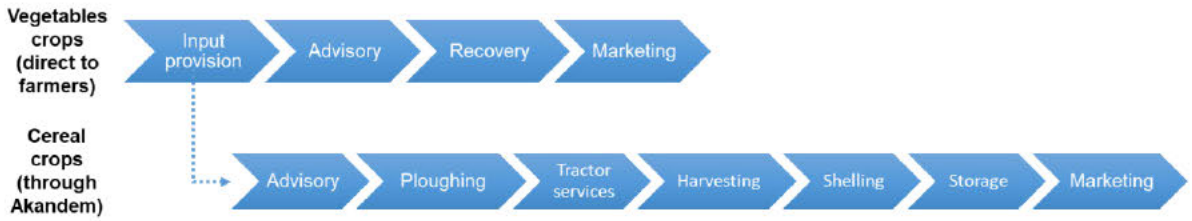
Snapshot 2 – Noyine Maltinga Enterprises

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted]. It also demonstrates how and where the agribusiness is supported by commercial partnerships, as well as finance arrangements.

BACKGROUND ON BUSINESS	[redacted] is a relatively small female-owned groundnut processor and aggregation company. Its primary focus was producing finished groundnut products such as peanut pastes and spices for consumers, but it decided to integrate backwards along the value chain in an attempt to improve the quantity and quality of supply. They currently purchase 15 MT of unprocessed groundnuts from their own SHFs. The activities provided under the FEA model are limited to farm advisory and aggregation services.
GROWTH SINCE MADE PARTNERSHIP	[redacted] has been working with MADE for 5 years and was one of the original MADE partners. Recovery rates have improved from 60% to 90% since the MADE partnership. Improvements in quality and reduction in aflatoxin are also reported due to FEA field monitoring and advisory services offered to SHFs.
COMMERCIAL PARTNERSHIPS	Fumbisi Agro Farms support [redacted]'s SHFs with land preparation and technical expertise.
STRATEGY TO SUSTAIN SERVICES POST-MADE	During the off-season [redacted] will work with SHFs to produce local cloth and baskets. [redacted] will purchase these products from the SHFs and sell on to buyers to make a margin. This margin will cover the cost of FEA operational support that MADE is currently providing.
RISK MANAGEMENT	With a focus on a single crop, [redacted] is exposed to more risk in terms of climatic challenges. However, this is the same for the entire sector. Low overall production for the entire groundnut industry will lead to higher pricing. Therefore, this risk is theoretically balanced. The nature of groundnuts and post-harvest handling risks mean that [redacted] operates a very tight value chain to reduce risk, with early warning from FEAs and quick recovery.
REVENUE GENERATION AND COSTS	Revenue generation is dependent on demand for finished groundnut products. [redacted] processes to order. If no orders are received [redacted] sells on processed nuts at strategic points throughout the year. The difference in pricing can be as much as GHS 100/bag in harvest season compared to GHS 240/bag in the dry season. This helps to smooth revenue throughout the year. The business also has a series of handicraft sales which support revenue during the dry season.
FINANCE ARRANGEMENTS	Has a credit facility with Northern Ghana Governance Activity for GHS [redacted]. Also has a grant with an Austrian faith-based organisation.
FEA ENGAGEMENT AND INCENTIVES	FEAs are contracted for 8 months a year and paid a monthly salary of GHS [redacted]. They are also incentivised with provision of farmland and subsidised inputs to grow their own crops. Some are provided with motorbikes to undertake their activities.
FEA RECRUITMENT	Local knowledge and commitment is the most important attribute. Noyine has attempted to recruit more female FEAs but they are not readily available.

Snapshot 3 – [redacted]

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted].



BACKGROUND ON BUSINESS	[redacted]) was established in 2013 and is based in Sandema in Upper East region. The business predominantly focuses on provision of inputs for SHFs in vegetables (tomatoes, peppers, cabbages and onions). This is coupled with some service delivery to cereal crops such as maize, rice and sorghum. They service a total 750 SHFs directly. JFS is a support enterprise for Akandem Farms, providing inputs for cereal crops to Akandem Farm's SHFs and sharing new customers.
GROWTH SINCE MADE PARTNERSHIP	Turnover has increased over the past two years, from GHS [redacted] to GHS [redacted]. The FEA model has been useful in creating model farms to showcase the effectiveness of their products to SHFs. FEA capacity has been increased through GAP training. Productivity for SHFs has gone up since the introduction of the FEA model. Examples include, maize 1.7 MT/hectare to 3 MT/hectare, rice 2 MT/hectare to 4 MT/hectare. SHFs have increased the land they are utilising, in some cases from 1 hectare to 5 hectares.
COMMERCIAL PARTNERSHIPS	[redacted] is a support enterprise for [redacted], providing inputs for cereal crops to [redacted]'s SHFs and sharing new customers as well as risk. The owner places most of the business growth on their recently developed commercial partnership with [redacted].
STRATEGY TO SUSTAIN SERVICES POST-MADE	Reduce fixed costs (monthly salaries/allowances) and increase commission incentives. The owner wants the FEAs to see their work as their own enterprises. The owner realises that this FEAs are likely to receive this badly at first but plans to bolster this change in engagement with other incentives such as training, equipment and inputs for their own land and farms.
RISK MANAGEMENT	[redacted] only provides up to 40% of the cost of products and services on credit to SHFs. The company carries out its own due diligence for new vegetable customers with a progressive lending programme. They have a 100% recovery rate for vegetables. For cereal crops, it leverages [redacted]'s due diligence process.
REVENUE GENERATION AND COSTS	The majority of revenue for vegetables is generated in cash at point of sale (either in their store in Sandema or in the field). For cereal crops revenue is generated through recovery carried out in collaboration with [redacted]. The company has 30-day credit terms with their input suppliers. [redacted] and [redacted].
FINANCE ARRANGEMENTS	[redacted] does not have any formalised finance arrangements with finance institutions.
FEA ENGAGEMENT AND INCENTIVES	[redacted] pays its FEAs GHS [redacted]/month as a standard monthly allowance. They also currently benefit from a 10% bonus on additional revenue generated above pre-determined targets. This is generally paid in quarterly payments, although at peak times throughout the year it is sometimes paid immediately, to incentivise FEAs. FEAs are engaged for 8 months throughout the year.

