

AUGUST 2019



Better Markets, Better Lives

TRANSFORMING KENYA'S AGRICULTURAL INPUTS SECTOR

Why it matters, what's been achieved and where next



Agri
inputs



CASE STUDY

The undertaking and production of this work was made possible through funding from the UK's Department for International Development (DfID) and Gatsby Africa.

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Correct citation:

Kenya Markets Trust (August 2019). *Transforming Kenya's Agricultural Inputs Sector*. KMT Agri-Inputs Case Study 01. Nairobi, Kenya.

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Kenya Markets Trust (KMT) is a Kenyan not-for-profit organisation that specialises in market transformation. We work to stimulate inclusive and resilient growth that will lead to a step-change in the livelihoods of millions of Kenyans. We take a long-term approach, staying true to our vision while adapting to the forces that are shaping the markets we operate within such as climate change and access to emergent technologies.

“ *One of the key drivers of agriculture transformation is without doubt, productivity. There is so much more that we can do to raise productivity of the land under cultivation.* ”

HON. MWANGI KIUNJURI, E.G.H

CABINET SECRETARY, MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND IRRIGATION

Acknowledgements

The publication of this case study was made possible through the support and collaboration with many stakeholders.

A special thank you goes to Market Share Associates who performed the ground work and drafting of this report, and ThreeSixty for developing the design and layout of this case study.

We are grateful for the support and collaboration we received from Kenya's national and county governments, various market actors mentioned in this report, all interviewees, and all Kenya Markets Trust (KMT) staff.

In collaboration with



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EXECUTIVE SUMMARY

Agriculture in Kenya – why change is needed

“One of the key drivers of agriculture transformation is without doubt, productivity. There is so much more that we can do to raise productivity of the land under cultivation.”

Hon. Mwangi Kiunjuri, E.G.H

Cabinet Secretary, Ministry of Agriculture, Livestock, Fisheries and Irrigation

Agriculture is the backbone of Kenya’s economy. It employs close to 40% of the population and generates a third of Kenya’s GDP. Despite its importance, it has not been performing to its potential, with limited diversification away from staple crops, such as maize, and average yields remaining below those of comparable countries. Kenyan farmers use relatively low levels of inputs, such as fertiliser. This lowers productivity and therefore farmers’ returns and their ability to reinvest in their crops.



SCENARIO

What could we see?

- Low and inappropriate consumption of inputs (fertilisers, chemicals and seeds) per hectare of arable land, resulting in low productivity
- Less diversification of crop production (60% of total crops produced in MT was maize)
- Low incomes of farmers



SYMPTOMS/EFFECTS

What was the market suffering from?

- Lack of product-specific knowledge transfer from manufacturers/suppliers to the downstream actors
- Uncompetitive market system characterised by dominance of parastatal companies in distribution of fertilisers and maize seeds
- Increased sales of counterfeit seeds and fertilisers



CONTRIBUTORY FACTORS

Why did those symptoms exist?

- Transaction oriented supply chain focused on maximising short-term gains rather than a long-term customer-driven business practice
- Seed sector governance and regulation not fit-for-purpose, with public bodies lacking capacity and private sector lacking representation

While several factors have affected productivity, the structure of the agricultural inputs market has been a major cause of poor performance. This stems from two main issues:

1. The short-term oriented business practices of actors in the inputs supply chain

Historically, the public sector has also dominated the distribution of fertiliser and other inputs in Kenya. As it has been more profitable for input suppliers to vie for government contracts or directly serve large agribusiness operations, they tended to expend very little effort interacting with distributors and engaging further downstream with agro-dealers and farmers. As a result, market actors lower down the chain tend to deploy short-term, transactional business models, premised on high-margin sales at the expense of long-term business growth and customer relationships.



2. Seed sector governance and regulation

Historically, the public sector has played a key role in seed distribution, with the parastatal Kenya Seed Co controlling at least 80% of the market for maize seed. Likewise, seed inspection and certification has been managed by the Kenya Plant Health Inspectorate Service (KEPHIS), which has been under-resourced to meet demand and has prioritised servicing parastatals over private sector players. These businesses have been unable to have their seeds certified before the cultivation season, leading to severe losses and incentivising firms to distribute uncertified seed. Furthermore, the body meant to represent their collective interests has not been performing.

Taken together, these have had severe impacts on smallholder farmers and created several intersecting negative cycles.

Tackling underperformance – KMT’s vision for transforming the agri-inputs sector

Kenya Markets Trust (KMT) is a non-profit organisation that aims at fostering inclusive, competitive and resilient economic growth in Kenya. It has worked in the agricultural inputs sector since 2012. Its vision is to transform smallholder agriculture in Kenya from subsistence to successful agribusiness through farmers’ effective and timely use of agricultural inputs.

KMT believes that through the right support and facilitation, transformational change is possible within the agri-inputs sector, delivering higher agricultural productivity, long-term growth, and better value to farmers.

To achieve its vision, KMT has developed two main strategies focused on the two key challenges outlined above.

STRATEGY 1

Fostering long-term customer-oriented business strategies along the chain

This aims to address both demand and supply-side issues in the inputs market, reorienting the behaviour of all actors along the chain to promote more long-term customer-oriented retail practices. In turn, this is expected to influence the purchasing patterns of farmers, increasing demand for quality inputs and attracting other players into the market over time.

STRATEGY 2

Improving seed industry governance and regulation

This involves bringing together the public and private sector to reduce the prevalence of counterfeit seeds and increase efficiency in the seed certification process. This strategy has worked at improving the regulatory environment in the seed industry so that the private sector could play a greater role in streamlining the supply and distribution of certified seeds. This, in turn, is expected to reduce the prevalence of counterfeit sales and provide more high-quality seed varieties to farmers.

The major interventions under these strategies - and the impact achieved to date - is summarised in the table on the next page:

STRATEGY 1

Fostering long-term customer-oriented business strategies along the chain

Last Mile Distribution

The Issue

The short-term, transactional relationships along the chain weakened knowledge transfer and demand. Downstream actors (agro-dealers and farmers) particularly suffered. Those farmers that did buy inputs were often uninformed about how best to use them.

KMT Response

KMT tested different models aimed at changing business relationships along the chain. They learned from pilots and adapted models, ultimately seeking changes in farmer behavior and the improved distribution of quality inputs in the 'last mile' of the chain.

Soil testing services

The Issue

A farmer's understanding of the nutrient mix in their soil and its impact on productivity levels is a major determinant of whether they will buy inputs and whether they will buy the right inputs. However, soil testing is not a widespread practice in Kenya.

KMT Response

KMT partnered with large lime and fertiliser producers to demonstrate the benefits of soil-testing services to farmers. This involved exploring different funding models to make the service both affordable and enticing to the average smallholder.

Impacts to date

- 376,000 farmers have benefitted from KMT and its partners working along the inputs supply chain through two different models that have been adapted and refined over time.
- Significant learning has also taken place about the relative costs and benefits of these different models – and about the contexts where they might be most successfully scaled-up.
- In 2016, KMT expanded its partnerships to include Toyota Tshusho, who commissioned the first full-scale fertiliser blending plant in Kenya and introduced crop-specific fertilisers to the market, giving farmers the opportunity to increase production without depleting the soil.
- 186,000 farmers have increased their income by at least 10% by using crop-specific fertiliser.

STRATEGY 2

Improving seed industry governance and regulation

Seed self-certification

The Issue

The seed inspection and certification process had become increasingly lengthy and costly for private players due to outdated legislation and a lack of staff and resources within the mandated state regulator. The private sector response to this was not coordinated.

KMT Response

KMT focused on building a shared public-private vision for policy change to facilitate greater private sector involvement in the seed certification process to increase efficiency. It also helped build the capacity of the private sector seed suppliers association.

Scratch-off labels for seed packets

The Issue

Outdated regulation and the issues with seed certification meant uncertified, low-quality and counterfeit seed were becoming increasingly common. Farmers lacked trust that higher-quality seed was genuine and worth paying higher prices for.

KMT Response

KMT brokered a partnership between public and private actors, to ensure all certified seed packets are labelled with a scratchable code. Farmers can SMS this code to a toll-free number to confirm the supplier, seed variety and certification date.

Impacts to date

- In December 2016, the Seeds and Variety Evaluation and Release Regulations were revised, paving the way for greater private sector involvement in seed certification.
- A new public-private framework for controlled seed self-certification has been created. Early adopter Monsanto has already begun to see benefits from implementing the new process.
- The seed supplier association has been strengthened to become an effective advocate for change, with substantial input to the new regulations and increased collaboration with the public sector.
- All seed packets must now be labelled, with particular benefits for smallholder farmers.

Signs of Sector Transformation

There are now signs of industry-wide change within the agri-inputs sector. Toyota Tshusho, a large fertiliser supplier and one of KMT's partners, commissioned the first full-scale fertiliser blending plant in Kenya and has rapidly expanded sales of their crop-specific blends. Their success has also encouraged other fertiliser companies, such as Yara East Africa and MEA Ltd, to explore similar opportunities.

