



POSTMORTEM ON RECENT EXPERIMENTS WITH E-VERIFICATION IN UGANDA'S SEED SECTOR

September 2018

INTRODUCTION

This analysis is based on interviews conducted in June-July 2018 with selected seed companies, input dealers, industry representatives, USAID personnel, private sector participants, and a few additional stakeholders. Though not intended to be a fully rigorous analysis, these interviews shed some light on the recent experience with e-Verification programs in Uganda and the challenges that these programs faced. This debrief reflects the opinions expressed by select industry stakeholders. If desired, a more thorough post-mortem would require a formal survey of all input companies participating in e-Verification (including both seed and agricultural chemicals), as well as conversations with government officials and additional private sector participants. A broad survey of farmers and input dealers who were impacted by the programs would also be recommended.

Our conversations focused specifically on maize seed, as maize was one of the priority crops for Feed the Future Uganda and given that e-verification faced some of its biggest challenges with maize seed. Indeed, the e-verification labels are still being used for vegetable seed in Uganda, which is almost exclusively imported, and certain agricultural chemicals, but are no longer widely used on maize seed packages.¹

BACKGROUND ON E-VERIFICATION

One of the newest innovations in fighting the problem of counterfeit agricultural inputs is the use of e-verification programs, which introduce scratch labels to input packaging. The end customer scratches the label, revealing a unique authentication code, and sends the code to a specific USSD number, which confirms that the product is genuine and has not expired. Genuine, in this case, means that the product is authentic, and comes directly from the manufacturer. The labels are single-use and difficult to replicate.

The e-verification labels help to combat two of the major sources of counterfeit products in Uganda: imitation packaging (bottles and bags that are designed to look like premium brands but contain substandard products) and re-use of genuine packaging (original bottles and bags refilled with substandard products and resealed). With single-use labels, original packages cannot be re-used once the labels have been scratched; the labels themselves are also difficult to reproduce without the right equipment, and thus difficult to include on imitation packaging. E-verification programs also help the participating companies build brand equity with their customers, by signaling that they stand by their products, and can be used to generate some useful data on where and when their products are being purchased.

This technology, originally used in pharmaceutical supply chains, is one of the solutions recommended for Uganda in a 2014 study funded by the Gates Foundation, and has been fully implemented in Kenya and seriously considered in Tanzania. In 2012, Crop Life (an international agrochemical trade association) and the International Fertilizer Development Centre conducted a pilot of e-verification labels in Uganda. The pilot demonstrated the viability of the technology, and the market share of the chemicals with labels nearly doubled, though ultimately the agrochemical companies involved chose not to continue using the labels.²

INTERVENTION #1: THE KAKASA PROGRAM

The USAID/Uganda Feed the Future Agricultural Inputs Activity (Ag Inputs Activity) initiated discussions about an e-verification program for Uganda in 2014-2015. The Uganda National Bureau of Standards (UNBS) was in the process of developing an "E-Tag" program for fast



¹The labels are still being used for certain high value vegetable seeds and frequently counterfeited agricultural chemicals, where the business case was clearer for companies to continue purchasing and applying the labels.

²We could not find a report on this pilot project, but the companies apparently cited the small size of the market and farmers' sensitivity to prices as reasons not to continue. The products with scratch labels were sold at a slight premium, though farmers did display a willingness to pay this premium.



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moving consumer goods in Uganda, including agricultural inputs, and proved open to the idea of collaborating on a program for agricultural inputs that would use more secure e-verification labels. The KAKASA program was developed as a joint effort between UNBS and the private sector providers of the labels and IT infrastructure, REN Publishers and mPedigree.

The program was launched in the 2016A season, and included both seeds and agrochemical products. Companies voluntarily participated in the KAKASA campaign, and the unit cost for the labels ranged from 60-100 shillings. A call center was established that contacted customers in the case of a “failed” verification, such as a re-used code or a product past its expiry date. The program was supported by the Ag Inputs Activity with an extensive public education campaign, including meetings, radio ads, billboards, shop advertisements, and printed materials. UNBS would continue promoting KAKASA after the Ag Inputs Activity was finished. The program was also paired with a research study by IFPRI that experimented with discounts and mobile phone outreach to encourage farmers to purchase e-verified products and use the scratch labels.³ The companies participating received an initial grant to subsidize the cost of the first set of labels.

Our research suggests that the KAKASA program was broadly successful. In addition to the companies we interviewed, at least seven others participated, covering a range of agricultural inputs. “KAKASA” loosely means “verify” in Luganda, and the program soon became synonymous with e-verification in many major market centers. We spoke to agrodealers in Mbale, where the program was heavily publicized, and found that it was well received both by the agrodealers and their clients. The agrodealers appreciated that the program lessened the burden of determining whether products were genuine or not, and they reported that farmers recognize the KAKASA mark and prefer products with the label, with some refusing to buy any products without labels. The program was also successful in its efforts to establish a functional, independent public-private partnership between the government (UNBS) and the participating companies, one that could outlast the life of the USAID project that initiated it.