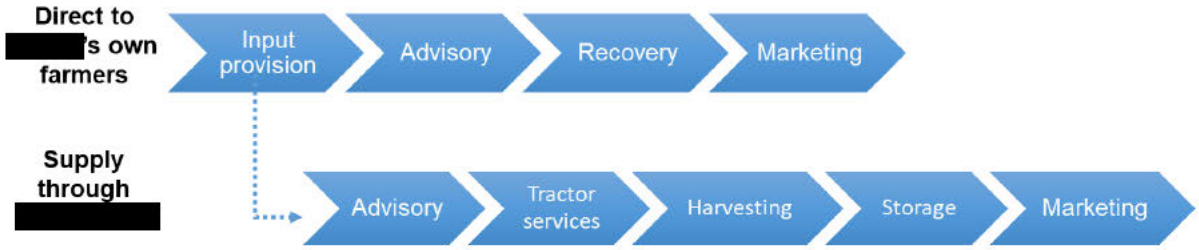
Snapshot 4 – [redacted]

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted].

BACKGROUND ON BUSINESS	[redacted] ([redacted]) started as a seed seller but has now developed into a relatively large and vertically integrated service company supporting SHFs across a wide range of crops and geographies, with services ranging from seed delivery to tractor leasing to shelling and storage services. It is based in the Upper West region and has been a MADE partner since Y1.
GROWTH SINCE MADE PARTNERSHIP	[redacted] had two FEAs in 2012 and has scaled up operations to 17 under the support of MADE. The recovery rate has increased from an estimated 50% in 2012 to 97%. The business has consistently grown between 5%-10% year on year. From an SHF productivity perspective, an example of increased yields is from 5 bags of maize/acre to 15 bags of maize/acre for the most effective SHFs.
COMMERCIAL PARTNERSHIPS	[redacted] supplies [redacted] with assorted agrochemicals and input supplies as well as providing periodic capacity building to [redacted] sales agents and field staff in after sales service
STRATEGY TO SUSTAIN SERVICES POST-MADE	[redacted] is going to focus its sustainability of the FEA model on improving SHF group leadership and capacity. [redacted] also wants to provide formal incentives to these SHF group leaders. The business sees this as core to the scale up of FEA services on a profitable and commercial basis. The business has started supporting serious FEAs to become nucleus farmers working with at least 400 out-growers. The business is supplying agro-inputs and other services to these nucleus farmers at an agreed cost and recovery arrangements. This is to enable the such FEAs to begin to work to generate good margin from the network of SHFs that the serve with inputs and services
RISK MANAGEMENT	The business is centred on the SHF group lending model, which helps to manage risk, provide initial due diligence screening and reduce defaults. [redacted] provides a prescriptive service that helps to provide control over recovery. For example, SHFs must use tractor services to demonstrate that they are 'serious'. After recovery of costs has been accounted for, [redacted] purchases the surplus crop from the SHFs at a price slightly above market prices, in order to maintain relationships with SHFs.
REVENUE GENERATION AND COSTS	[redacted] prefers to operate a 'recovery' only revenue model, apart from tractor services which are operated on a pay-as-you-go model. [redacted] aims to store around 80% of crop, to smooth revenue and generate higher prices. The business does not make a margin on any of the products or services delivered under the FEA model and makes sure SHFs are aware of this.
FINANCE ARRANGEMENTS	[redacted] has credit with all their input suppliers (this is normally 30 days). [redacted] distributes its products through 96 agro-dealers which all have credit lines with the business. The business has an overdraft facility with the bank and has a credit facility which was used to purchase their tractors.
FEA ENGAGEMENT AND INCENTIVES	FEAs are engaged on 8 month contracts each year. Monthly salaries used to be GHS [redacted]/month. However, all transport costs are now paid for directly by the business. [redacted] owns all the motorbikes used for work purposes. Currently there are no formalised bonus payments. FEAs mentioned that MOFA is a more attractive place to work, however there are very limited job opportunities there.
FEA RECRUITMENT	[redacted] tries to recruit FEAs from within the communities they serve, as they are likely to have better relationships with the SHFs and reduces logistics costs. The most important attributes for recruiting new FEAs are commitment and willingness to learn. This has been a challenge for the business, however, as young people do not want to work in agriculture.