Distributors that received KMT support have significantly improved their financial performance and grown their customer networks. They have also implemented better distribution practices and maintained continuous relationships with agro-dealers and farmers. Agro-dealers that have maintained close ties with distributors have seen significant improvements in their sales.

All of this has led to improved linkages along the supply chain, with stakeholders at the top increasingly seeing the value of focusing on smallholder farmers as customers. These changes have also gradually trickled down to farmers, who have increasingly begun to access improved seed and fertiliser, adopt good agricultural practices, and diversify crop production. This indicates that the inputs market is gradually shifting towards more customer-oriented distribution practices, allowing farmers to make more informed choices about what products to purchase.

In seed, the work to build a shared public-private vision and to strengthen the seed suppliers association has been crucial to achieving regulatory reform. Ongoing dialogue has also facilitated a less adversarial relationship between the private sector and KEPHIS and built trust – with all actors willing to engage in a process of co-creation around key regulation and policies.

First movers are beginning to see significant benefits from the improved regulation. Major seed company Monsanto has established a laboratory and been authorised for the seed self-certification process by KEPHIS. Monsanto has already begun to see benefits in terms of cost savings, improved efficiency and shorter timelines. Simlaw, another seed manufacturer, is currently establishing its laboratory.

“Monsanto participated in the public-private dialogues right from the beginning. KMT has done a good job in bringing about changes in seed regulations.”

EVERLYN MUSYOKA,
MONSANTO



A farmer sifting through her yellow bean crop

Farmers complained constantly about low productivity and continued to purchase large quantities of DAP and CAN. They were not aware that the excessive use of these fertilisers was increasing the level of soil acidity. I, along with a few other agro-dealers in Kisumu, reached out to Magos for soil testing services. We created awareness on the product ... demonstrated to farmers on how to read soil testing results. Through support from Homa Lime, we encouraged use of lime and this increased the yield. Now farmers enquire about different fertilisers; they are aware of the different names of companies and the products they provide. Farmers also use Whatsapp to send photos and seek advice. I believe that customer management is essential for customer retention.

BEATRICE OKELLO,
AGRO-DEALER SHOP OWNER, KISUMU

Building on learning and success – the way forward

Building on successes to date, KMT plans to engage up to seventy companies in the scale up of its last mile distribution work over the next 3-5 years. As a result, three million smallholder farmers should have improved access to key agricultural inputs, adopt good agricultural practices, and ultimately increase their farm yields and income.

The improved regulatory environment and increased public-private dialogue should also drive further investment and innovation in the Kenyan seed industry. KMT will work with other seed manufacturers to enable more of them to follow Monsanto's example on seed self-certification, while also working with partners to further increase farmers' uptake of certified seed. This work aims to see 2.7 million smallholder farmers accessing quality crop seed by 2022.

While there is much work to be done, the future looks promising for KMT's vision of a vibrant agricultural inputs sector.



SECTION 1

AGRICULTURE IN KENYA
WHY CHANGE IS NEEDED



1.1 The importance of agriculture in Kenya

Agriculture is the backbone of the Kenyan economy. It employs more than 40% of Kenya's total population and about 70% of its rural population. In 2016, the sector was valued at KES 2.3 trillion (roughly 22 billion USD), generating a third of Kenya's GDP and 60% of its exports.

In Kenya, 1% of agricultural growth is estimated to drive 1.6% overall GDP growth¹. Agricultural transformation is therefore critical to improving food security and nutrition, creating employment, and reducing poverty for millions of Kenyans.

1.2 Kenyan agricultural performance – low productivity and dominance of maize

Despite the importance of agriculture for Kenya, it has not been performing to its full potential.

Average yields for major crops remain below those of other comparable nations. For example, in 2003, Kenya had similar average maize yields to Uganda and Zambia. But by 2012, average maize yields in Zambia and Uganda were 1.4 to 1.5 times those in Kenya. Over the period, Kenyan maize yields increased 6%, compared to Uganda's 39% and Zambia's 58%³.

Maize productivity is particularly important, as it remains the dominant crop in Kenyan agriculture, comprising more than 60% of production (with an increasing share from 2003 to 2012). Commercial crops such as tea and coffee account for less than 10%². Maize's dominance has discouraged smallholder farmers from exploring alternatives, such as other cereals and vegetables, as they fear these may not attract buyers.

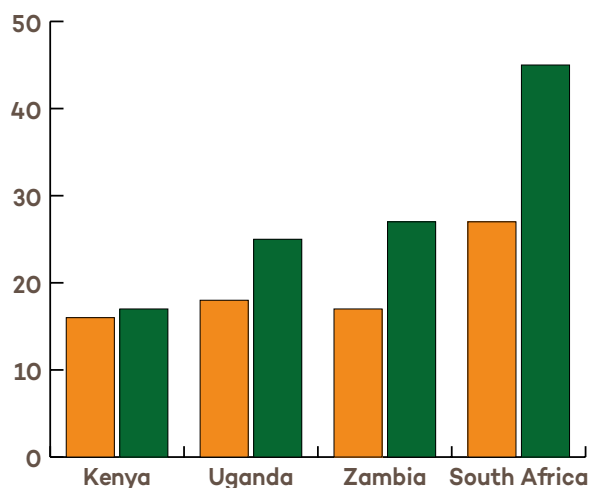
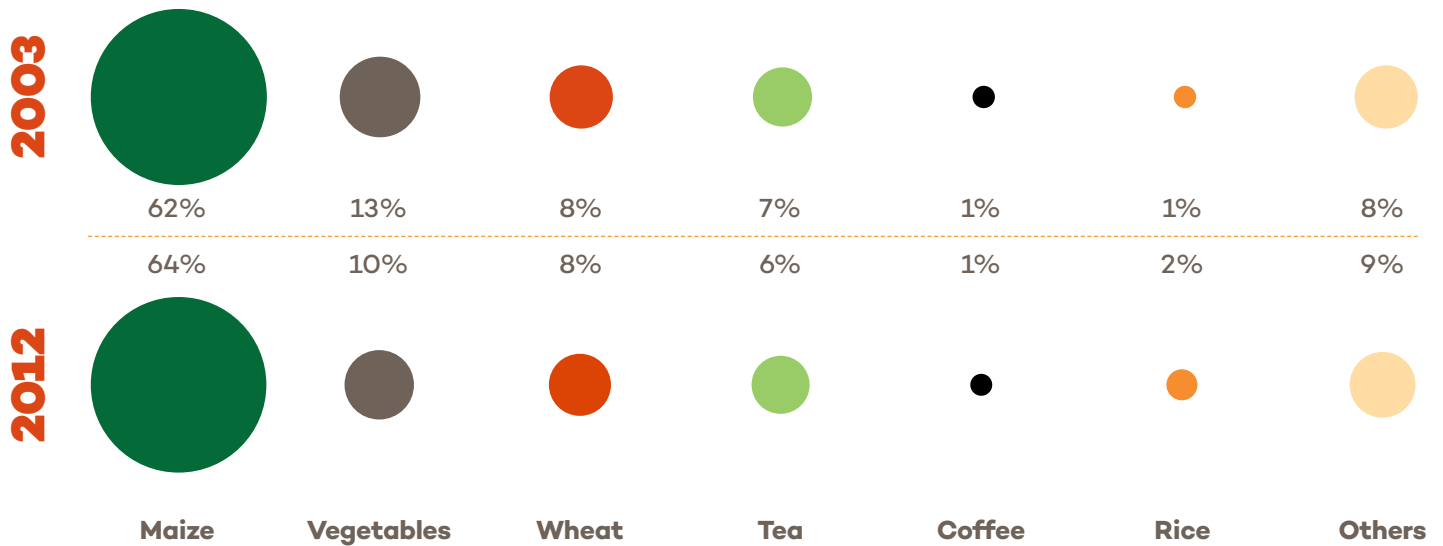


Figure 1: Crop yields for maize in Kenya and other developing countries in 2003 & 2012

Section 1: Agriculture in Kenya why change is needed

Figure 2: Composition of crop production in Kenya (volume of production in MT) | Source: FAO



Source: Production (in MT) of Coffee, Maize, Rice, Tea, Vegetables, Wheat in 2003 and 2012; Production (in MT) of all crops in Kenya in 2003 and 2012, Food & Agriculture Organisation (FAO) Statistics; Crop Production includes tea, coffee, cereals, pulses, vegetables and fruits.



1.3 The drivers of underperformance in Kenyan agriculture

Yield gaps are driven by factors including:

- Limited and/or delayed access to high-quality seeds
- Poor farming practices
- Low levels of mechanisation
- Significant post-harvest losses
- Growing uncertainty related to climate change

The structure and organisation of the agricultural inputs market has also been a major cause of underperformance⁶. There are two key challenges:

1. Seed sector governance and regulation

Historically, the public sector has played a key role in seed distribution in Kenya.

