This project was primarily funded by the EU, managed by IFAD and implemented by TechnoServe. The project received additional donations from the Alliance for a Green Revolution in Africa (AGRA), Italian Development Cooperation and United Nations Industrial Development Organisation (UNIDO).

Piloting private sector extension models

Thematic insights from delivering technical assistance to agribusinesses through the African Agriculture Fund’s (AAF) Technical Assistance Facility (TAF)
INTRODUCTION

The AAF Technical Assistance Facility (TAF) provided technical assistance to support 12 AAF investee companies to design, test and implement inclusive business models that improve both commercial returns and development impact. This often involved demonstrating the business case for smallholder sourcing and supporting AAF companies to integrate more farmers into their supply chains. A major assumption in TAF’s inception was that outgrower schemes – led by portfolio companies – would be the primary vehicle for increasing smallholder productivity and incomes. However, experience over the course of TAF demonstrated the need to adopt different approaches, and crowd in other market actors, to link smallholders to the critical inputs, extension services and market linkages needed to enable them to grow.

In nine projects tested in five countries, TAF explored business models for more effective and sustainable extension provision as part of broader smallholder supply chain interventions. In particular where smallholders are unable and/or unwilling to pay for extension (related to lack of capital, limited scale, value chain blockages, and a historically subsidised environment amongst others), TAF tested private sector solutions with different value-creation and cost-recovery implications.

The purpose of this report is to share TAF’s experiences from three of these models in Burkina Faso, Malawi and Zambia, reflecting on the results and outcomes of interventions to provide some insights on how to develop and assess more commercial demand-driven extension services.

CASE STUDIES

The following section describes three projects related to commercially driven extension models with AAF portfolio companies that received support from the AAF TAF. The projects are described with the intention to document knowledge and share lessons learned as well as critical success factors identified:

- **Burkina Faso**: an upstream project to link suppliers of yellow maize to an egg producer, Moablaou (AAF investee), by partnering with external for-profit extension service provider, Ferme Pedagogique De Kourinion (FPK)
- **Malawi**: a downstream distribution project with an inputs company, Meridian (AAF investee), to build an in-house extension unit – Farm Services Unit (FSU)
- **Zambia**: an upstream project to link suppliers of soya beans to an egg producer, Goldenlay (AAF investee), by partnering with a grain trader and extension provider, NWK Agri-Services (“NWK”).

A partnership with an external for-profit extension service provider in Burkina Faso

Moablaou is primarily engaged in the production, distribution and sale of eggs in the Koubri region in central Burkina Faso. The company has its own production units to produce feed for its 185,000 layers and currently requires 20MT of animal feed daily. Maize represents 60% of this feed composition and is a key source of protein for the poultry diet. White maize is more commonly grown in Burkina Faso but has a lower protein content than yellow maize, and, if included in the feed formulation for laying hens, results in visibly lighter egg yolks. To address this, Moablaou needs a reliable supply of homogenous yellow maize to meet its production needs.

A technical assistance project was started in 2014 to support Moablaou to locally source yellow maize from a limited number...
of smallholder farmers in partnership with an extension service provider, FPK, and an input provider, Saphyto. Saphyto was interested in diversifying sales of hybrid seeds and input packs from cotton to maize; and FPK was interested in the opportunity to distribute quality inputs to its smallholder farmer network, increase their productivity and earn a fee on the number of input packs sold.

TAF’s intervention was designed to support FPK to expand its services to more farmers and develop a sustainable business model as well as encourage Saphyto to lend inputs for yellow maize. Increased farmer access to inputs and services would increase their yields and Moablaou would have access to greater volumes of yellow maize locally. Figure 1 below shows a schematic of this model:

![Figure 1: A tripartite partnership with an external extension organisation](image)

**Activities**

- **Anchor partner for technical assistance intervention:** FPK
- **TA & Cost:** EUR275K over 2 years (2016-2018) for business model development, human resources (HR) structuring and training, extension operations and monitoring & evaluation (M&E) improvement, agronomy and business skills training content development, set up of management information system (MIS). Key project components: smallholder extension, access to input finance, output aggregation and market linkages.
- **Key market players:** the inputs provider (Saphyto), the buyer (Moablaou), and the input financiers - Bank of Africa (BOA) and Credit Mutuel du Burkina Faso (CMBF)
Results

- **Saphyto** extended over $1M in additional input financing and external banks were crowded in (Bank of Africa and Credit Mutuel du Burkina Faso) to 1,500 farmers.