Snapshot 5 – [redacted]

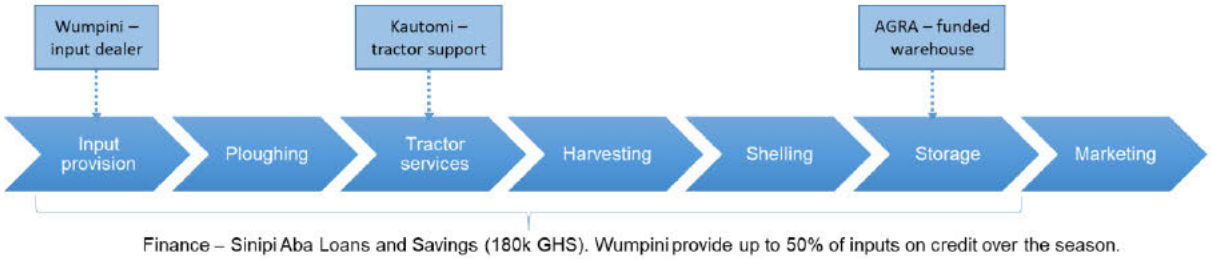
The diagram below demonstrates the different products and services delivered under the FEA model by [redacted].



BACKGROUND ON BUSINESS	[redacted] ([redacted]) specialises in retail of inputs in the Upper West region, servicing cereal and vegetable crops. They have now upgraded their activities to also aggregate, store and market small volumes of cereal crops as well.
GROWTH SINCE MADE PARTNERSHIP	Before the MADE partnership, [redacted] had no FEAs and purely focused on retail of inputs, with no technical advisory or services beyond the point of sale. They now have 2 FEAs. Turnover has grown by 20% in the last year to GHS [redacted]. Recovery rates are now estimated at around 90%. SHFs working with [redacted] have increased confidence and are planting on more land.
COMMERCIAL PARTNERSHIPS	[redacted] is a lead partner. It is a large aggregator which also has a warehouse. [redacted] estimates that 25% of the businesses' growth is due to the commercial partnership they have with [redacted].
STRATEGY TO SUSTAIN SERVICES POST-MADE	[redacted]'s strategy to sustain FEA services after MADE is through re-investing profits from the business into scaling up FEA services.
RISK MANAGEMENT	They utilise an SHF group lending model to reduce risk of default. [redacted]'s FEAs and [redacted]'s FEAs carry out detailed due diligence and background checks before engaging with new customers. They also implement a progressive lending programme with new customers. If there is a default outside the SHFs control, then the business rolls this over to the next year, after which the debt is written off.
REVENUE GENERATION AND COSTS	Revenue is generated throughout the year at [redacted]'s retail stores. For SHFs that are provided with FEA products and services on credit, payment is made in kind at harvest time. Approximately 50% of the crop is stored at rented facilities or at [redacted]. The biggest buyers are poultry SHFs, which are gaining confidence in the quality of [redacted]'s supply and there are signs of differentiated pricing based on quality (colour sorting and removing extraneous matter).
FINANCE ARRANGEMENTS	[redacted] has a credit facility of GHS [redacted] with [redacted] and loans. The interest rates are high at 40%. The partnership with MADE has supported the process of securing this credit facility. [redacted]'s suppliers offer credit but on very limited terms (normally 1-2 weeks).
FEA ENGAGEMENT AND INCENTIVES	FEAs are engaged for 12 months a year on a contracted basis. They receive a salary of approximately GHS [redacted]/month. The owner knows this is higher than other private companies but does this to retain staff. The business pays an average of 5% bonus at the end of each season.
FEA RECRUITMENT	Recruitment for [redacted] is driven more on commitment and passion for agriculture rather than qualifications. Previously it has recruited FEAs from MOFA but has since changed their approach to use more 'enlightened' FEAs. MOFA staff demand salaries and employment packages that are beyond [redacted]'s budget.

Snapshot 6 – [redacted]

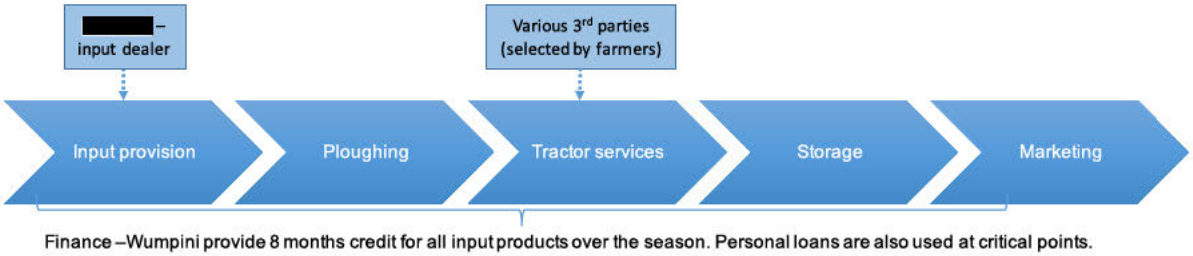
The diagram below demonstrates the different products and services delivered under the FEA model by [redacted].