In 2013, the parastatal Kenya Seed Co. and its subsidiary Simlaw Seeds controlled at least 80% of the market for maize and vegetable seeds respectively. At this time, new seed varieties were only being certified by the Kenya Plant Health Inspectorate Service (KEPHIS). However, they were unable to meet demand and focused primarily on certifying the seed produced by Kenya Seed Co. This meant that other players were unable to have their seeds certified before the cultivation season, leading to severe losses and incentivising firms to distribute uncertified seed.

In addition, the main body meant to represent private sector interests in the seed industry - the Seed Trade Association of Kenya (STAK) - suffered from low membership as well as limited resources and capacity to advocate for its members. Between 2013 and 2014, the volume of certified crop seed distributed dropped by 19%⁴.

2. The short-term oriented business practices of actors in the inputs supply chain

Historically, the public sector has also played a key role in the distribution of agricultural inputs in Kenya, with the National Cereals and Produce Board (NCPB), a state corporation, importing fertilisers and distributing them directly to farmers through its depots.

In 2013, the government decided to engage the private sector in this system and contracted Safaricom (a telecommunications firm) to implement an e-voucher scheme that allowed farmers to purchase subsidised fertiliser directly from agro-dealers. Additionally, county governments were newly authorised to distribute fertiliser. While these changes allowed for increased private sector involvement, the market was still heavily dominated by the government and the provision of subsidised fertilisers discouraged agricultural input suppliers from manufacturing or importing⁵.

As it has historically been more profitable for input suppliers to vie for government contracts or directly serve the larger commercial segment of the agricultural market (i.e. large agribusiness operations), they tended to expend very little effort interacting with distributors and engaging further downstream with agro-dealers and farmers. Thus, most market actors along the inputs supply chain largely deployed short-term, transactional business models, premised on high-margin sales at the expense of long-term business growth, with few if any attempts to transfer knowledge to farmers.

Figure 8: Tracing the causes of agricultural underperformance in Kenya



SCENARIO

What could we see?

- Low and inappropriate consumption of inputs (fertilisers, chemicals and seeds) per hectare of arable land, resulting in low productivity
- Less diversification of crop production (60% of total crops produced in MT was maize)
- Low incomes of farmers



SYMPTOMS/EFFECTS

What was the market suffering from?

- Lack of product-specific knowledge transfer from manufacturers/suppliers to the downstream actors
- Uncompetitive market system characterised by dominance of parastatal companies in distribution of fertilisers and maize seeds
- Increased sales of counterfeit seeds and fertilisers



CONTRIBUTORY FACTORS

Why did those symptoms exist?

- Transaction oriented supply chain focused on maximising short-term gains rather than a long-term customer-driven business practice
- Seed sector governance and regulation not fit-for-purpose, with public bodies lacking capacity and private sector lacking representation

Combined, these two challenges have had severe impacts on smallholder farmers and created several intersecting negative cycles.

Agro-dealers have set prices high, maximising profit per sale but resulting in lower sales overall – furthermore, without the knowledge of how to apply products properly, farmers have not realised the expected return on their investments, lowering both their ability and their incentives to reinvest in the next season.

The high prices combined with farmers' low incomes and lack of knowledge about potential benefits mean farmers are already purchasing and applying fewer inputs than needed to maximise productivity, while seeking out cheaper but poorer quality (i.e., out-of-date, counterfeit, uncertified) products.

This further lowers their productivity and therefore lowers the returns they have to reinvest in inputs. The decreasing profitability of this segment of the market further disincentivises input suppliers from engaging with actors to build the long-term relationships needed to reverse this cycle.

SECTION 2

**TACKLING UNDERPERFORMANCE –
KMT’S VISION FOR TRANSFORMING
THE AGRI-INPUTS SECTOR**



2.1 KMT’s vision for a reformed agricultural inputs sector

Kenya Markets Trust (KMT) is a non-profit organisation aimed at fostering inclusive, competitive and resilient economic growth in Kenya. It began working in the agricultural inputs sector in 2012. Its vision is to transform smallholder agriculture in Kenya from subsistence to successful agri-businesses through farmers’ effective and timely use of agricultural inputs.

KMT believes that through the right support and facilitation, transformational change is possible within the inputs and seeds market, delivering better value to farmers, higher agricultural productivity and ensuring long-term growth in Kenya’s agricultural sector.

2.2 Strategies to achieve this vision

To achieve its vision, KMT has developed two main strategies focused on the two key challenges outlined in the previous section.

STRATEGY 1

Fostering long-term customer-oriented business strategies along the chain

This first strategy aims at addressing both demand and supply-side issues in the inputs market, seeking to reorient the behaviour of all actors along the chain towards more long-term, customer-oriented business strategies. This is, in turn, expected to influence the purchasing patterns of farmers, increasing demand for quality inputs and attracting other players into the market over time.

STRATEGY 2

Improving seed industry governance and regulation

This involves bringing together the public and private sector to reduce the prevalence of counterfeit seeds and increase efficiency in the seed certification process. This strategy has worked at improving the regulatory environment in the seed industry so that the private sector could play a greater role in streamlining the supply and distribution of certified seeds. This, in turn, is expected to reduce the prevalence of counterfeit sales and provide more high-quality seed varieties to farmers.

STRATEGY 1

Fostering long-term customer-oriented business strategies along the chain

Last Mile Distribution

The Issue

The short-term, transactional relationships along the chain weakened knowledge transfer and demand. Downstream actors (agro-dealers and farmers) particularly suffered. Those farmers that did buy inputs were often uninformed about how best to use them.

KMT Response

KMT tested different models aimed at changing business relationships along the chain. They learned from pilots and adapted models, ultimately seeking changes in farmer behavior and the improved distribution of quality inputs in the ‘last mile’ of the chain.

Soil testing services

The Issue

A farmer’s understanding of the nutrient mix in their soil and its impact on productivity levels is a major determinant of whether they will buy inputs and whether they will buy the right inputs. However, soil testing is not a widespread practice in Kenya.

KMT Response

KMT partnered with large lime and fertiliser producers to demonstrate the benefits of soil-testing services to farmers. This involved exploring different funding models to make the service both affordable and enticing to the average smallholder.

Impacts to date

- 376,000 farmers have benefitted from KMT and its partners working along the inputs supply chain through two different models that have been adapted and refined over time.
- Significant learning has also taken place about the relative costs and benefits of these different models – and about the contexts where they might be most successfully scaled-up.
- In 2016, KMT expanded its partnerships to include Toyota Tshusho, who commissioned the first full-scale fertiliser blending plant in Kenya and introduced crop-specific fertilisers to the market, giving farmers the opportunity to increase production without depleting the soil.
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STRATEGY 2

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Seed self-certification

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The seed inspection and certification process had become increasingly lengthy and costly for private players due to outdated legislation and a lack of staff and resources within the mandated state regulator. The private sector response to this was not coordinated.

KMT Response

KMT focused on building a shared public-private vision for policy change to facilitate greater private sector involvement in the seed certification process to increase efficiency. It also helped build the capacity of the private sector seed suppliers association.

Scratch-off labels for seed packets

The Issue

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Impacts to date

- In December 2016, the Seeds and Variety Evaluation and Release Regulations were revised, paving the way for greater private sector involvement in seed certification.
- A new public-private framework for controlled seed self-certification has been created. Early adopter Monsanto has already begun to see benefits from implementing the new process.
- The seed supplier association has been strengthened to become an effective advocate for change, with substantial input to the new regulations and increased collaboration with the public sector.
- All seed packets must now be labelled, with particular benefits for smallholder farmers.

SECTION 3

THE EVOLUTION OF KMT'S LAST MILE DISTRIBUTION STRATEGY



3.1 Two approaches to last mile distribution

1. Pilot Program & Conceptualisation of 'Preferred Stockist Model' | 2012-2014

KMT's first step was to design and implement a pilot programme aimed at changing retail practices amongst distributors and agro-dealers. A scoping study was carried out in 2012 to understand the role of key stakeholders in the market and identify those capable of influencing supply side decisions. Although the study found that manufacturers and importers had both significant resources and capacity, KMT made a conscious decision not to engage with them based on the view that these companies were only directly connected to large-scale distributors located in specific counties rather than agro-dealers and farmers. Any business improvements at this level would have little downstream impact. In contrast, the team identified a few distributors that had strong connections with agro-dealers in their counties and nearby regions, providing more strategic initial partnerships.

Based on this scoping study and a separate survey of distributors in Kenya, KMT identified nine to work with using a range of criteria – such as revenue, number of connections with agro-dealers, number of branches and customers, spread of connections with agro-dealers in rural and urban areas, as well as number of years in business – before shortlisting those that scored highest. For its pilot phase, KMT partnered with just one distributor, Magos Enterprises in Kisumu County.