The companies that we interviewed had mixed experiences with KAKASA, but were all initially open to participating in the program:

COMPANY A

Has participated in KAKASA program for 1.5 years, and seen a reduction in counterfeiting reports since they started using the system. Too costly to put KAKASA labels on all seed packs – currently only using the labels for high value crops such as certain types of vegetable seed. Did use labels on maize seed imported from Kenya last year to signal that it was genuine.

COMPANY B

Participated in KAKASA program and encouraged customers to look for labels, but did not ever actually deploy the labels on their products, despite having purchased labels for 1000MT worth of maize seed. Perceived KAKASA initiative as too short-term, since support was removed so quickly – businesses need to focus on the long-term when making investment decisions.

COMPANY C

Perceived KAKASA as an alternative to the government-mandated blue inspection label. Previously only used the KAKASA label because it was cheaper than the blue government label; informed this year that the blue label was required, so stopped using KAKASA on maize seed. Also said that KAKASA had been disowned by MAAIF, and isn't necessary because the seed already has the blue certification label. Still using KAKASA on vegetable seeds, which do not have a local government certification label because they are imported. Treating it as a quality mark to signal that it is certified quality, though that is not technically what the label represents.

COMPANY D

Participated in KAKASA program, appreciated the service, and would be happy to continue using it.

COMPANY E

Did not participate in KAKASA program.

³ M. Ashour et al., “An Evaluation of the Impact of E-Verification on Counterfeit Agricultural Inputs and Technology Adoption in Uganda: Baseline Report.” IFPRI, 2015.

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KAKASA: CHALLENGES & ROADBLOCKS

The KAKASA program should overall be considered a success: it successfully introduced the scratch label concept to a broad audience of companies, agrodealers, and farmers, and achieved a significant level of brand penetration. If it had not been superseded by the AgVerify initiative (intervention #2, to follow), it is likely that the KAKASA program would still be in use for maize seed and other locally grown varieties. It is still being implemented by agrochemical companies, including Balton and Bukoola, and for certain imported horticulture seeds.

Despite the program's successes, however, KAKASA did encounter several challenges:

- **Confusion over the difference between “genuine” and “certified”:** The KAKASA labels were designed to guarantee that a product was *genuine* – that is, that the packaging was not counterfeit, had not been re-used, and came directly from the stated manufacturer. It did not guarantee that a product was certified, which is to say that its quality had been tested and verified by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). The presumption was that companies offering poor quality products would not want to participate, or if they did, that the customer would know where to place the blame for substandard quality – the agrodealers could not be accused of having adulterated the product. However, we heard about widespread confusion among agrodealers, farmers, and even some seed companies about what the label actually represents. If most of the companies using e-verification labels are producing good quality products, the distinction is mostly academic; but if some of the KAKASA-label products turn out to be poor quality, without a clearer understanding of what the label actually represents, this could significantly undermine the brand's reputation. There was also some lingering confusion about the purpose of the labels, despite the publicity campaign – the labels were often mistaken for mobile airtime scratch labels, and some farmers thought they would get free airtime for scratching. The labels themselves could perhaps have been bigger, and provided more information about what they represented and how to use them, for farmers who did not see the advertisements.
- **Some holes in the KAKASA system:** We heard reports of at least one company that was using KAKASA labels that was not properly registered with MAAIF, leading to the company's products being seized from agrodealers. This eroded confidence in the program, since they were instructed to trust the label. We also heard about occasional outages of the IT system that processed incoming verification codes and sent responses to consumers. One agrodealer estimated that the system was not working 40% of the time. Again, this eroded trust in the system – products that were indeed genuine were returning confusing error messages or no response at all, and farmers became wary that the agrodealers were trying to cheat them somehow. Several agrodealers reported that they instructed customers to scratch the label when they got home, instead of in the shop, in case the system didn't work. Given the vital importance of establishing trust in the brand, in a sector with shaky foundations, the system needed to be airtight – every hiccup had the potential to erode customer trust.
- **Unintended impact on agrodealers' relationship with consumers:** There were other aspects of the program that posed further risks to the agrodealers' relationship with their customers. In areas where KAKASA had been heavily publicized, farmers knew to ask for products with the label and were told not to accept alternatives. This is a positive development that speaks to the effectiveness of the public education campaign. However, since the KAKASA program was not industry-wide, there were many products available at the time that did not carry the e-verification label. As a result, some agrodealers reported that their customers would accuse them of selling 'fake' products, since some of their inventory was not labeled.
- **Missed opportunities to coordinate with industry:** The Uganda Seed Traders' Association (USTA) was incubating a similar program at around the same time the KAKASA program was launched. Called “Uganda Select,” the program was designed to incorporate both e-verification and seed quality testing. All verified quality seed from participating companies would be marketed under a new “Uganda Select” brand. USTA was hoping to get government authorization to provide independent quality certification. This never materialized, and the program was abandoned. The USTA leadership had advocated waiting to launch a program until the political climate had improved, but USAID chose to move forward with KAKASA and then AgVerify. There is no guarantee that the industry association would have ever fully supported the USAID initiatives, but it seems that an opportunity was missed to meet the industry where it was and try to build a program that everyone could support.