BACKGROUND ON BUSINESS	[redacted] was established in 2009 and focuses on aggregation of maize and soya. Its activities are relatively vertically integrated. including input provision, ploughing, tractor services, GAP training, mobile shelling and leased storage facilities. It started by supporting 200 SHFs in one community and now supports over 2,000 SHFs in the Northern region.
GROWTH SINCE MADE PARTNERSHIP	[redacted] has been working with MADE since 2017. Since then the number of 100kg bags recovered for maize has increased from 2,260 to 3,000, while soya has increased from 500 to 1,200 bags. Soya is more profitable for [redacted] than maize, although it carries more risk. The owner estimates that 65% of this growth is attributable to the FEA model. The remaining 35% of growth is due to improved commercial partnerships.
COMMERCIAL PARTNERSHIPS	[redacted] is a tractor leasing company that supports [redacted] at critical points throughout the season. [redacted] only owns 1 tractor, whereas [redacted] own 5 tractors. [redacted] is a commercial partner that supplies inputs and agro-chemicals.
STRATEGY TO SUSTAIN SERVICES POST-MADE	The business is considering expanding its services into the vegetable sector in order to generate more revenue to pay for FEA services throughout the year. Seasonal variations between cereals and vegetables will also help smooth cashflow challenges in the off-season.
RISK MANAGEMENT	The timing of service delivery is key to the business's risk management strategy. Receiving the right products and services at the right time helps control productivity and recovery. The business ensures that FEAs spend a significant amount of time in the field each year (at least 5 field trips/week) to ensure that products are being applied appropriately. The business operates through an SHF group lending model and progressive lending based on track record. Due diligence and background checks are also carried out to ensure that the SHFs have a history in agriculture and are viable businesses.
REVENUE GENERATION AND COSTS	40% of maize is sold at harvest time, compared to 80% of soya. More soya is sold immediately after harvest as a means to reduce the increased risks with this crop. Both crops are sold on the open market.. [redacted] doesn't require down payments, and all revenue is generated through recovery and subsequent sales. Some communities are too expensive to service so a reduced portfolio of services is offered to them. In 2018, the business turned away 20% of new SHFs because they were too expensive to service.
FINANCE ARRANGEMENTS	[redacted] has a loan facility with [redacted] for GHS [redacted]. It also has relatively relaxed payment terms with their commercial partners [redacted], who request a 50% down payment on products at the beginning of the season, with the rest being paid at time of recovery.
FEA ENGAGEMENT AND INCENTIVES	FEA staff are engaged on contractor terms for 6 months per year. For the remaining 6 months they do work for the business, but this is not contracted. FEAs are paid a monthly allowance during their 6-month contractual engagement of GHS [redacted]/month. If 95% recovery is achieved, then the business has agreed to pay a bonus (in kind).
FEA RECRUITMENT	Passion for agriculture is the most important asset that the business looks for when recruiting. Next comes commitment to the business. Thirdly, agricultural certificates and diplomas. Local knowledge and relationships are not perceived as particularly important, as the FEA only needs to build a relationship with the lead SHF, who will in turn work with the community.

Snapshot 7 – [redacted]

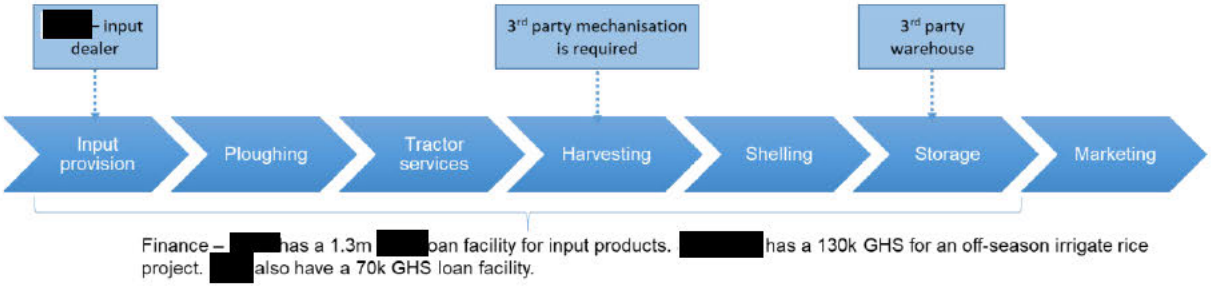
The diagram below demonstrates the different products and services delivered under the FEA model by [redacted].



BACKGROUND ON BUSINESS	[redacted] ([redacted]) was established in 2013, primarily as an aggregation business operating in 7 districts across the Northern region.
GROWTH SINCE MADE PARTNERSHIP	They have been partnering with MADE since 2017. Aggregation volumes have grown for rice and groundnut, whereas maize has decreased from 7,482 bags to 5,173 bags, due to a flooding issue. The number of FEAs in the business has grown from 3 to 7 since 2017. An estimated 30% of revenue increases are attributable to the FEA model. The rest are from organic growth and a recently developed commercial partnership with [redacted], a large inputs company. [redacted] have benefited from MADE's requirement for them to collect monitoring data, which has allowed the business to make strategic decisions. Since 2017, SHF maize yields are said to have doubled from 5-7 bags per acre to 15 bags per acre. The average acreage they supply to per SHF has also increased, from 2 to 3 acres.
COMMERCIAL PARTNERSHIPS	[redacted] is a lead firm partnered with MADE. [redacted] provide inputs to [redacted] with 8-months credit terms. When [redacted] reaches financial capacity in terms of the number of SHFs it is serving, it refers them to [redacted] directly.
STRATEGY TO SUSTAIN SERVICES	[redacted] plans to re-invest profits made by the company to sustain the operational costs of the FEA model.
RISK MANAGEMENT	[redacted] operates a group SHF lending model similar to other agribusinesses. However, a key point of difference to [redacted]'s risk management is their socially progressive focus on harder to reach and more marginalised communities. The owner is aware that these target communities are more expensive to work with, although the business sees them as lower risk because many of these communities do not have the option to sell to other agribusinesses. As a result, they are more loyal and the recovery rates are better. The recovery rate in 2018 was 97%. The majority of defaults that were not related to climatic or natural hazards were reportedly from peri-urban areas.
REVENUE GENERATION AND COSTS	[redacted] allows SHFs to select which products and services they want to service together. Due to the rural targeting of SHFs, [redacted] cannot organise and coordinate tractor services at the right time themselves. They allow SHFs to select their own local tractor services providers (again presenting more risk to the business).. The company does not take any deposit or down payments throughout the season. The business sells approximately 60% of their crop immediately at harvest time.
FINANCE ARRANGEMENTS	[redacted] offer seasonal 8-month credit on all input products. In addition, the owner sometimes gets personal loans to cover cashflow shortages.
FEA ENGAGEMENT AND INCENTIVES	FEAs are engaged on 8-month contracts. They have their own bikes but the cost of fuel is covered by [redacted]. The monthly salary is GHS[redacted], plus GHS[redacted] for fuel. There is a bonus payment which can be up to GHS[redacted] per year, split between the FEA team.
FEA RECRUITMENT	FEAs are recruited that are passionate and like farming themselves. They normally recruit within their own networks. They also run an unstructured internship/work experience type programme. FEAs from the local area are not perceived to be important because they only need a relationship with the lead SHF.