KMT subsequently contracted Dot Matrix – a marketing and strategy consulting firm – to re-develop Magos' retail strategy and to work with a select few agro-dealers in Kisumu County. This support included:

- The design of its logo and shop banner;
- The creation of Magos-branded merchandise such as stationary to distribute amongst agro-dealers;
- The introduction of early-bird discounts on sales of fertilisers and chemicals offered to agro-dealers;
- Rewards for frequent customers with small discounts and free sales on samples of new;

- The creation of outdoor kiosks in select towns and villages of Kisumu County during the pre-harvest season to attract local agro-dealers and farmers;
- Collaboration with agro-dealers and stockists to create a database of farmers and the use of SMS to share information on new products and discounts;
- Training of agro-dealers to prevent sales of expired and fake products to farmers; and
- The implementation of a customer-management system through which farmers could reach out to Magos to resolve issues pertaining to the use of certain fertilisers.

As a result of these initiatives, Magos quickly increased the value and volume of its sales, expanded its agro-dealer network from less than 20 to 100, and increased the number of farmers that it reached to 10,000 (as of February 2019⁷). Furthermore, while most agro-dealers tend to operate only during peak agricultural seasons, Magos' partners have begun selling year-round to keep up with demand. This has had an impact up the chain as well, as agro-dealers started procuring nearly 70% of their products from Magos, which meant Magos has had to purchase items frequently and in large quantities from suppliers.

Building on this pilot, Dot Matrix, with support from Magos, trained 35 of its agro-dealers in 'modern' retail practices similar to those outlined above, leading to several (with the financial resources and business acumen) to take these practises on in a serious way. For instance, on the back of training, TIVA Agrovet organised demonstration workshops for farmers on use of fertilisers and lime as well, and formed buyer clubs of 15-20 farmers that produced the same crops and had similar interests in learning good agriculture practices.

Through these groups, farmers placed joint orders with TIVA Agrovet, who in turn was extended a credit line from Magos to service these groups. Early successes have resulted in the formation of 75 such groups and TIVA's owner won the National Farmers Award for Agro-Dealers in 2018 in recognition of its achievements.

This pilot programme led to the development of a 'preferred stockist model', in which KMT's implementation partners would first work with a distributor to build a strong network of agro-dealers, before strategically selecting the most well-networked agro-dealers to train in modern retail practices.

Figure 6: Changes in shop layout following training on modern retail practices



Before KMT's Support



After KMT's Support

Scale-up of the preferred stockist model and establishment of strategic partnerships with manufacturers and suppliers | 2014 onwards

Following the pilot, KMT worked with the other eight short-listed distributors, again partnering with Dot Matrix and Afri Business Solutions. These distributors began to rapidly increase sales and started to gain the attention of manufacturers, importers, and suppliers. Several suppliers started deploying staff members to these counties to manage the distribution of fertilisers and other inputs as well as engage with distributors directly to market their products.

While the model was proving successful in increasing distributors' overall volume of sales, as well as building tighter linkages across the inputs markets, it was not leading to new purchasing patterns amongst farmers. For instance, while sales of the conventional DAP fertiliser used for maize were increasing, several other newly introduced crop-specific and soil-specific fertilisers were not.

KMT decided to respond to the challenge of diversifying sales – and thus agricultural production – by incentivising suppliers and manufacturers to share information on their products, not only with

distributors, but also with farmers directly. This led to the establishment of strategic partnerships between KMT and suppliers such as Homa Lime and Athi River Mining, who in turn collaborated with distributors and agro-dealers to organise field days and farm demonstrations on soil acidity, its impact on productivity and the use of lime and mavuno fertiliser 8 to reduce it.

The two companies identified agro-dealers through KMT's network capable of convincing farmers to provide their plots for training. These proved to be an effective extension method, given that farmers could physically see the benefits. Between 2014-2015, a total of 185 demo days were conducted, reaching more than 20,000 farmers.⁹

KMT has referred to this as its 'Last Mile Distribution' model because it involved connecting all actors in the supply chain and creating a channel for the flow of information from suppliers to the end consumers. In 2016-2017, KMT expanded its partnerships to include Toyota Tshusho, who introduced crop-specific fertilisers to the market.



Introduction of Soil Testing Services | 2016-17

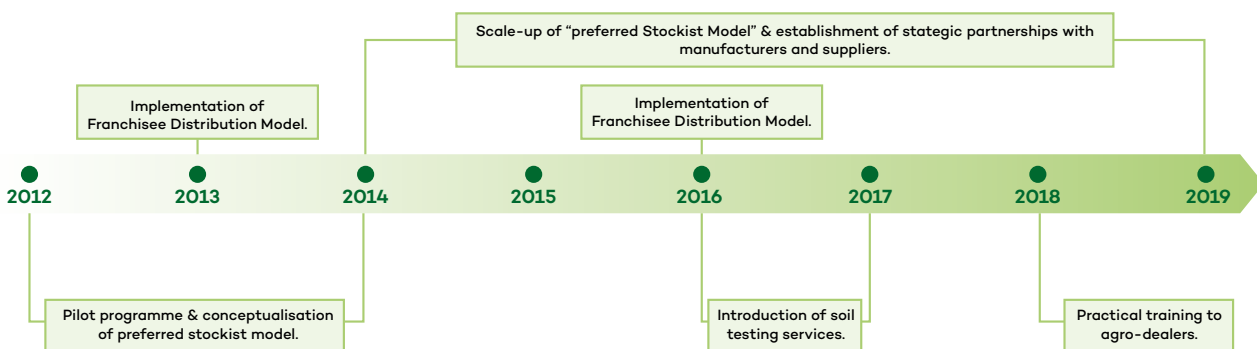
During this period, KMT also began co-funding exhibitions in partnership with distributors in seven counties. These were annual events that brought together all stakeholders in the inputs supply chain, with suppliers, manufacturers and importers setting up kiosks. Throughout 2016-17, nearly 13,000 farmers attended such exhibitions.¹⁰

While these efforts led to improvements in inputs supply, again there was limited impact on farmer behaviour. Some initiatives were even proving to be counter-effective. For instance, some farmers began to believe that acidity was the major issue inhibiting productivity

and therefore continued to purchase and use large quantities of lime when it was not necessary, further depleting soil quality. Other farmers were even using lime in place of fertiliser.

To address some of these issues, soil testing services were introduced as a crucial complement to KMT's initiatives. KMT partnered with Soil Cares and Agri Quest to build awareness on the nutrient composition of soil and how soil-testing services could help farmers make appropriate decisions on the use of agricultural inputs.

Figure 7: Timeline of intervention



Practical training to agro-dealers | 2018 onwards

A major weakness of KMT's approach was the provision of instruction-based learning to agro-dealers. While support offered to distributors was practical, the capacity building workshops conducted for more than 400 agro-dealers required an additional component on technical and financial management skills. The

workshops also did not provide recommendations to agro-dealers based on their size and location (e.g. urban versus rural). From 2018 onwards, KMT, along with Dot Matrix and Afri Business Solutions, restructured these to include demonstrations and site visits as well as more bespoke capacity building exercises.

2. The franchisee distribution model | 2013-2016

In 2013, KMT partnered with Positive International to pilot a franchisee model as an alternative to the preferred stockist model. This was meant to reach out to micro agro-dealers in rural areas that cater to large numbers of farmers. KMT supported this model as rural agro-dealers often face input supply constraints and lack sufficient stock to serve farmers during the peak season. Due to financial challenges, they are unable to procure in large quantities from distributors. The situation is made worse by rural infrastructure challenges.