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INVENTION #2: THE AGVERIFY INITIATIVE

USAID and the Ag Inputs Activity were interested in going a step further than KAKASA and actively addressing the problem of poor quality seed on the market, by building the capacity of local seed companies. The Ag Inputs Activity was approached in 2015-2016 by three private companies (Chemiphar, UgoCert, and Heartland Global) who were interested in starting a joint venture to provide independent third party inspection services for seed companies. After an initial feasibility study, AgVerify was created as a private company owned by the three entities. Chemiphar is a Belgian company that provides testing and laboratory services, and has the only laboratory in the country that is accredited by the International Seed Testing Association. UgoCert is a Ugandan-owned company with experience in field inspection. Heartland Global is an American company that provided training on seed inspection/certification.

AgVerify was designed to go a step further than KAKASA, by adding independent third party inspection and testing of seed fields to guarantee that seed quality meets both Ugandan and COMESA standards. In theory, the National Seed Certification Service (NSCS) is mandated to inspect and certify all seed produced in Uganda, but in practice the NSCS is woefully understaffed – there were only 7 inspectors on staff in 2017, far too few to visit hundreds of fields multiple times per season, as the standards dictate. As a result, some of the seed that bears the official blue government inspection label may not actually meet the national seed quality standards. The blue labels themselves are also relatively easy to counterfeit, which is apparently done frequently.⁴



AgVerify would provide independent testing and certification, and the brand would be built on the guarantee that every product bearing the label had actually met the quality standards. The AgVerify label also included a scratch label, combining the KAKASA function of authenticating a genuine product with a new signal of independently verified quality. Seed companies would pay approximately UGX 150,000 per acre for a comprehensive package that included field inspections, seed sampling and testing, and the AgVerify-branded e-verification label. The program would also offer inspection and certification for seed company employees, to strengthen the companies' internal quality control systems. Eventually, AgVerify would lobby for government accreditation to provide official seed inspection and testing services, just as Uganda Select had hoped to do.

AgVerify was supported by USAID, which was interested in a private sector initiative to build local capacity to produce high-quality seed. The program received some funding from the Ag Inputs Activity and AgResults, a multi-donor initiative, including support for training of internal seed inspectors for the first cohort of participating seed companies. The program was also endorsed by MAAIF and UNBS. The initiative was widely publicized with support from USAID, including a national launch event and regional launch events in 24 districts. AgVerify was launched for the 2016B season, with inspection of maize, bean, and soybean seed. Five companies participated in the first season, and additional companies signed up in the seasons that followed.

On several levels, the AgVerify initiative was successful. The business model was viable, and provided a workable private sector alternative to government-managed seed certification. AgVerify trained seed company personnel across the industry, and for the most part delivered on its promises to its customers. We received mixed feedback from the seed companies on their experiences with AgVerify, though the consensus was that the company delivered on its promise of comprehensive seed testing and did help companies improve their internal controls.

⁴ Though at least some agrodealers know to test the blue label by trying to tear it.

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| COMPANY A | Did not participate in AgVerify. |
| COMPANY B | Enrolled in AgVerify in 2016B, two staff members received seed inspection training. Were informed that during the first season, AgVerify could only certify 400 of 1000 acres; the rest would only receive the standard government inspection. The company was not happy about this, having to explain why half of their product had the AgVerify label and half didn't. Alleged that their labels were seized and they were given termination letter from KAKASA program, urging them to participate in AgVerify. Would have preferred more industry involvement in the setup of the program – not happy about the way it was rolled out and implemented, without official endorsement from the industry and accreditation from MAAIF. |
| COMPANY C | Did not participate in AgVerify. |
| COMPANY D | Switched from KAKASA to AgVerify for the 2016B season. Very happy with their participation in the program, which helped them improve quality standards and production processes, such that today only 5-10% of their seed is rejected. Trying to put robust systems in place but still interested in replacing AgVerify with some other external auditor to help monitor production quality. Will probably also begin printing their own scratch labels as a replacement. |
| COMPANY E | Started participating in AgVerify for 2018A season, for inspection of bean seed and both hybrid and open-pollinated maize seed. Using AgVerify primarily for internal quality control purposes, and sent their own internal seed inspectors for training. 2018B was first season with scratch labels on packaging; decided to absorb the cost rather than raising prices. Satisfied with the program. |

AGVERIFY: CHALLENGES & ROADBLOCKS

As of 2018, the AgVerify initiative has ended and the company's fate is uncertain, after facing enormous resistance from both the seed industry and the government. The company faced myriad challenges in a deeply political industry, which can be broken down into three categories: problems with the way the company was set up and executed, resistance to change in the industry, and the political economy of the seed sector.