- **FPK** expanded its reach from 600 to over 2,000 farmers to receive extension services. FPK attaches a value to its distribution, extension and aggregation services through a 9% margin on the input packs, and a commission (approximately 7.5 FCFA per Kg) on the volume of maize sold to Moablaou.

- 1,500 farmers accessed input finance from Saphyto and training from FPK and yields increased from 1.8Mt to 2.5Mt/ha in two seasons; the farmers sold ~3,000Mt maize to various buyers (~815 Mt of which was sold to Moablaou via FPK); Farmer income increased by 261%.

- **Moablaou** secured supply of yellow maize from the local market. Available produce moved from 2,440Mt in 2014/15 to over 7,000Mt available in the 2017/18 season.

Outcomes

Reduced risk of investment for Moablaou, Saphyto and other buyers in the market – where FPK ensures the right quality and quantity of production.

- FPK has a business plan and model for ongoing operations, with offtake agreements from Moablaou and Agroserv. Service fees (from margins on sales) from various partners will allow FPK to sustain its operations.

- Saphyto and financial institution partners will fund over 5,000ha in the 2018/19 season.

KEY TAKEAWAY

There is a cost to the learning and innovation required to serve farmers in rural areas that companies as well as financial institutions are not always willing or able to fund. Investing in capable local market partners such as FPK is useful to demonstrate the business case for and de-risk lending to smallholder farmers; crowd in (initially) less willing partners; and ensure stakeholder expectations are met (e.g. in crop delivery, loan repayment etc). With a relatively small TAF grant, FPK was able to successfully build scale and demonstrate the business case for investing in organised smallholders; mobilising Saphyto (an inputs company) to on-lend to farmers and, further, crowd in three banks to expand on the input-finance provision. However, relationship and trust building will take longer than a two-year programme; for this, partners such as Danida's PCESA (Programme for the Economic Growth of the Agricultural Sector) have been brought in to provide the necessary support to further develop the local value chain and to fill the financial gap, building on AAF TAF's efforts over the past two seasons.

An in-house extension unit within an inputs company in Malawi

Meridian is a leading Malawian manufacturer (blending and granulation) and distributor of fertilisers, seeds and other farm inputs, and a trader of agricultural commodities. Meridian is the only company in Malawi with the capacity to blend fertilisers based on nutrient requirements. TAF supported Meridian to take advantage of the opportunity to customise fertiliser blends for smallholder farmers by providing technical advisory and cost-share; this took shape in two distinct schemes aimed at broadening the downstream distribution and extension activities at Meridian.

From a company perspective, the cost of soil testing and associated blend analysis was high compared to the associated market opportunity.
from smallholders. Driving a shift to use of a new fertiliser product by smallholders would also incur high edu-marketing costs that could not be covered by a premium given the low purchasing power of smallholders. TAF de-risked the investment by co-funding R&D related to the development of tailored blends (i.e. soil testing and economic analysis) and piloting a more holistic sales-extension model to help Meridian to provide the necessary information to farmers on how to optimise investment in higher quality inputs.

The business case for company co-investment was that fertiliser blends and extension services would differentiate Meridian from the market, drive brand loyalty and increase market share in an increasingly competitive environment. Meridian’s retail stores (Farmers World and Agora) would gain from increased input sales as farmers gain from increased return on investment from using customised fertiliser blends and benefiting from Meridian’s extension support that, together, increase their yields. Figure 2 below shows a schematic of this model:
ACTIVITIES

- Anchor partner: Meridian
- TA & Cost: TAF funded EUR853k over 3 years (2015-2018) for proof of concept of extension service unit, soil testing and analysis, demonstration plots and electronic management information system.
- 60 FSU extension officers (known as agronaughts) employed.
- 120 demonstration plots managed by lead farmers and overseen by the agronaughts
- Over 13,000 farmers directly receiving training and quality, extension advisory through demonstration plots, in-field agronomy training and in-shop advice.