The model involved franchisors (i.e. distributors) granting licenses to agro-dealers to conduct business under the franchisor's brand. The franchisor would then provide training to the agro-dealer on:

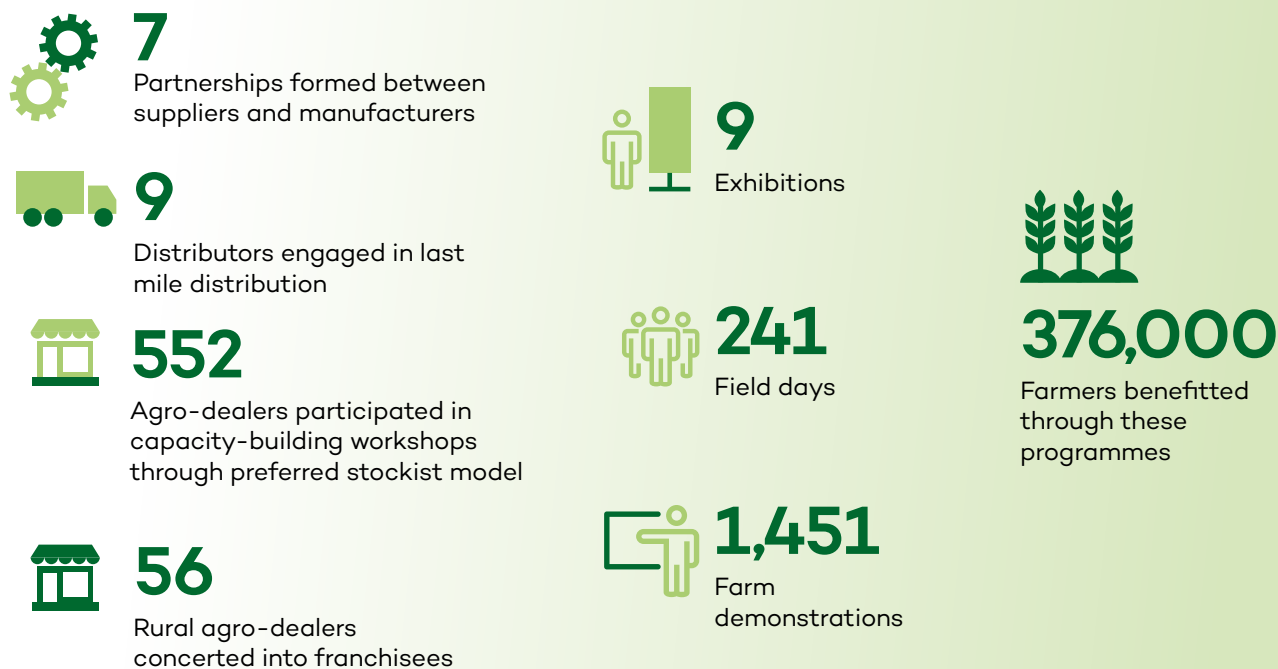
- How franchises work;
- Business management, including inventory, financial and customer care management;
- Product knowledge;
- Demo plot preparation;
- Product promotion and marketing.

Additionally, the franchisor assists the agro-dealer to revamp their shop layout and manage product logistics after which a revenue sharing model between the two is agreed.

Under this model, Positive International identified, recruited, and trained franchisees. They also managed supply chain activities including standards development and monitoring. They were further tasked with consolidating remotely located agro-dealers, becoming their distributor through bulk-purchase from suppliers and offered better rates that trickled down as price benefits to rural farmers. Rural agro-dealers, once franchised, ran their shops under the Positive International brand. The new branding concept also helped the agro-dealer franchisees raise their visibility and position themselves as farmer solution centres. Under this partnership, KMT funded the establishment of 30 such franchisees.

The initial success of Positive International led KMT to fund another such franchisor company in 2016 – Farmers Pride – in Machakos county.

Figure 8: Impact numbers



3.2 Lessons and challenges

As the complexity and scale of KMT's work in the inputs sector evolved, a few interventions did not result in expected outcomes. KMT learned from these experiences and the inputs team has been able to reflect on key lessons learned along the way. For example,

1. Moving up the supply chain and engaging all actors in the distribution channel has been instrumental in promoting the use of appropriate inputs by farmers.

KMT's efforts to build the capacity of distributors and agro-dealers has resulted in increased inputs sales. However, there has been mixed results in terms of whether farmers are purchasing the right inputs and using them appropriately. KMT realised that not all distributors and agro-dealers understood good agricultural practices and were often not able to provide accurate guidance to farmers on fertiliser and pesticide use. Hence, it was necessary for KMT to engage with actors at the top of the supply chain (manufacturers and importers) to transfer this information downstream. KMT has now partnered with Toyota Tshusho, Athi River Mining, Homa Lime and Syngenta East Africa to deploy field workers and train farmers and agro-dealers through farm demonstrations, exhibitions, field days and an SMS-based system for resolving grievances and queries.

2. The franchisee model has been more effective in transforming retail practices of agro-dealers than the preferred stockist model but relies heavily on donor funding.

While outreach numbers were high under the preferred stockist model, training workshops less frequently resulted in agro-dealers adopting new retail practices due to a lack of funds. As a result, KMT also co-funded joint activities such as farm demonstrations, field days and exhibitions for a select group of distributors and agro-dealers. Through these efforts, most distributors have been able to increase their sales, expand their customer and supplier networks as well as generate profits. A few distributors – such as New Down Town, Farmers Centre, Moiben and Magos – have been able to continue these activities after KMT's support ended.

Stakeholder feedback suggests that the franchisee model has been highly successful. Farm Shop, another KMT partner, has franchised 32 agro-dealers to date and has received funding from the Mastercard Foundation to franchise more, particularly in rural areas. Surveyed agro-dealers report an increase in sales of up to 30%.¹¹ Additionally, Farmers Pride has franchised four agro-dealers in Makueni County and has 125 agro-dealer partners, of which 12 stockists are gold members (i.e. they are ready to be converted into franchisees).

At the time of writing this case study, Farmers Pride had secured funding from a venture capital fund and the UK's Department for International Development (DfID), to develop these new franchisees.

The franchisee model creates a strong business partnership between the distributor and agro-dealer, with the distributor assuming much of the risk and costs associated with establishing the franchise, making

the model more effective in implementing better retail practices.

However, replicating the franchisee model is a challenge due to its cost. Both Positive International and Farmers Pride are dependent on continuous funding from other sources to remodel new agro-dealers' shops into franchises.

Figure 9: Comparison of Preferred Stockist and Franchisee Models

	Preferred Stockist Model	Franchisee Model
Features	<ul style="list-style-type: none"> Distributor establishes strong business relationship with the agro-dealer; Agro-dealer receives instruction-based training on 'modern' retail practices; Distributor partners with agro-dealer in conducting rural farmer outreach activities. 	<ul style="list-style-type: none"> Franchisor establishes a partnership with an agro-dealer, provides training and converts the shop into a franchisee; Franchisor continuously monitors the performance of the franchisee and ensures successful adoption of improved retail practices.
Financial Model	<ul style="list-style-type: none"> Distributor sells products to agro-dealer on cash/credit. 	<ul style="list-style-type: none"> Franchisor finances the revamping of the agro-dealer shop; Franchisor practices a revenue-sharing model with the franchisee to recover its investment; Donor provides initial funding.
Target Agro-Dealers	Both urban and rural	Rural
Impact on Agro-Dealers	Not all agro-dealers are capable of independently adopting new retail methods	Agro-dealers benefit significantly as they receive end-to-end support in training and implementation
Potential to Sustain the Model	Easy to scale as the workshops conducted require minimal investment	Challenging to scale as franchisors are using donor funding to rehabilitate agro-dealer stores

3. Training has to be tailored to rural agro-dealers' business environment

Through both the preferred stockist and franchisee models, distributors were able to expand their networks with agro-dealers located in urban areas. However, uptake by rural agro-dealers has been lower and KMT has had to make some changes to the training and workshop model to tailor it to the needs of rural businesses. For example, trainings are now held closer to the agro-dealers' shops and are often in the evenings to enable business owners to travel without having to close their shop for the entire day.

Likewise, the initial workshops conducted by KMT advocated for modern retail practices with prominent display units that customers could browse through. Such practices are not applicable to rural agro-dealers, however, who fear that their products may be stolen. They prefer to interact with customers through a sealed window rather than an entrance that allows a customer to walk into the shop and explore the available products.

3.3 Signs of sector transformation

After several successes, and notable failures, the team is adjusting by engaging directly with suppliers/manufacturers to drive transformational change in the industry. Some signs of change throughout the industry include:

Change in suppliers' behaviour

KMT's partnership with Toyota Tshusho has not only allowed them to rapidly expand sales of crop-specific blends but has also encouraged other fertiliser companies to adopt innovative marketing strategies to increase sales.

Prior to KMT's engagement, Kenya's fertiliser market was dominated by DAP, Urea and CAN blends - accounting for 70% market share. Continuous application of these products over the course of many seasons increased soil acidity, depleted nutrients, and decreased crop productivity. In 2016, Toyota commissioned a fertiliser blending plant in Kenya to produce and sell fertilisers for maize, wheat, potatoes, legumes and rice. These new, crop-specific fertilisers offered opportunities to Kenyan farmers to increase production without depleting the soil.

Initially, Toyota engaged only with distributors to sell its fertilisers at a price slightly higher than the traditional DAP and CAN fertilisers, which were subsidised by the Government of Kenya. This strategy did not work as the company realised it needed to demonstrate the added value of a higher-priced product.



We now have much stronger ties with agro-dealers and farmers. In our most recent expo in 2019, agro-dealers played an important role in gathering farmers. On average, each brought 80 farmers to attend the expo. Through these efforts of contacting customers through SMS and solving their problems, we now have a network of 25,000 farmers.