Programmatic and Operational Weaknesses

One immediate problem was the confusion that was created by the introduction of another e-verification label on the market. Following the success of the KAKASA program, farmers and agrodealers in many regions were used to the KAKASA label and knew to look for it. The public education campaign around AgVerify does not seem to have been quite as extensive, and so the distinction between the two programs was not clear. The AgVerify label (as seen at the top of Page 1) was very similar to the KAKASA label, and nothing expressly signaled that the label signified "certified quality" in addition to "genuine". The agrodealers we spoke to reported that farmers simply referred to any every e-verification label (KAKASA, AgVerify, KEPHIS labels from Kenya) as "Kakasa." This means that the message behind the AgVerify brand was not clearly transmitted – the combination of quality certification *and* genuine products. Indeed, the seed companies we spoke to seemed more interested in AgVerify as a way to improve their production processes than as a strategy for building consumer confidence.

The stakeholders that we interviewed also felt that the rollout of AgVerify was too rushed, with insufficient consultation with the industry. AgVerify was very similar to the abortive Uganda Select program, which the USTA was still trying to implement at the time. The association did not understand the rapid transition from KAKASA to another initiative, so similar to the Uganda Select program that was

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already in motion, and the industry leaders did not feel they had been sufficiently consulted. There was also an incorrect perception circulating in the industry that KAKASA had been sponsored by the Ugandan government and that AgVerify was created by USAID to undermine the Ugandan program, which certainly did not help. The seed companies were not happy about the confusion the new initiative generated with their customers, and some felt insulted by the AgVerify leadership – they did not like being told that their industry was a mess, full of poor quality seed that had not been inspected properly. USTA also wanted to be included as a co-owner of AgVerify, both to have a say in its direction and as a way of raising money to fund its activities, which did not end up happening.

Since the rollout of AgVerify was staggered, during the first seasons there were still some companies using KAKASA, while some products had AgVerify labels, which apparently caused additional confusion for farmers and agrodealers. Similarly, some of the participating companies did not have all their production fields tested by AgVerify at the start, so even under the same brand there would be some seed on the market with AgVerify labels and some without them, which led consumers to question whether the products were genuine or not.⁵ And there were some holes in the system that could be exploited. The AgVerify inspections did not extend all the way to the bagging and labeling process, which meant that companies could still potentially mix in seed from fields that hadn't been certified. There also continued to be blackouts in the system, which was run on the same platform as KAKASA. One company in particular had difficulties with their products in 2017, reporting a wave of customer feedback from farmers who were concerned that the products they purchased were counterfeit because the scratch labels were not working.⁶

There were also problems with the basic business fundamentals of the company. Some seed companies considered the service expensive, and complained that there was no real basis for the per-acre pricing. Several were loathe to incur the extra costs of independent testing and certification, when they were already required to pay for government-issued certification labels. AgVerify was testing to COMESA standards, which some seed companies said they did not need to bother meeting since they are not exporting their products. Technically, the Ugandan seed regulations were amended to conform with the harmonized COMESA regulations, but this attitude speaks to the reality for some seed companies that it is not necessary to conform with these standards to sell seed in Uganda – only to export it. In fact, one of the selling points of AgVerify for USAID and policymakers was that it would help the industry reach compliance with COMESA standards, in anticipation of full market harmonization, at which point many of the companies would find their market share threatened by regional seed companies that produce better quality products. But it is likely that the government will try to protect the industry from this eventuality as long as possible, and although some companies seem to be preparing for the long term, others seem content to continue making money while making the minimum amount of investment in quality.

There were also structural problems within the company: we were told that UgoCert, the field inspection arm of the company, was only being paid enough to cover its operational costs, and not making a profit from the business (or at least not nearly as much as the other two member companies). We were also told that UgoCert eventually stopped paying the field inspectors for their services, as a gesture of protest, and the dispute between UgoCert, Chemiphar, and Heartland Global eventually escalated to legal action. UgoCert lost its stake in AgVerify as a result, which meant that the company was no longer partially Ugandan-owned. This had ramifications for the company's efforts to gain official accreditation to provide quality certification, which are discussed further below.