Results:

- Farmer access to improved inputs (seed, fertiliser, and targeted advice in particular) improved by 21% increase in adoption of fertiliser and a 30 kg increase in fertiliser application rate (kgs/ha).
- Customised crop specific fertiliser blends as compared to standard government recommended blend.
- Share of registered farmers purchasing from Farmers World and Agora retail stores increased by 62%.
- Between 2017 and 2018, Farmers World and Agora respectively increased fertiliser sales by 3,283Mt and 4,098 MT.

Outcome:

Meridian’s extension arm has transitioned from a once-off donor funded non-profit project into an extension service unit within the company, called the Farm Services Unit (FSU). Meridian is now partly covering the FSU costs internally on the basis of the proof of concept provided by TA. However, due to the slow growth in sales and margins, the costs of extension still need to be shared in some ways going forward. FSU has therefore explored monetising aspects of service provision. For example, from the public sector, USAID/Feed the Future is supporting further trials on crop-specific fertiliser blends. From the private sector, FSU is working with Omya to develop the market for its granulated lime product, Calciprill. FSU has included Calciprill in all 120 demonstration sites and has collected information on the impact of Calciprill on both yields and soil pH. During the 2018/19 season, FSU is helping to launch Calciprill through select retail outlets as part of Omya’s market development strategy. And, the customised blends (Mwininthaka meaning owner/keeper of the soil) are officially on the market.

Key takeaway

Including extension officers in an inputs company business model can drive best agronomic practise adoption and crop output increases from smallholders but it takes many years for this investment to drive meaningful repeat sales given the seasonal nature of agriculture and market related risk. For inputs companies to justify continued investment in quality extension for smallholders, public-private cost-sharing funding models can be explored.

A LINKED EXTENSION MODEL VIA JOINT VENTURE BETWEEN A BUYER AND AGGREGATOR IN ZAMBIA

Goldenlay is a leading table eggs producer in the Copperbelt province of Zambia. Chicken feed accounts for 75% of the cost of producing an egg with maize and soya being the major raw materials required. Goldenlay therefore depends on a stable
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soya supply, but smallholders have not historically been seen as central to supplying this by the company – it could be sourced from commercial farmers, bought as ready-made feed and/or imported for cheaper. At the time of TAF scoping, Goldenlay did not have the capacity or interest to set up an in-house outgrower unit to source raw materials from smallholder farmers. Instead of a Goldenlay led outgrower scheme, TAF identified and leveraged a joint venture opportunity between Goldenlay and NWK Agri-Services (“NWK”) (a cotton aggregator in Zambia) to support a more efficient system for soya aggregation led by NWK whose core business is procuring grain from smallholder farmers.

In 2014, Goldenlay and NWK partnered to form NWK Grain Handlers Limited (NGHL) as a means of accessing smallholder soya and maize. TAF implemented an outgrower project to increase soya supply and farmer productivity leveraging NWK’s cotton extension and distribution network. NWK was incentivised by the opportunity to expand its cotton procurement to the Copperbelt where the TAF project co-funded expansion of NWK’s extension staff, aggregators and farmers in a new area. TAF hoped that working with an established private company would support a more commercially sustainable model to increase smallholder productivity and soya supply (with stable access to input pre-finance, quality technical assistance and a guaranteed market).

By adding a margin on top of the crop that is sold to Goldenlay, NWK is able to cover its aggregation and storage costs, thereby building in a sustainable funding mechanism for which Goldenlay was willing to pay given the reduced supply risks provided by the service. Goldenlay gains secure supply of quality soya; NGHL’s extension arm obtains a service fee for their extension service; NGHL gains a margin on sales of soya; MRI-Syngenta increases their input sales; farmers obtain input finance and an increased return on investment through diversified production away from maize as a monocrop as well as farming as a business skills. Lead farmers/aggregators get returns to distribute inputs, provide technical advisory, and/or aggregate produce from their farmer groups for a commission fee. Figure 3 below shows a schematic of this model:

Figure 3: Zambia Smallholder Soya Support
**ACTIVITIES**

- **Anchor partner:** NWK, the aggregator for NGHL (a JV between Goldenlay and NWK)

- **TA&C Cost:** TAF grant contribution of EUR387k over 32 months (2015-2018) covered a 50% cost-share of sourcing and extension service provision costs. NWK fully funded storage and handling costs; and aggregator commissions. Key project components: smallholder training in agronomy and business skills, last mile aggregator (“distributor”) recruitment and business development, access to input finance, output aggregation, transportation and market linkages.