STAFF MEMBER
MOIBEN



With KMT's support, media campaigns, demonstrations and farmer field days were conducted. This resulted in over 10,000 MT of fertiliser sales during a single season.¹² Farmers also reported making more 'informed decisions' on using appropriate fertilisers - rice farmers in Mwea accessing Toyota's rice blend reduced fertiliser costs by 8% while increasing revenue by 12% and potato farmers in Nyandarua doubled their yield (increase from 8.6MT per Ha to 17.1MT per Ha).¹³ As a result, Toyota has proposed an extension plan with KMT to scale to other counties.

Other fertiliser manufacturers have started replicating this approach. For instance, YARA East Africa is now conducting season-long media campaigns on both radio and television, promoting their crop-specific YARA MILA Cereal. MEA Ltd is also refurbishing its fertiliser blending plant under their subsidiary Fertplant East Africa Ltd in Nakuru to produce crop-specific fertiliser blends.



The net income of our wholesale shop has increased from KES 500 Million in 2014 to KES 706 Million in 2018. Through KMT's marketing and customer management methods, we now have a network of over 1,000 retailers; we offer short term credits to 400-500 of them. We also made sufficient savings to host three large regional farmer training workshops in 2018.

OWNER
NEW DOWN TOWN, KIRINYAGA



Change in distributors' behaviour

Distributors that received KMT support have significantly improved financial performance and grown customer networks. They have also implemented better distribution practices and maintained continuous engagements with agro-dealers and farmers.

Furthermore, success from expos has encouraged input suppliers and manufacturers to support distributors by co-sponsoring such events. Suppliers see value in this and key multinationals such as Syngenta and Bayer East Africa are emerging as potential sponsors for future expos.

Change in agro-dealers' behaviour

Agro-dealers that have maintained close ties with distributors through the preferred stockist model have seen significant improvements in their sales. For example, an agro-vet centre in Meru County has increased its stock-keeping units from 200 to 1,000. It now offers continuous training to farmers and encourages them to explore fertiliser brands other than DAP and CAN.

Similarly, another agro-dealer in Kisumu has established the Kisumu Agro-Dealers' Forum to bring together stockists and discuss issues pertaining to distribution, supplying the right inputs to farmers, and introducing new products through support from field staff deployed by suppliers.



Farmers complained constantly about low productivity and continued to purchase large quantities of DAP and CAN. They were not aware that the excessive use of these fertilisers was increasing the level of soil acidity. I, along with a few other agro-dealers in Kisumu, reached out to Magos for soil testing services. We created awareness on the product ... demonstrated to farmers on how to read soil testing results. Through support from Homa Lime, we encouraged use of lime and this increased the yield marginally. Now farmers enquire about different fertilisers; they are aware of the different names of companies and the products they provide. Farmers also use Whatsapp to send photos and seek advice. I believe that customer management is essential for customer retention.

BEATRICE OKELLO,
AGRO-DEALER SHOP OWNER, KISUMU



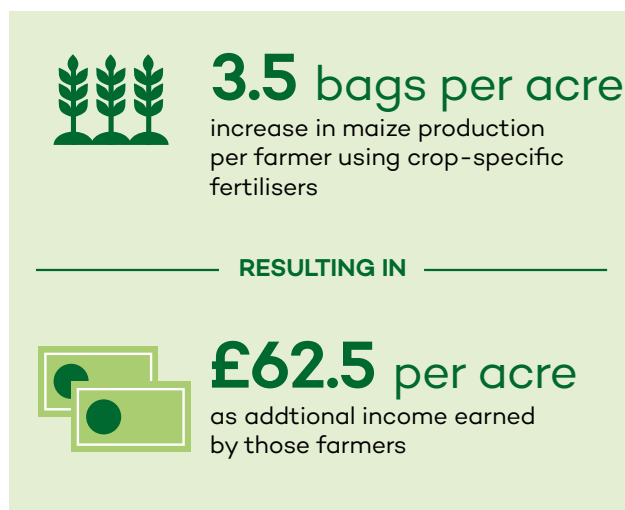
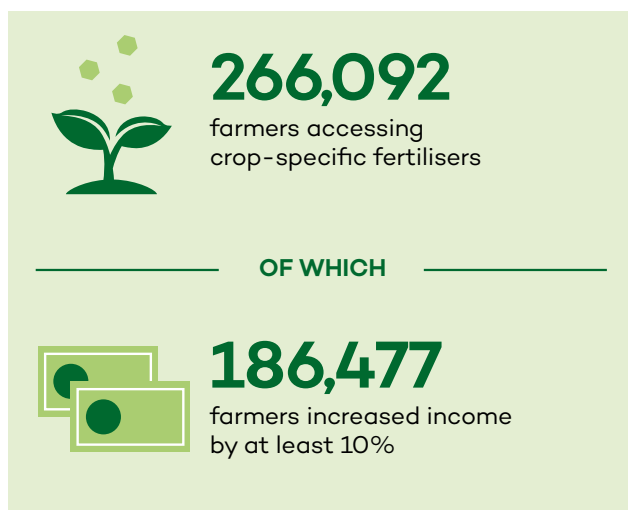
Change in Farmers' Behaviour

Farmers who attended demonstrations, field days or expos organised by KMT-supported distributors or suppliers have begun to adopt good agricultural practices and diversify crop production, as shown in the figure below, based on KMT reporting data. For example, a farmer interviewed by the KMT team in Meru County initially could only produce 7 MT of tomatoes in a single eight by 30 square metre greenhouse. Now he produces 15 MT of tomatoes based on the use of

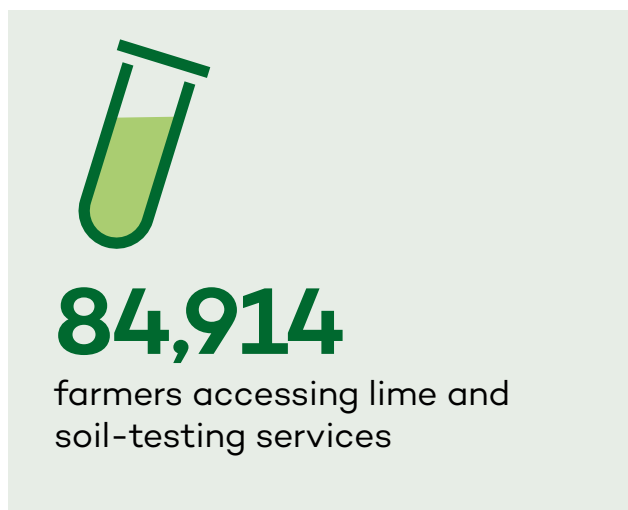
appropriate fertilisers. Earlier, he practiced crop rotation and produced small volumes of horticulture items using local seeds; now, he has three greenhouses, periodically checks pH levels, and uses imported seeds. His income (profits from sales of 50 kilograms of tomatoes) has increased by 35%. He has encouraged other farmers to reduce production of maize and increase production of horticulture crops as they offer higher returns.

Figure 10: Summary of Results achieved by KMT through Last Mile Distribution, Soil Testing & Promotion of Agriculture Inputs Interventions

Impact of increased use of crop specific fertiliser



Impact of increased use of lime and soil testing services



SECTION 4

**SEEDS SELF-CERTIFICATION AND
SCRATCH-OFF LABELS**



4.1 KMT's seeds work to date

Identification of regulatory barriers and possible interventions | 2013

KMT's work to reform Kenya's crop seeds industry formally began in July 2013. The overall vision was to create an enabling environment for the private sector that would attract greater investment, reduce the dominance of state companies, and provide farmers access to quality seed varieties.

At the outset, KMT's implementing partner Agri-Experience (AE) convened several meetings, bringing together government representatives from KEPHIS, KALRO and the Ministry of Agriculture as well as members of STAK and the agricultural association of the Kenya Private Sector Alliance (KEPSA). The purpose of these meetings was to discuss the status of the crop seeds industry in Kenya, identify constraints affecting private sector involvement, assess the capacity of state agencies to perform their roles, as well as create a laundry list of potential initiatives to be undertaken. Two key issues were repeatedly highlighted throughout:

- 1. Kenyan seeds and plant variety regulations had not been updated since 1991.** As per these regulations, KEPHIS was authorised to inspect and certify all seeds in Kenya, both those produced locally as well as imported. Due to a lack of staff and resources within KEPHIS, the seed inspection and certification process had become increasingly lengthy and costly for private players.
- 2. As a result, the distribution of low quality and counterfeit seeds was becoming increasingly common.** The regulations also only allowed seed packets of more than 10 kilograms to carry certified labels and details of the supplier. Hence, uncertified seeds were sold in smaller volume packets that were typically purchased by smallholders.

To address the above concerns, strong representation from the private sector was needed. The existing industry association – STAK – had few members (less than 10)¹⁴ and lacked strong leadership to represent companies in public-private dialogue. As a result, one of the initiatives undertaken by AE was to build the capacity of STAK, increase its membership, and hire an executive director who could represent the association at various meetings.