Industry Opposition to Change

The main issue that AgVerify faced was that it sought to add structure and transparency to an industry that was not interested in being cleaned up. There were some companies interested in having their seed tested and improving their internal controls, to be sure, but there were many others who were content to continue operating as they had been. Absent more stringent enforcement of the official seed standards by the government, there is also no real incentive for the seed companies to improve their production practices. Several are knowingly producing seed that would not meet inspection standards. The seed companies themselves reported that 'other seed companies' were often the source of poor quality seed on the market.⁷

This same hypothesis was espoused by a World Bank report published in 2014:

⁵ It is still not clear whether this was because the companies were unwilling to pay to have all of their fields inspected until the program was proven, or because AgVerify lacked the capacity to inspect all of the fields at the start. Both seem to have occurred in some measure.

⁶ It was suggested, though cannot be verified, that the system was tampered with, and that this company was specifically targeted by opponents of the AgVerify program.

⁷ On the sources of counterfeit seed in Uganda: "According to the seed companies, the main sources of fake seed are seed companies, seed distributors, and retailers (seed stockists)." *The African Seed Access Index, Uganda Brief 2018 (Draft), June 2018.*

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A second hypothesis is that certain economic interests benefit from the status quo. Of the 25 firms trading, half a dozen may make a reasonable profit while the remainder make opportunistic profits when they can. Some may be involved, or complicit, in deceptive practices, such as selling counterfeit seed. Were the market to become more competitive, with inspections and enforcement, there would likely be a considerable shakeout of the less competitive players. There is no evidence that private firms are lobbying against more efficient policies but it could certainly be that they recognize the benefits of staying with the status quo and might campaign against reform if pressure for it mounted.⁸

Several of the companies that we spoke to also mentioned that government procurements have a distortionary effect on the sector, and contribute to the persistence of poor quality seed on the market. It is an open secret that much of the seed purchased for government programs such as Operation Wealth Creation (OWC) is of poor quality and fails to germinate – germination rates in 2017 were reported at 40%, far below the standard of 75-90% for certified seed.⁹ Unfortunately, this procurement system props up some of the less scrupulous seed companies, allowing them to operate without having to build a reputation for quality on the market. The government also frequently requests more seed than the companies have the capacity to produce, essentially inviting them to supply poor quality seed. AgVerify was designed to help with this problem, since in theory it would keep track of how much seed each company was producing, if all the fields were inspected. This would prevent the government from buying more from a company than they had actually produced (though technically the government should already know how much seed each company is producing, through its own inspection and reporting mechanisms). This is a known, sensitive issue in the seed sector, and there is not much USAID can do to address it, but it is definitely contributing to resistance to change in the sector, by providing a reliable outlet for poor quality seed.

Though there was official industry buy-in for AgVerify at the outset, this quickly began to erode. The companies that knowingly produce poor quality seed knew that they would not pass the stringent testing requirements, and started lobbying for AgVerify to be shut down, lest it become an industry-wide standard that they would be forced to comply with. Meeting those requirements would demand an investment of money and discipline that they were not interested in making, since they knew they would still be able to sell seed without it, including to government programs. There was a general impression that the seed industry association was protecting its weaker members by lobbying against AgVerify.

Now, one might ask, why was the seed industry trying to promote the Uganda Select program if they were happy with the status quo and did not want independent seed inspection? Our best guess is that the industry welcomed the opportunity to regulate itself, and run its own inspections – with no guarantee that the inspections would actually meet the robust, independent standards set by AgVerify. We are not able to make any conclusions about the true intentions/motivations behind Uganda Select from the interviews that we conducted, since our interlocutors knew that we were representing USAID and provided the official party line, so we can only speculate.

Government Resistance to Privatization

AgVerify was designed to be a private-sector provider of inspection and certification services that would be endorsed by the government, a model that has been successfully implemented in other countries. The goal was to receive official accreditation to provide inspection and certification, to remove some of the burden from the understaffed and under-resourced NSCS. Unfortunately, in addition to facing resistance from companies unwilling to change, AgVerify also encountered opposition from government officials who did not want their essential function outsourced to a private entity.

AgVerify was destined to run into opposition because of its implicit message: that the government's certification labels could not be trusted, because the seed is not inspected thoroughly. The government discouraged AgVerify from promoting its brand as a quality guarantee. According to MAAIF, the AgVerify-labeled seed should not be any better than seed with the government label, since it was technically 'certified' to the same standards. But of course this was a major selling point of AgVerify, that the quality of products with the label could actually be guaranteed. There was no way to advertise that AgVerify seed was better without implying that the government certification label cannot be trusted. This put the AgVerify in a difficult position, particularly since the company was trying to get

⁸ James Joughin, "The Political Economy of Seed Reform in Uganda: Promoting a Regional Seed Trade Market." Africa Trade Practice Working Paper Series Number 3, The World Bank, January 2014.