Snapshot 8 – [redacted]

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted] and their commercial partners [redacted].



BACKGROUND ON BUSINESS	[redacted] is an aggregation company focusing on maize, rice and soybean based in Tamale but operating in Northern, North East, Savanah and Upper East regions.
GROWTH SINCE MADE PARTNERSHIP	[redacted] has been a MADE partner since 2016. Before MADE, they were working exclusively in soya, with 930 SHFs. Now they are working with 3,500 SHFs. Before MADE support, they had two agriculture extension officers, which has now been scaled up to 11 FEAs. An estimated 50% of increase in turnover is attributed to the FEA model.
COMMERCIAL PARTNERSHIPS	[redacted] is a large inputs importer and distributor. [redacted] and [redacted] formed the partnership in 2017 and have developed a seasonal credit facility.
STRATEGY TO SUSTAIN SERVICES	[redacted] plans to fund FEA operational costs post-MADE organically from its own profits.
RISK MANAGEMENT	[redacted] operate a strict 'all or nothing' service approach to their SHFs. This gives them greater control over SHF yields and ultimately their recovery. For example, they will only accept rice SHFs who can demonstrate access to combine harvester machinery, because they know that at peak harvest times, there will not be enough labour at the right time to ensure that the projected quantity and quality of crop is harvested. They operate a lead SHF group model to manage risk, screening and due diligence.
REVENUE GENERATION AND COSTS	[redacted] operate a 1:1 revenue model. The total cost for the full package per acre is 6 bags. The company makes a small margin on the recovery (approximately 1 bag per acre), but they make the majority of their margin on the surplus that they aggregate. They sell 80% of their crop and store the remaining 20% for better prices throughout the year. They lease the storage. They have a diverse set of buyers, including [redacted] for rice and Turkish exporters for Soya. They are in the process of establishing off-season irrigated rice operations, in order to smooth revenue throughout the year. They have an average handling cost of around 15%, which includes transport, bagging, district levies and loading goods.
FINANCE ARRANGEMENTS	The have a total loan value of GHS 1.3 million with [redacted] for this season. This facility attracts 12% interest, but [redacted] is permitted to pay back in recovery of crops. [redacted] also has a credit facility with GCB of GHS [redacted]. They have recently arranged a GHS [redacted] loan facility with [redacted] to undertake an off-season irrigated rice project. They have previously used the MADE partnership as a 'sweetener' in discussions with banks when applying for finance.
FEA ENGAGEMENT AND INCENTIVES	They are contracted for 8 months of the year. However, this may change once the off-season rice operations have been established. FEAs have a monthly salary of GHS 1,000 while the managers get up to GHS [redacted] per month. The FEAs are provided with company motorbikes for official use. FEAs have been incentivised with non-monetary payments. For example, one FEA manager was recently paid a bonus in zinc so he could build a new house for his family. Other FEAs have been given inputs and services as bonus payments.
FEA RECRUITMENT	Over 50% of the FEA team live in rural areas within the communities they serve, in order to reduce their costs. All of the FEAs have degrees in business or development studies, not agriculture. The rationale for this is that they are business employees and they treat their work as a business.

Snapshot 9 – [redacted]

The diagram below demonstrates the different products and services delivered under the FEA model by [redacted] and their commercial partners [redacted] and [redacted]. The diagram also demonstrates how third-party agents supply sorghum throughout the year to [redacted], which allows them to consistently supply [redacted], whilst not having to store sorghum.