Initial Developments on Seed Labelling | 2014 -15

AE began working directly with STAK to formally review the *Seeds and Plant Varieties (Seeds) Regulations of Kenya (1991)* and propose revisions. Several meetings were held to gather feedback from suppliers, who pushed for liberalisation. A document comprising feedback, along with the existing regulations and data pertaining to Kenya's crop seed industry, was released online in September 2014 by AE in collaboration with KEPHIS and KALRO.

The purpose of making these documents publicly available was to raise awareness amongst small and medium seed companies on out-dated regulations and encourage them to participate in on-going public-private dialogues. For the remainder of 2014 and most of 2015, key stakeholders from the private and public sectors continued to debate on amendments to the regulations through meetings organised by AE. The two parties struggled to reach common conclusions, however, mainly due to a lack of strong representation from STAK.

Although some developments were made in seed labelling, these were ultimately unsuccessful. Due to a lack of input from STAK, KEPHIS carried out the procurement process to hire a third party to create new labels. Financial evaluation of bids was based on the lowest cost of production. However, the chosen vendor suggested a cost of KES 15 per label, which was strongly opposed by most seed companies as it would increase the cost of packaging, which would then be passed on to farmers. As such, the chosen third-party company was not engaged.

Learning Trips and Approval of Revised Regulations | 2016

With support from STAK's new Executive Director, AE arranged several learning trips to understand how crop seed regulation operated in other African countries.

Two trips were made:

1. The first to visit the South Africa National Seed Organisation (SANSOR) – a comparator for STAK – authorised by the government to certify seeds. However, trip participants concluded that this approach could not be implemented in Kenya, given that STAK did not have the capacity to take up such a role.
2. Consequently, a second trip was made to Zambia. There, the government retained greater control over the certification process, while the private sector was authorised to carry out inspections. All representatives agreed that the Zambian model was more appropriate, and AE initiated support to KEPHIS and STAK to implement the same.

On December 30, 2016, the Seeds and Variety Evaluation and Release Regulations was revised, paving the way for the private sector to play a greater role in the industry. These regulations also included the requirement that labels must be affixed to all seed packets, including those weighing under 10 kilograms.

Implementation of scratch-off labels for seed packets and seed self-certification process | 2017 – 18

To replicate the Zambian seed certification model, AE and STAK designed a framework for public-private collaboration on inspection and certification. The new framework allowed for private sector companies to inspect seeds on field and in labs, although KEPHIS would continue to certify them. According to the framework, companies must have staff members (inspectors and analysts) that are trained and licensed, as well as a fully equipped laboratory to carry out the process. This comprised a readiness audit of seed companies to be authorised to do inspections.

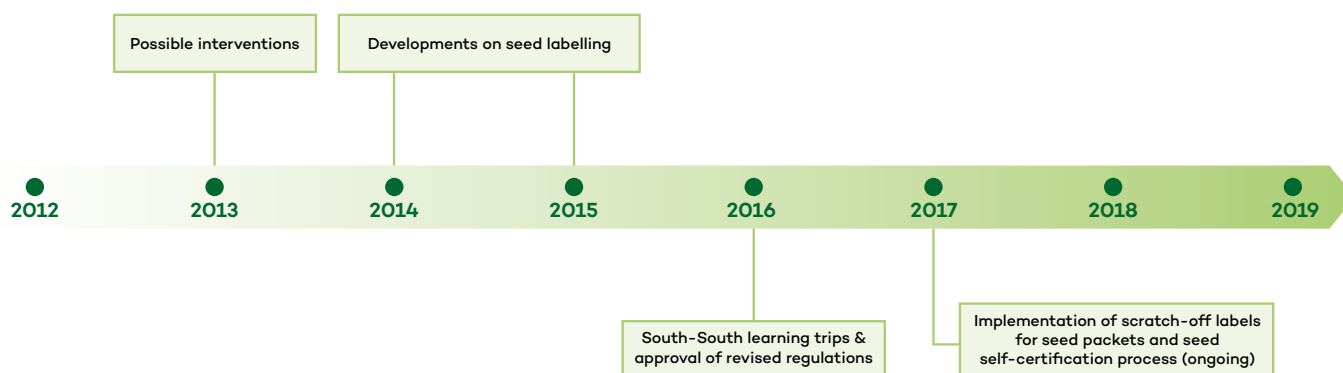
Additionally, a trainers’ handbook was also prepared in collaboration with the Seed Control and Certification Institute of Zambia. KEPHIS staff would provide training to inspectors and analysts from private companies and, upon completion of the coursework, the latter would be licensed to carry out inspections on behalf of those private companies.

Around 38 inspectors and 10 analysts have been trained since mid-2017, of which 20 inspectors and five analysts were licensed. One seed company (Monsanto) has established its laboratory and has been authorised by KEPHIS to start the lab-inspection process. One other company, Simlaw Seeds is currently in the process of establishing its own lab.

It is envisaged that once companies carry out field and lab inspections in-house, there will be significant reductions in cost and time. Currently, companies usually have around 10 days between seed production and start of the harvest season and KEPHIS takes between 4-6 weeks to inspect seeds and certify them. The new system would mean companies could have their inspectors ready immediately after seed production.

KEPHIS simultaneously carried out a new procurement process to select a firm to create new seed labels. This time, STAK’s executive director was present to open and evaluate bids to ensure transparency in the process. mPedigree was identified as the preferred company and new labels would cost KES 2.

Figure 9: Timeline of seed interventions



4.2 Lessons and challenges

Over the course of KMT's engagement in the crop seed industry, several key lessons have emerged.

1. Farmers are now aware of certified seeds, but STAK and KMT need to provide additional information and support to ensure uptake

While farmers in urban areas are aware of the new scratch label system, they often purchase multiple seed packets of one variety and scratch only one label. Based on this, they assume that the remaining seed packets of the same variety are also certified. STAK and KMT will need to make continuous efforts to provide more information to farmers on certified seeds and track data through mPedigree on the number of scratch labels sold versus number of labels scratched. These efforts are ongoing and such data will help determine the effectiveness of scratch labelling in reducing the prevalence of counterfeit seeds.

2. STAK and KMT need to facilitate roll out of the seed self-certification process

More support is needed to encourage uptake of the seed self-certification process by small and medium seed manufacturers. Feedback gathered by KMT has revealed that not all private companies are aware of (or are interested in) adopting the seed self-certification process. Since the publication of guidelines by KEPHIS in mid-2017, only two companies have expressed interest, of which only Monsanto has received authorisation for carrying out inspections. Several other firms have deployed staff to be trained as inspectors and analysts. A few reasons for limited uptake may include that small and medium-sized companies lack the resources to invest in developing their own labs. Likewise, KMT staff have been informed that companies are sometimes fearful of losing trained and licensed staff to other companies due to a limited skills base and high turnover in the sector. KMT has since initiated round-table discussions with STAK members and KEPHIS to discuss and substantiate these claims.

4.3 Signs of sector transformation

Supporting effective collaboration between the public and private sector to resolve binding constraints in Kenya's crop seeds sector has been a major achievement of KMT. Some highlights include:

There have been significant reductions in costs and time for companies that have been able to adopt seed self-certification processes

The estimated time and costs savings for companies who employ the seed self-certification process as opposed to relying on KEPHIS for this service are significant. Early adopter Monsanto has already begun to see benefits from implementing the new process. The impact of this new process on the system will continue to grow as more firms adopt it.



Monsanto participated in the public-private dialogues right from the beginning. KMT has done a good job in bringing about changes in seeds regulations. We have seen an improvement in STAK, yet a lot needs to be done to engage medium and small-scale seed companies.

Following the seed self-certification process, we established our laboratory last year. Initially we sent 60 batches of maize seeds per week to KEPHIS for inspection and certification. For this, we waited for 1-3 months and sometimes could not certify seeds before the season started. With the establishment of the lab, we have the opportunity to fully own the process; the intervention has created significant cost savings, and improved efficiency and timelines in terms of delivering certified seeds. We are dependent on KEPHIS only to inspect and certify vegetable seeds. Much of the reduction in our workload of maize certification should have benefited KEPHIS and other companies waiting to get their seeds certified.

EVERLYNE MUSYOKA,
MONSANTO



STAK has become an effective advocate of the seed industry and is collaborating with government for successful and transparent implementation of seed regulation

Hiring an Executive Director capable of representing the private sector in public-private meetings was crucial to implementing regulatory reforms. From there, STAK has been able to work alongside AE, KMT and KEPHIS to organise and attend learning trips in South Africa and Zambia. These trips allowed the government and private sector to interact and identify solutions that would serve the best interests of the industry.

STAK's representation in the re-tendering process for a third-party label provider meant that the process was transparent and the outcome fair. STAK also effectively negotiated on the price of labels on behalf of medium and small-scale seed players, saving about KES 100 Million to the industry¹⁵. Likewise, STAK represented members in the revision of the Seeds and Varieties Regulations which were gazetted in December 2016. About 70% of the feedback provided by private sector players was incorporated in the final document. The revisions made to the regulations led to an enabling business environment for the seed industry in Kenya that is expected to drive further private sector investments in upcoming years.