⁹ Except for seed that is delivered to regions of strategic importance to the ruling coalition, which apparently tends to be of better quality. "Operation Wealth Creation: Army fails to stop supply of fake seeds, sick animals," *The Observer*, 20 November 2017. <https://observer.ug/news/headlines/56051-operation-wealth-creation-army-fails-to-stop-supply-of-fake-seeds-sick-animals.html>; *The Seeds and Plant Regulations, 2015 (Draft)*

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endorsement from MAAIF to provide official certification services.

The relevant government officials also were not happy with AgVerify for publicly advertising that they were not fulfilling their responsibilities, even if they would admit to the government's shortcomings. In an ideal world, of course, MAAIF and the NSCS would acknowledge that they were under-resourced and welcome the introduction of a private company to support the government. But in practice the government officials were loathe to relinquish their mandate, budget, and authority, and maintained that certification was a fundamentally governmental function.¹⁰ Once UgoCert had left the company, the government also objected to AgVerify being completely foreign-owned. The ministry maintained that the information the company collected on seed production was sensitive, and shouldn't be in foreign hands.¹¹ AgVerify failed to get government accreditation to conduct inspections, which made it even more difficult for AgVerify to gain traction in the market. The seed companies would have to pay for two 'inspections', one for the blue government label and one for the AgVerify label.

There were other political forces at work as well. The seed sector is very politically connected, with close ties to influential government officials, including at MAAIF and OWC. Some government officials apparently also have ownership stakes in certain seed companies. As mentioned above, some in the seed sector were concerned about the omentum behind AgVerify because it could lead to the actual enforcement of seed quality standards. They did not want AgVerify to be granted official accredited status, and it is widely believed that they made their opposition known to influential figures in MAAIF and across the government, and that this contributed to AgVerify's failure to get accreditation to conduct seed quality certification. Though it is interesting to note that MAAIF wasn't interested in ceding its inspection mandate to Uganda Select either, so it is possible that this was a non-starter from the beginning, even if the seed industry had supported AgVerify.

AgVerify ran into other political hurdles: the involvement of UNBS apparently added political complexity, as there was uncertainty over which government agency was actually responsible for certifying seed quality and carrying out enforcement. In theory this activity falls under the UNBS mandate, but in practice the NSCS and the 'seed police' are technically responsible for monitoring and enforcing seed quality. There were also unforced errors: a particular incident was cited where AgVerify apparently took a complaint to the US Embassy, which was relayed to the President, which was relayed to MAAIF. It was felt that AgVerify should have gone directly to MAAIF with their complaint, and the government officials involved were offended (and likely very unhappy that the President and MAAIF leadership had been involved). We did not dive too deeply into these particular aspects of how the company navigated the political landscape, but this anecdote suggested that USAID needs to be more careful in how it navigates its relationships when promoting an ostensibly private company.

All of the relationships that AgVerify had built eventually deteriorated – with seed companies, with USTA, and with the government. The collective response to the initiative soured into acrimony, and at one point the Managing Director of AgVerify was arrested on false charges, as what seemed to be a warning to stop pushing for reform. Though there were still a few companies interested in paying for AgVerify's services, the company was disbanded in 2018. USTA briefly considered taking over the company's assets and providing industry-sponsored inspections, as it had hoped to do with Uganda Select, but it proved too difficult to come to an agreement with the remaining shareholders (Chemiphar and Heartland Global).

LESSONS FOR FUTURE INITIATIVES

What can USAID learn from these experiences? At the most fundamental level, both KAKASA and AgVerify established that an e-verification system could work in Uganda. Farmers, agrodealers, and seed companies all bought into the idea and the technology, and understood the general concept behind the labels. Some seed companies even reported a decrease in counterfeit issues since they started using the label, though this impression is difficult to measure. Unfortunately, the e-verification programs ran into significant stumbling blocks, and the participants' negative experiences may be an impediment to another attempt at e-verification in the future. Besides the specific programmatic issues mentioned above, here are a few more general lessons that can be drawn from the overall

¹⁰ For more on the political-economic forces at work in the seed sector: James Joughin, "The Political Economy of Seed Reform in Uganda: Promoting a Regional Seed Trade Market." *Africa Trade Practice Working Paper Series Number 3*, The World Bank, January 2014.

¹¹ We could not determine how strongly the ministry officials actually felt about this, or whether it happened to be another convenient reason why AgVerify shouldn't be given accreditation.

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experience.

1. Partnerships with the private sector will only succeed when there is a clear business case for companies to participate.