BACKGROUND ON BUSINESS	[redacted] ([redacted]) was established in 2012 as an aggregation business focused on sorghum in the Upper West region. They provide inputs, technical advisory, aggregation, training, quality-grading and bagging services. They have an off-taker agreement with [redacted].
GROWTH SINCE MADE PARTNERSHIP	The business has partnered with MADE since 2018. During this time, volumes have increased from 4,000 MT in 2018 to 4,500 MT in 2019. Market prices have also increased consistently over the past 4 years, from GHS 1.5 /kg to GHS 1.96 /kg. Before MADE's support, the business had 2 field officers. This has now been scaled up to 6 FEAs. The FEAs have been instrumental in developing better relationships with communities. Recovery rates reflect these relationships: in 2016 it was approximately 65%, whereas now it is 98%.
COMMERCIAL PARTNERSHIPS	[redacted] provide inputs on a cash on delivery basis. [redacted], a large off-taker of Sorghum in Ghana.
STRATEGY TO SUSTAIN SERVICES	Reduce fixed costs and increase commission payments for FEAs. The initial cashflow required to cover operational expenses of FEAs will be covered through increased profits.
RISK MANAGEMENT	They run an SHF group model. They only accept SHFs that have an intimate knowledge of sorghum and the unique challenges it presents. They leverage the knowledge and relationships the lead SHFs have with their communities. They operate a progressive lending model, starting with 2 acres of support. Timing of products and services is critical, and this risk is reduced through forecasting with lead SHFs. Harvesting is not done at once, as with other crops, which therefore requires selective harvesting, so [redacted]'s FEAs train SHFs on exactly what they want and when.
REVENUE GENERATION AND COSTS	[redacted] sells all of its crop to [redacted]. To smooth revenue throughout the year, it also buys from sorghum agents and sells on to [redacted] with a small margin. Approximately 55% of all revenue is generated through onwards sales purchased through agents. [redacted] does not store sorghum. [redacted], their main inputs provider, only takes cash at point of sale, while at the other end of the chain [redacted] have recently increased their payment terms from 30 - 90 days. This has presented significant cashflow challenges for [redacted].
FINANCE ARRANGEMENTS	Since [redacted] increased its payment terms from 30 to 90 days, [redacted] has worked with them to develop a solution. They have secured invoice discounting from [redacted] and [redacted] have agreed to pay the interest on the loans. This is a good example of how buyers have started to provide credit guarantees for their upstream partners.
FEA ENGAGEMENT AND INCENTIVES	FEAs are engaged on a contractual basis for the entire year. They are paid an allowance of GHS [redacted]/month. This is exclusive of transport, fuel and accommodation. FEAs are also paid GHS 1/bag recovered or purchased.
FEA RECRUITMENT	New FEAs must have sorghum experience. The business prefers to hire specialists, rather than agricultural generalists. Local knowledge and relationships are imperative for future recruitment. They have tried to recruit female FEAs in the past, but they have found it challenging to find females that are available and have specific sorghum experience.

SECTION 6. CRITICAL SUCCESS FACTORS FOR AGRIBUSINESSES

This section of the report provides a series of critical success factors that agribusinesses need to consider and achieve in order to maximise their chances of commercial viability, decrease their exposure to risk, create cost saving efficiencies and increase profitability and scale.

Control the manageable

The more variables the business can control, the more chance the SHF has of increased productivity and therefore of recovery and growth for the business. Variables within the potential control of the agribusiness include land preparation, seed selection, fertiliser selection and application, choice of mechanised services and timing of delivery, timing and approach to harvesting, timing and approach to storage and marketing. All these variables can be monitored by the FEAs during field visits, as well as by lead SHFs. There are still a number of variables outside the control of the agribusiness, such as climate, sabotage, theft etc. However, risk is significantly reduced. This does not mean that the FEA services have to be a precise and prescriptive formula, as there could be variations in effectiveness of certain products and services across geographies and crop types. It is, however, recommended that agribusinesses provide suitable tried and tested products and services that they can control.

Create a balanced revenue generation strategy

Most agribusinesses have adopted balanced revenue strategies that help to smooth cashflow throughout the year. However, there are still some businesses, such as MS Bonsu Enterprises, that are overly reliant on revenue spikes at harvest time. There are many creative ways to balance revenue strategies as evidenced by existing FEA providers. These include down-payments, pay-as-you-go services, additional off-season activities or cultivation and sourcing from agents, and acting as a trader at various points throughout the year.

Mirror costs with revenue as much as possible

Mirroring costs with revenue is a good approach to improve cashflow for the agribusiness. This is possible for some of the business's variable costs (payment to suppliers, for example), though fixed ongoing costs are harder to mirror (such as facilities and FEA staff). Agribusinesses should look to identify commercial partners that have complimentary skillsets and capacity and look to match payment terms or credit agreements with forecasted revenue streams.

Leverage more innovative finance products where possible

MADE's agribusinesses have demonstrated that while there is a clear need for working capital to establish and operate the FEA model, there are many different types of finance available to agribusinesses, as well as straightforward loan products. Warehouse receipt finance opportunities are expanding in Northern Ghana with the introduction of the GCX. In addition, invoice discounting products are available to agribusinesses who have strong commercial partnerships with larger and more reputable buyers. There is a reliance on donor funding among businesses in Northern Ghana, however this assessment demonstrates that the FEA model is commercially viable and there are multiple routes to commercial finance for future agribusinesses wishing to deliver FEA services.

Diversify services providing a 'one-stop shop' for SHFs

The more diverse and comprehensive the services are, the more convenient it is for the SHF to work with the agribusiness. In addition, as mentioned above, the more control the business has over the variables, the greater the control over quantity and quality of production. Businesses will be able to generate integrated margins across these products and services, allowing more profitable ones to subsidise less profitable ones. As a starting point, businesses should look to leveraging commercial partnerships to reduce up-front investments. However, over time investing in vertical integration of FEA service delivery will improve profitability.

Make agriculture exciting for FEAs by including them in the wider business

Agribusinesses must play a role in making agriculture more exciting for young people. They cannot sit back and wait for other initiatives to change the traditional, negative perception that agriculture currently suffers. It is recommended that agribusinesses aim to include FEAs in wider aspects of the business,

not just field work, including accounting, management, finance and marketing. This will offer FEAs broad personal development and demonstrate the 'business opportunities' in agribusiness.