Private-public dialogue has facilitated a more collaborative relationship between the private sector and seed sector regulators

Interventions such as the seed self-certification process show that, for the first time in years, the government and private sector are effectively collaborating on the development of policies and regulations that can drive further investment and innovation in the Kenyan seed market. For instance, KEPHIS recently convened two consultative seed industry meetings through KMT's support, which demonstrates a growing willingness and recognition of the private sector's role in policy formulation. Seed companies are actively giving feedback to KEPHIS on the enhanced seed registration system, unlike in the past where most companies had little interest in engaging with regulators directly even when issues arose.



SECTION 5

THE WAY FORWARD



Building on successes to date, over the next 3-5 years KMT plans to engage up to 70 companies in the scale up of its last mile distribution work. As a result, it is expected that three million smallholder farmers will have improved access to key agricultural inputs, adopt good agricultural practices and ultimately increase farm yields and income.

KMT plans to increase agricultural lime availability from the current 10,000 MT to 26,000 MT by 2022 and 33,800 MT by 2027. This will be achieved by engaging with the Kenya Association of Manufacturers (KAM), KEPISA, and the Ministry of Agriculture to convene thematic industry learning workshops and identify ways to promote the replication of commercial models for agricultural lime.

Additionally, KMT envisions that a total of 2,720,000 smallholder farmers will access quality crop seeds by 2022 and 3,060,000 smallholder farmers by 2027.

To achieve all of this, KMT will need to work very closely with industry players such as STAK, AAK, KEPHIS, KALRO and County Governments.

ENDNOTES

1. Kenya Agricultural Sector Transformation and Growth Strategy 2019-2029
2. FAO Statistics (2003 and 2012), 'Production of maize, other cereals, tea, coffee, and other crops in Kenya (in MT)'
3. FAO Statistics (2003 and 2012), 'Yield (in 100 grams per hectare) for Kenya, Zambia and Uganda'
4. (2018) Agri Experience Ltd., 'Crop Seed Sector Project July 2013 – July 2018, Implemented by Agri Experience Ltd through Funding from Kenya Markets Trust'
5. (2015) 'Agriculture Inputs Sector Strategy; Implemented by Kenya Markets Trust and Funded by UKAID, Gatsby and Kingdom of the Netherlands', 27 May
6. The definition of the agriculture inputs & seeds market, for the purposes of this case study, includes use of seeds, fertilisers and chemicals while excluding equipment, machinery, animal feed, vaccinations and any other inputs used for livestock.
7. Data collected from stakeholder consultations.
8. Mavuno fertiliser contains 11 essential plant nutrients such as nitrogen, phosphorous and potassium, among others key nutrients. The mineral elements are combined in various formulations and blends that create 'tailor-made' fertilisers that have been proven to give superior crop yields by over 40 per cent. Other than yields, the fertilisers improve soil fertility, rectify acidity and improve soil pH for higher crop production. Micro-nutrients present in Mavuno improve color, taste, texture and nutrient value of produce.
9. Agri-Inputs Bi Annual Report for April to September 2017, prepared by Kenya Markets Trust.
10. Agri-Inputs Bi Annual Report for April to September 2017, prepared by Kenya Markets Trust.
11. Data from stakeholder consultations.
12. Consultations with Toyota Tshusho Fertiliser Africa Ltd.
13. Agri-Inputs Bi Annual Report for April to September 2017, prepared by Kenya Markets Trust.
14. Data from stakeholder consultations
15. (2018) Agri Experience Ltd., 'Crop Seed Sector Project July 2013 – July 2018, Implemented by Agri Experience Ltd through Funding from Kenya Markets Trust'

LIST OF ACRONYMS

AAK	Agrochemicals Association of Kenya
AE	Agri-Experience
CAGR	Compounded Annual Growth Rate
EA	East Africa
FAK	Fertiliser Association of Kenya
FAW	Fall Armyworm
GDP	Gross Domestic Product
KALRO	Kenya Agricultural & Livestock Research Organisation
KAM	Kenya Association of Manufacturers
KEPHIS	Kenya Plant Health Inspectorate Service
KEPSA	Kenya Private Sector Alliance
KMT	Kenya Markets Trust
MLND	Maize Lethal Necrotic Disease
MoU	Memorandum of Understanding
MT	Metric Tonnes
NCPB	National Cereals and Produce Board
SANSOR	South Africa National Seed Organisation
STAK	Seed Trade Association of Kenya
VAT	Value-added tax

ANNEXES

A.1. Methodology

The case study was developed by applying a structured methodology comprising document review and stakeholder consultations. The phases involved in carrying out research and documenting the case study are presented in the following table.

Phase	Activities
Phase 1: Preliminary Meetings & Document Review	<ul style="list-style-type: none"> Initial telephone conversations with KMT's agricultural inputs and seeds team to understand KMT's role and strategy for sector. Review of documents received from KMT which included strategy note, case studies, bi-annual reports, and monitoring dashboards
Phase 2: Consultations with Stakeholders	<ul style="list-style-type: none"> Identification of stakeholders or beneficiaries that directly and indirectly benefitted from KMT's program. These included suppliers or manufacturers, distributors, agro-dealers, farmers, service providers, government agencies and KMT's prior consultants Design of questionnaires for each stakeholder with the objective to understand the following: <ol style="list-style-type: none"> Partnership with KMT Situation before KMT intervention Description of intervention and its evolution Challenges in implementation, any changes and course corrections Impact achieved Lessons learnt, success and failure factors Systemic changes (i.e.; ability of the stakeholder to adopt, adapt, expand and respond) Upcoming trends in Kenya's agricultural inputs and seeds sector Additional support needed from donors Constraints in scalability and sustainability Conducting meetings with stakeholders in Nairobi, Kisumu, Kirinyaga, Meru and Machakos
Phase 3: Analysis & Filling Gaps in Research	<ul style="list-style-type: none"> Analysis of inputs from literature review and primary research Development of the case study outline and review of the same by KMT and Gatsby Second round of interviews with KMT's agricultural inputs team
Phase 4: Documentation of Case Study	<ul style="list-style-type: none"> Submission of first draft of the case study Review by KMT and Gatsby Submission of final report

A.2. List of stakeholders interviewed

The following stakeholders were interviewed for documenting the case study.

#	Name & Designation	Organisation	Type of Stakeholder	Location
1	Susan Maina	Kenya Markets Trust		Nairobi
2	Ruth Buyanzi	Kenya Markets Trust		Nairobi
3	Michael Kamau	Kenya Markets Trust		Nairobi
4	Charles Warria	Kenya Markets Trust		Nairobi
5	Anna Wamache	Freelance Consultant (Seed Sector) to KMT	Consultant	Nairobi
6	Doris Kinya	Farmers Centre	Distributor	Meru
7	Ken Jeff Kamau	Meru Vet Centre	Agro-Dealer	Meru
8		Favour Agro-Chemicals	Agro-Dealer	Meru
9	Ayub Mwirigi		Small Holder Farmer	Meru
10	Sabina Wairimu, Moses Murimi & Gabriel Muchira	New DownTown Ltd	Distributor	Kirinyaga
11	John Mwenda Riungu	LimeZone Enterprises Ltd	Agro-Dealer	Kirinyaga
12	Nehemia Ondongo	Magos Farm Entreprises	Distributor	Kisumu
13	Beatrice Okello	TIVA Agroveter	Agro-Dealer	Kisumu
14	Antonio David	Moiben Connections Ltd	Distributor	Uasin Gishu
15		Pannar Seed	Seed Company	Uasin Gishu
16	Three Farmers at MoiBen Exhibition	NA	Farmers	Uasin Gishu
17	Duncan Onduu	Seed Trade Association of Kenya	Industry Association	Nairobi
18	Rogers Mugambi	East Africa Seed Co.	Seed Company	Nairobi
19	David Kiplagat	Simlaw Seed Ltd	Seed Company	Nairobi
20	Willie Njoroge	Dot Matrix	Service Provider	Nairobi
21	Jacob Cheptaiwa & Caroline Muteti	KEPHIS	Regulator	Nairobi
22	Dr Wellington Mulinge and Dr Joyce Malinga	KALRO	Research	Nairobi
23	Fredrick Muthuri	Quest Agriculture Ltd	Soil Testing Company	Nairobi
24	Kentaro Yoneda	Toyota Tshusho Fertiliser Africa Ltd	Fertiliser Company	Nairobi
25	Annabel Karanja	Afri Business Solutions	Service Provider	Nairobi
26	Samuel Munguti	Farmers Pride Ltd	Franchisor	Machakos
27	Dr Mulemia Maina and Aline O'Connor	Agri Experience Ltd	Service Provider	Nairobi



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