More of an effort needed to be made to explain the business case for participating in e-verification, which was not necessarily straightforward. The seed companies that we spoke to all acknowledged the problem with counterfeit products on the market, and more or less understood the concept behind e-verification. However, it is very difficult for the companies to quantify the impact of counterfeits on their bottom line. Nobody (including the government and USAID) has a clear picture of how many counterfeit products are on the market, how many are copies of genuine products as opposed to poor quality alternatives, and how much they undermine sales of legitimate products. The companies do not really know how many of their own products are counterfeited; some receive isolated reports from the field when counterfeits of their products are spotted, but the scope of the problem is nearly impossible to fully quantify without a robust surveillance apparatus. As a result, it is very difficult for the seed companies to do a cost-benefit analysis for e-verification labels. The labels represent a fixed cost per package, while the benefit is largely intangible – without knowing exactly how much their business is impacted by counterfeit products, the benefit of the labels is primarily that it helps build their reputation for quality with consumers, while combating the problem of counterfeits more generally. The value of this is very difficult to quantify, and can be a hard sell for companies that are already facing very tight margins on their products.

The companies were very sensitive to cost. The blue government certification label costs 230 shillings per pack, while the e-verification labels cost 60-100 shillings per pack. These costs may seem trivial, but because the seed sector is so competitive, the companies could not raise their prices to cover the cost of the labels, and had to absorb the costs. The companies were particularly sensitive to the costs for labeling smaller package sizes (such as 1-2kg of seed) where their margins are even lower. These are the package sizes that smallholder farmers typically buy, and therefore should be the highest priority for e-verification programs.

The companies were not making full use of the potential benefits of the e-verification system, which could have mitigated some of the costs. The labels are a significant potential source of supply chain data, which can be used to analyze which products are most popular in which regions. The system can also be used for inventory management, to track shipments to agrodealers and monitor stock levels. This aspect of the system could have been better explained to the companies, in particular the potential savings it could generate.

In this instance, the seed companies were being encouraged to incur a cost that would generate a positive externality: their cost-benefit balance may have been difficult to calculate, but their participation contributed to the overall effort to combat counterfeits. The more genuine products with e-verification labels, the more awareness of the program there will be among farmers and agrodealers, and the easier it will be for consumers to identify counterfeits (setting aside the issue of companies with poor quality seed purchasing e-verification labels). In this particular case, it may have been prudent for USAID to continue subsidizing the program, since it was providing a public good, at least until the companies could gather more experience with the benefits of the program.

On a similar note, the programs did not build in any incentive for the agrodealers to participate, or to recommend products with e-verification labels. They were expected to explain to farmers how the label works, and to ensure that the label was scratched. The agrodealers had some incentive to learn and engage, since they have a vested interest in building trust with their customers. But in order for the system to truly function properly, every customer needed to understand the label, and every label needed to be scratched, which would have required more active participation from the agrodealers and which would have likely required some encouragement.

2. Be mindful of potential unintended consequences when trying to build trust in a system.

Building trust in the seed sector was the backbone of KAKASA and AgVerify – trust in the packaging, and then trust in the quality of the product itself. The Ugandan farmers are naturally wary of the seed and agrochemicals available on the market, and their trust must be earned. Unfortunately, the KAKASA-AgVerify saga may have ultimately undermined farmers' trust in e-verification programs. As mentioned above, the e-verification system was sometimes down, which meant the scratch labels sometimes generated an error message or no response at all. The KAKASA program did not screen for quality, yet there was a widespread perception among farmers that the label signified a quality product. After a prolonged sensitization campaign, the farmers in some regions learned to ask for the KAKASA label, and now it is no longer widely available. Companies that stopped using the labels because of cost considerations or who switched to AgVerify may have suffered a reputational cost. Unless USAID publicizes that AgVerify has ended, consumers may also wonder why companies are no longer using the AgVerify labels either. Agrodealers will have to have challenging conversations with their customers

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about why they are no longer stocking products with e-verification labels.

In sectors such as this, where building consumer trust is vital, and where consumers' grounds for distrust are valid, USAID has to be very careful with the way it builds and executes programs. It is not ideal that in this case two separate programs were rolled out in succession, both of which are now effectively over. It will likely be more difficult to roll out another e-verification program in the future, as there will be public skepticism to overcome, and seed companies should rightfully be wary of investing money and brand capital in an initiative that may not last.

3. Good ideas will fail if the key stakeholders involved are not willing to implement them.

These programs were not Uganda's first foray into e-verification – as mentioned above, a program was piloted by Crop Life and IFDC back in 2012, and failed. This should have been a red flag for USAID, even if the pilot was focused on chemicals and not on seeds. Nevertheless, the KAKASA program could have succeeded. The programmatic issues mentioned above were not insurmountable, and the initiative was broadly successful (indeed, it is still being used by some of the chemical companies). It did not address issues of quality and quality certification, but perhaps it would have been enough progress simply to introduce the e-verification concept to the market and ensure that it was widely understood.