Given that agricultural college leavers prefer the public sector as a career path, mostly due to the stability it offers, it is important that agribusinesses move away from a 'discretionary' commission incentive structure. Performance-based commission is a central component to the FEA package, especially as most businesses will opt for a 'reduced fixed cost - increased commission' approach after MADE operational support comes to an end. These performance-based incentives need to be demonstrated to potential new FEAs in a clear and transparent manner. It is likely that the private sector model will appeal to more entrepreneurial college leavers, but it is also very important for businesses to attract other talent as well as entrepreneurs. Businesses need to structure the incentives packages in a more formalised and visible manner, in order to attract and retain the best FEAs.

FEA service delivery will evolve over time, the types of products and how they are applied will change, as well as how specific services are delivered. Recruiting FEAs with relevant capacity is the first step, but this capacity has to be maintained and updated over time in order to maximise the effectiveness of service delivery. There are a series of FEA-specific training courses, one of which has been developed by MADE in collaboration with [redacted]. Agribusinesses should invest in their FEAs and look to enrol them on such training courses or should identify other opportunities for capacity-building such as mentorship and apprenticeship programmes.

Invest in improved data management systems

Businesses must improve the way they measure and manage data. This is imperative for decision-making on a strategic level, as well as day-to-day, logistics planning, forecasting and recovery management. As the businesses grow and require larger sums of working capital, so will the need for larger credit facilities with banks and financial institutions. The process and likelihood of accessing finance will become much more straightforward and achievable if the business has a functional and effective data management system. Businesses should invest in, and make use of, technology and software available to them, such as the forthcoming M-Access software, which has been supported by MADE.

SECTION 7. RECOMMENDATIONS FOR FUTURE PROGRAMMES

This section of the report provides recommendations for future market systems and private sector development programmes that may support scaling-up of and further investment into the FEA model.

Support the development of more quality-based incentives throughout the market system

Incentive structures throughout the market system are based on quantity of production, with limited focus on quality. Quality is normally defined as a 'pass or fail' against key metrics on moisture content and levels of contaminants. A very small segment of the market provides quality-grading and price premium differentials in a formalised and structured way. One example of this is GCX's tier grading from one to four. Developing quality incentives needs to be demand-led, and this can filter through to agribusinesses, FEAs and ultimately SHFs. These quality-based incentives will help to further maximise the potential for commercial agriculture, and in doing so will provide increased pricing opportunities for SHFs. Market systems programmes should work with relevant stakeholders to facilitate and promote quality-grading and certification marks.

Work with government to develop complementarity between private sector FEA services and public sector extension services.

Both the public and private sector are aware of the differences and strengths of their offerings to SHFs. There have already been efforts from the Directorate for Extension to harness the potential of private extension services, but this needs to be deepened. There could be a series of incentive structures provided by the government, such as tax relief for agribusinesses that deliver FEA services, or conditionality of fertiliser subsidies based on the delivery of FEA services to SHFs to ensure the products are utilised appropriately. A detailed division of roles and responsibilities between the public and private sector needs to be developed and updated on a regular basis as the context and sector evolves. As an initial starting point, MADE is currently planning a multi-stakeholder workshop on FEA services and key lessons.

Facilitate investment into mechanisation services

As this assessment has revealed, access to key services at key times throughout the year is extremely challenging and can have a profound impact on SHF productivity. The demand for mechanised services at those peak times vastly outweighs supply, and so SHFs are not maximising their productivity and incomes. When third-party mechanised service providers are used, it is often on an ad-hoc basis through local networks and community members who happen to have equipment, rather than a centralised leasing business with large fleets of machines for hire. One of the potential reasons for the limited investment into larger mechanisation-leasing businesses could be the lack of forecasting and planning data available from SHFs. This makes it very challenging for businesses to effectively operate such a service. Investors and businesses looking to establish larger mechanisation-leasing should aim to work with FEAs to leverage their planning and forecasting information. This would then make it easier to plan when and where the machines are needed.

Facilitate FEA franchising pilot

One potential route to scale for agribusinesses that are currently delivering FEA services is to develop platforms for FEAs to establish their own businesses under the same brand as the agribusiness. This could be developed with a level of risk- and reward-sharing between the FEA and the agribusiness, as well as the potential for credit lines between the two parties. A franchising structure could be offered as another incentive to attract entrepreneur FEAs to work and stay in the private sector. The franchising structure would need to provide clear lines of differentiation for franchise businesses. For example, geography or crop type may be a useful starting point. One of MADEs partners, [redacted], is reportedly already testing this, though the effectiveness is unknown. It is recommended that future programmes develop a structured pilot, with guidance and rules of engagement for agribusinesses interested in exploring this potential route to scale.

Address female FEA recruitment challenges

Some agribusinesses have recruited female FEAs, while others would like to but have not been successful, predominantly due to lack of availability. Donor projects can help, by disseminating the strategies adopted by innovative agribusinesses identified through this assessment. MADE has played

an active role by piloting an apprenticeships and internships for female agricultural students, both through its own contacts with [redacted] and in partnership with Modernising Agriculture in Ghana, which has ties to the other agricultural colleges. This can provide exposure for both agribusinesses and young women, which will help overcome some of their misconceptions. Future programmes can also work with [redacted] and possibly some of the other colleges, to set up job fairs for agribusinesses and current/former female agriculture students.

Continue to facilitate investment in improved data management and technology for FEA service delivery

MADE is currently supporting the development of M-Access, a software package that will provide agribusinesses an opportunity to manage data more efficiently way, and to make strategic decisions based on evidence. MADE's reporting requirements with its partners have also forced agribusinesses to start to measure data more consistently. Further work is required in this area. However, to maximise the potential of the agribusinesses and the FEA service model. This could be achieved through capacity-building exercises for FEA and other staff members, and demonstration and promotion activities to stimulate further up take-up of technology.