**Results:**

- With a EUR 35k TAF smart subsidy grant (see access to finance lessons learned paper), NWK pre-financed over 3,000 farmers with EUR250k worth of seed and inoculant.

- Trained over 4,000 farmers in best agronomy practices and business skills; and set up a network of distributors to aggregate soya; providing a guaranteed market to smallholders in Mpongwe.

- Yields increased by over 50%; and farmers have seen the value in crop diversification from maize to soya.

- There is now a steady and growing supply of soya in the market which has crowded in other buyers such as Global Industries, Seba Foods, Copperbelt Energy, etc. 5,000Mt more soya was available to Goldenlay in 2017 compared to 2014.

**Outcome**

Whilst NWK will likely not continue providing input finance to smallholders and reduce the intensity of extension support given the short-term risk and limited return on investment, NWK has established a strong network of smaller aggregator ‘distributors’ that are capable of organising farmers, distributing inputs and aggregating output on behalf of buyers going forward. Farmers have seen the value of crop diversification; and will continue producing soya as long as the market remains. And, as long as buyers can compete and pay a premium/commission, distributors will be incentivised to collect crop and expand their businesses in this regard. Input suppliers such as MRI-Syngenta have the opportunity continue to leverage the aggregator distribution networks to expand their sales to smallholders, where there is a direct incentive for MRI-Syngenta to expand its customer base.

**Key takeaway**

Aligned and consistent incentives are a critical starting point (e.g. a better price for crop output, commission for volume of supply, reliable buyer who consistently buys year on year, reliable supplier who produces and sells substantial volumes year on year etc.). In NWK’s case, providing aggregators with a commission-based incentive to encourage input loan repayment and offering farmers an above market price in the first year resulted in high repayment rates averaging 87%; however, in the second year, NWK both removed the aggregator incentive scheme and offered below market value prices (when soya prices crashed), resulting in side-selling and repayment rates as low as 43%. The cost of increasing the soya price and offering some incentive for repayment would likely have been less than the losses incurred from side selling. This highlights the importance of developing trust-based relationships and accountability to support sustainable outgrower models.

**TAF CROSS-CUTTING INSIGHTS**

A step-by-step approach to approaching a ‘commercially driven extension model’ intervention is provided below based on AAF TAF’s experience and analysis:

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1. **Scope agribusiness ecosystems to identify stakeholders suitable and capable of supporting extension investment**

Within a scoping phase, it is helpful to conduct value chain and stakeholder analyses in the ecosystems around portfolio companies to understand the business context, smallholder needs and market dynamics; ultimately identifying viable opportunities and suitable implementing partners. Figure 4 below consolidates TAF experience on potential market actors and possible flow of roles and benefits in a more commercial system.

2. **Assess stakeholder’s commitment and structural capacity**

On the basis that it is neither realistic nor always most appropriate for businesses to bear all major costs of the proposed extension models, it is important to scope the market to identify alternative strategies that could both incentivise and leverage the business as well as other market partners to invest in advisory services for smallholders. We assessed commitment and capacity in the following ways:

- **Incentives** for investing in extension services and simultaneously assessing challenges to operational sustainability and risks preventing involvement
- **Core business** – How far this investment deviates/stretches from core business
- **Capacity** – What is the entity capable of doing itself; and what needs to be done by other entities

![Figure 4: TAF’s Commercially and Demand-Driven Extension Service Model](image-url)
3. **Develop a commercially viable business model based on stakeholder incentives, quantified ‘value’ created and business planning**

TAF assessed three critical actions to convert the initial assessments into executable business plans.

I. **The first is to ensure commercial strategy alignment** with the key stakeholders which is guided by two main objectives to i) design a sustainable, efficient, and profitable growth strategy for all key stakeholders; and ii) ensure that all key stakeholders have been included in the development process and buy in to the strategy.

II. **Develop a fit-for-purpose business model** that creates value for all partners involved – the commercial partners, extension ‘service providers’ and the farmers by asking the following remaining questions:

- What are the quantifiable costs and value associated with service provision for each partner?
- Which costs can the anchor partner absorb themselves, and which costs can/should be absorbed by the other partners?