The bigger problem was USAID's approach to AgVerify. After the Uganda Select program failed to get accreditation, the industry association advocated waiting to implement a similar program until the political climate had improved. USTA may have been stalling, but they were right about the political climate – even with USAID's involvement, AgVerify failed to get accreditation for certification and testing. As mentioned above, there were missed opportunities with the rollout and messaging of AgVerify, which could have enjoyed more industry goodwill had it been rolled out in a slower, more consultative process. We were unable to determine whether the speed of the process was driven by AgVerify or by USAID, but given USAID's support for the company it was in a position to require that industry be more thoroughly consulted. However, even if the implementation had gone more smoothly, and the differences of opinion between AgVerify and the industry had been hammered out, it is unlikely that the company would have succeeded.

The downfall of AgVerify was ultimately a failure of political economy. Instead of meeting the seed sector where it was, and understanding the potential roadblocks to reform, AgVerify was pushed through. The company would likely have been more successful if it had narrower ambitions – if it was merely a way to help companies produce quality seed, as was the original objective from USAID, rather than trying to establish a new standard of quality on the market. There were several companies interested in engaging AgVerify solely as a way to improve their production processes. Indeed, if the company had not tried to get official accreditation and create a new label and brand, and had kept to providing inspection services alongside the KAKASA program, AgVerify might still be operating. But USAID/AgVerify tried to fix several problems in the sector at once, and ran into an industry that was not willing to change and government officials who were not willing to force them. It presented a solution to a problem that nobody was actually interested in solving.

At the end of the day, it would appear that certain seed industry players effectively colluded with government officials to torpedo the AgVerify initiative, because both saw it as threatening to their way of doing business. This makes it highly unlikely that USAID will be able to implement a similar program in the near future. Though it is important for USAID to engage with the private sector, and to encourage private sector solutions, this must be done with caution in sensitive and highly politicized sectors like this one. There is also a careful balance to be struck between allowing the company some autonomy and ensuring that the initiative is being structured properly, particularly when the full weight of a USAID endorsement is being thrown behind it.

What to do next?

The seed industry participants stressed that however the official certification process evolves, it needs to be uniform – no more confusion about what different labels represent, and which labels are required on which types of products. As explained to us, the official position of USTA is that the industry is in agreement that the seed sector needs to be aggressively regulated, and that any changes to the regulatory framework need to involve all the players – seed companies, research institutions, agrodealers, and farmers. USTA still hopes the government will support private sector-led quality certification; we would recommend having multiple private sector providers, to generate some competition in the market and create a bulwark against potential corruption. If private sector certification does come to pass, one seed company wisely recommended that the government and/or an independent auditor be charged with monitoring the private inspection companies.

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The system currently being used by the Kenyan government was frequently mentioned and pointed to as the ideal. The Kenyan system effectively combines KAKASA and the blue government label: the KEPHIS inspection label comes with a built-in e-verification label, eliminating the need for a separate label and keeping costs down. The success of that model also depends on the quality of the government inspections, which is more of a long-term objective, but at minimum putting a scratch label on the official blue government label would make them more difficult to counterfeit, and would re-introduce the e-verification concept across the whole sector at once. This may be one option worth discussing with MAAIF as an intermediate step forward.

Another pilot of e-verification labels is launching in 2019. The World Bank Agriculture Cluster Development Project is implementing an e-voucher system for subsidized seed, and seed eligible for purchase under the program will carry an e-verification label. The e-verification program will be managed by the National Agricultural Research Organization (NARO). The labels will be used to track participation in the program, and the information collected will be used in the evaluation of the e-voucher system. The World Bank's experience with this program may provide more insight into the potential uses of the labels, though one hopes the ACDP labels will not prove confusing, since they are not meant to signal that a product is genuine in this particular use case.

It seems unlikely that another private sector certification initiative would be well-received in the near term, but we would recommend having continued conversations with government officials about their perspective on KAKASA/AgVerify and what they see as potential paths forward. USAID is already aware of the robust private sector-led certification programs in Zambia and South Africa, and has considered a study trip for Ministry officials to learn more about these programs. We would suggest that an evaluation of these programs and their successes/failures might be warranted, if they haven't already been studied. Finally, one major takeaway from the AgVerify experience should be that several companies demonstrated interest in improving their internal quality controls. This is an area where USAID could support the sector without drifting too close to politics, at least until the government is ready to engage on changes to the inspection and certification process.

ABOUT MSM

The USAID/Uganda Feed the Future Market System Monitoring (MSM) Activity is developing new approaches that assess the impact of market facilitation activities on systemic change in the Ugandan agriculture sector. The Activity is a joint implementation by the Massachusetts Institute of Technology and The George Washington University. Contact us at msm.uganda@mit.edu.
Photo: Courtney Blair.