Coordinate with other stakeholders

At the programme level, it is important to coordinate with public and private stakeholders to identify areas for further collaboration. There are a lot of donor funding projects working in the same space and with the same agribusinesses, as indicated earlier in this report. Therefore, future programmes should be careful to avoid duplication. Different programmes working in the agricultural sector should seek out local and regional venues to present findings and learn from others.

ANNEX 1. MEETING LIST

The team met with the following organisations during the assessment:

Table 3: Meeting List

NAME OF ORGANISATION	DATE	TYPE OF REPRESENTATIVE
MADE	29th July	Market Development Team
MADE	29th July	MADE team management
MOFA	30th July	MOFA Bolga Extension Director
	2nd August	MOFA Wa Extension Director
	6th August	MOFA Tamale Extension Director
	7th August	MOFA Head Office team
USAID's ADVANCE Programme	6th August	Technical Director
GIZ	2nd August	Various team members
GCX	7th August	Value Chain manager
[redacted]	29th July	Procurement manager
DFID	7th August	SRO
TEDMAG	6th August	Various managers
[redacted]	5th August	Owner
	5th August	FEA FGD
[redacted]	6th August	Owner
	6th August	FEA FGD
[redacted]	5th August	Owner and FEAs
[redacted]	30th July	Owner
	30th July	FEA FGD
	30th July	SHF FGD
[redacted]	30th July	Owner
[redacted]	31st July	Owner
[redacted]	7th August	Owner
[redacted]	1st August	Owner
	1st August	FEA FGD
	1st August	SHF FGD
[redacted]	2nd August	Owner

ANNEX 2. INTERVIEW GUIDING QUESTIONS

The following list served as a checklist for the consultant and team to work through during interviews with agribusinesses.

Revenue

- Determine the revenues generated specifically from FEA services.
- How and when is revenue realised – is it pay-as-you-go or buy-back, or both?
- Are crops sold immediately to buyers or sometimes stored?
- Who are their buyers and what are their payment terms?
- How is price determined – market pricing, quantity and quality-grading?
- Has any additional revenue come from new customers or from increased yields and production?
- Approach to marketing FEA services for new SHFs.

Costs

- Determine the full costs of FEA investment, including breakdown.
- Breakdown of indirect costs such as marketing, networking, training etc. or operational costs.
- Supplier costs – when and how are they due?
- How are your costs of delivery impacted by crop, geography, capacity etc.? What are the variations in transaction costs?
- Areas where they have been able to achieve economies of scale. Or where could this be possible.

Risk

- What is the situation with security of supply and SHF loyalty to supply after harvest?
- What have been the issues with security of supply to date?
- Ideas on how this can these be mitigated in the future.
- Female SHFs have a much higher recovery rate at 95-99%. Men's recovery rates were 80-89%. What is their experience of this?
- How have they managed risk with new and existing customers?

Productivity

- Details on effectiveness of FEA services on yields, quality, wastage, timing.
- Details on different elements of the bundle and effectiveness of the service on productivity. Which elements have worked and why, which ones have not worked?

Pre-financing FEA delivery costs

- How do they manage cashflow between season income and ongoing monthly costs?
- Do businesses use MADE support as a 'demonstration' of viability and legitimacy when seeking credit to pre-finance FEA operating costs?
- How will they pre-finance the services post-MADE support?

Incentives alignment

- What are the incentive structures between SHFs, agribusiness, FEAs and buyers?
- How are FEAs engaged – commission or employment?
- Are their terms formalised or are they engaged on an informal basis?
- How are they remunerated. in cash or in kind?
- Are FEAs aware of buyer's criteria for quantity, quality and consistency of supply?

Capacity and retention of FEAs

- Qualifications of FEAs. Do they have a standard qualification as a pre-requisite?

- Is it difficult to identify FEAs that have a blend of skills, ranging from agronomic to business and marketing skills?
- Is there a correlation between uptake, success rates and the local knowledge and social networks of FEAs?
- Examples where FEAs have not been effective and have left?
- Are any of the FEAs also hired by other programmes (such as Advance or GIZ)?
- Details on the retention rate/history of their FEAs.

Logistics

- What are the logistics constraints of FEAs?
- Details on FEA travel between customers.
- Details on travel planning and efficiency. Especially with regard to other variables, such as seasonality, different levels of intensity of activities throughout the season, weather, different crops etc.

Confidence and perception of buyers

- How does FEA support influence the confidence of downstream buyers? E.g. does FEA support help overcome the negative perception of quality and consistency of supply from Northern Ghana?
- Are buyers aware of their FEA service delivery model?
- Do FEA services provide additional confidence to SHFs to expand their operations and production?

Gender

- How many FEAs are women versus men? Explain the split.
- What is their experience with hiring female FEAs and managers?
- What innovative recruitment strategies can be implemented?
- Is there an increase in commercial viability when you combine better recovery rates for women with having women FEAs?

Technology

- How receptive would FEAs be to integrating technology into their day to day activities? Has this already been done, and if so, how?
- Which challenges in your business could technology overcome in the future?

Adoption

- Have other non-MADE agribusinesses started to adopt and use the model or variations of it?
- Are they aware of any supporting enterprises that have started to deliver FEA services themselves?
- Who are they? Where do they operate? How do they operate?