III. Once, finalised, the commercial strategy and business model can then be converted into a **business plan** and financial model.

4. **Build capacity in implementing partners to set up viable demand-driven extension model(s) responsive to farmer needs and market dynamics**

The AAF TAF intervention strategy was typically structured in phases on the basis of company commitment/interest and capacity building needs; enabling incremental improvements over time and transitions to company-led initiatives as illustrated in Figure 5 and described below.

As shown in Figure 5 above, there was a greater case for grant incentives and capacity building support the less the model had been considered by AAF portfolio companies. As the concept was proven over time, more responsibility was shifted to the business with more light-touch TA and quality assurance.

From TAF’s experience, key interventions included a combination of technical assistance and financial incentives to test, improve and/or expand extension and advisory service models:

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*Figure 5: Phases of capacity building*
I. Demonstrating the case for investment: by co-funding a proof of concept phase, typically sourcing expert consultants to support set up of the model.

II. Capacity building of anchor and key partners in the set-up of management systems and procedures, support in organisational structuring and recruitment of the right talent to deliver effective services, assistance in sourcing/set up of management information systems, standard operating procedures, formation and coordination of steering committees to support stakeholder alignment and decision making.

III. Institutionalisation of the extension model including quality assurance, advisory, monitoring and the strengthening of management systems and procedures.

IV. An exit phase helped the intervention team to transition out whilst monitoring partner capacity to implement and finance alone.

To ensure that farmers needs are kept at the forefront of decision-making and not lost among various stakeholder incentives or market dynamics, the following actions.

Principles of effective farmer facing extension teams

More quality extension and service provision can improve farmer productivity, farmer loyalty and sales to/for the company. In TAF’s experience, farmers are more likely to adopt good agricultural practices and less likely to side sell with more regular touch points, consistent messaging and cash/price incentives. However, this requires more resources and, if this does not translate in higher sales, can result in losses for the company. A careful balance is required with creative but low-cost strategies to improve quality service provision, presence and trust in communities. The case studies employed the following key actions:

- **Responsiveness:** our experience highlighted that investment in both hard (agronomic and farming-as-a-business) and soft skills (e.g. listening, peer-based learning approaches) of extension officers is important to build transparent communication and lasting relationships between farmers and the company. In Sierra Leone, these efforts contributed to an increase in fresh fruit bunch (FFB) sales to an oil palm AAF portfolio company by TAF supported farmers.

- **Incentives:** management, extension officer and lead farmer/aggregator incentives and motivation need to be carefully considered in relation to the long-term vision. Extension officers can be linked to both business metrics (such as commission on sales volumes), as well as extension activity metrics (such as farm visits, training or demo plot days) to ensure a balance of attention.

- **Access to inputs:** Loans are often seen as the most straightforward way to facilitate access to inputs for smallholders. However, when access to finance is not an option due to high interest rates, low coverage by microfinance institutions, and low smallholder financial liquidity, extension teams need to come up with creative solutions. Access to quality inputs can be facilitated by leveraging stakeholder interests to pre-finance inputs or by sharing tools and knowledge with farmers to help them make a more informed decision when it comes to resource allocation. For example, with support from TAF and using FSU’s farmer database, the Optimising Incomes Through Choices® tool was developed at Meridian to help farmers make a more informed decision on resource allocation; helping the farmer to choose what crop to plant, how to optimally allocate land, and select from a range of input choices.
CONCLUSION

Convincing commercial stakeholders to work with smallholder farmer supply chains requires both a strong vision for long-term value as well as tangible short-term metrics to assess return on investment. AAF TAF experience has shown that when the pathway to profit is too long-term or uncertain, there is a role for public partners to share risk and demonstrate value. In particular, the following factors are key to developing commercially viable extension models:

- The attachment of monetary value to the service, i.e. some additional value is created and this is compensated (whether it is a premium on the price of inputs, volumes sold or quality of product delivered);
- Private stakeholders bear the costs in return for the value realised;
- Existence of a strong aggregation role to organise smallholder farmers, building trust-based extension and trade relationships with commercial partners whilst de-risking financiers and input/output companies' investments; and
- Attention to and servicing of farmer needs to ensure sustained uptake of best practices and technologies being promoted.

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