Case Study: The African Seed Access Index (TASAI)

A new continent-wide benchmarking tool for Africa's crop seed sector is piloted, launched, and supported by other donors

TASAI
THE AFRICAN SEED ACCESS INDEX

Introduction

High quality seed of modern varieties is arguably the cornerstone of agricultural productivity improvement globally. The enabling environments for seed production and distribution in most countries in sub-Saharan Africa are undeveloped relative to countries in other regions of the world. In sub-Saharan Africa, crop yields have remained stubbornly low, generally only a fraction of global averages.

The Problem/Challenge

Private sector stakeholders in the crop seed sector in Kenya clearly realized that changes in the enabling environment needed to occur if farmers were to have better access to higher quality seed. In some countries on the continent, change was already occurring and seed sectors were evolving. Benchmarking against best practices would be important.

The challenge was that there was little evidence, particularly evidence that was transparent and easily accessed by interested parties, of where various African peer countries stood on the seed sector development spectrum, or how these countries' environments were changing over time. This dearth of information meant that it was difficult for policy makers in various countries to understand each other's relative strengths and weaknesses, identify best practices, and learn from the countries making strong progress. It also meant that private sector players, who held huge potential for scaling the availability of high quality seed to smallholder farmers, had little evidence with which to advocate for policy change, and that donors had little firm ground to stand on when trying to benchmark sectors and progress.

The Starting Point

At the inception of the project work, evidence about various national crop seed sectors in sub-Saharan Africa was extremely challenging to access. Understanding simple metrics such as the effectiveness of government efforts to stamp out fake seed, or how long it took to import or export seed, became material obstacles to agricultural development.

Information could be gleaned and consolidated from hundreds of individual studies, but often the data gathered this way was difficult to compare. For example, the tally of breeders in one country might include all breeders, even those who were retired or no longer carried out breeding activities due to management responsibilities, while in another country the tally would count only active breeders.

Furthermore, information provided in studies was frequently sourced only through interviews with government officials, with little attention paid to stakeholder – particularly private sector stakeholder – agreement/disagreement with, or perceptions of, that same information. For example, a study might interview government officials and report that a country had updated its seed regulations in the last five years, but not talk to other stakeholders who would have added that the regulations, while updated, had not yet been implemented.

Numerous stakeholders – policy makers, regulators, private sector players, trade associations, donors, civil society groups, and more – often sought the same information and invested significant amounts of time to collect it, only to start again, from scratch, in a later timeframe. It was an extremely tedious task to benchmark starting points, and equally tedious to quantify progress.

The Journey

The Director of Agri Experience Ltd, which was selected to implement the Crop Seed work within KMT's Market Assistance Programme (MAP) project, had been holding discussions for several years with Dr. Edward Mabaya of Cornell University and Market Matters Inc.[1] about the need for a diagnostic tool such as The African Seed Access Index (TASAI). These discussions were not tied to any formal consulting work for Agri Experience, but were undertaken as part of Agri Experience's corporate social responsibility goals. The discussions had deep roots in stakeholders' needs for good evidence for policy making in national seed sectors. It was agreed that steps needed to be taken urgently to close the gap between the huge need for benchmarking data and the dearth of that data.

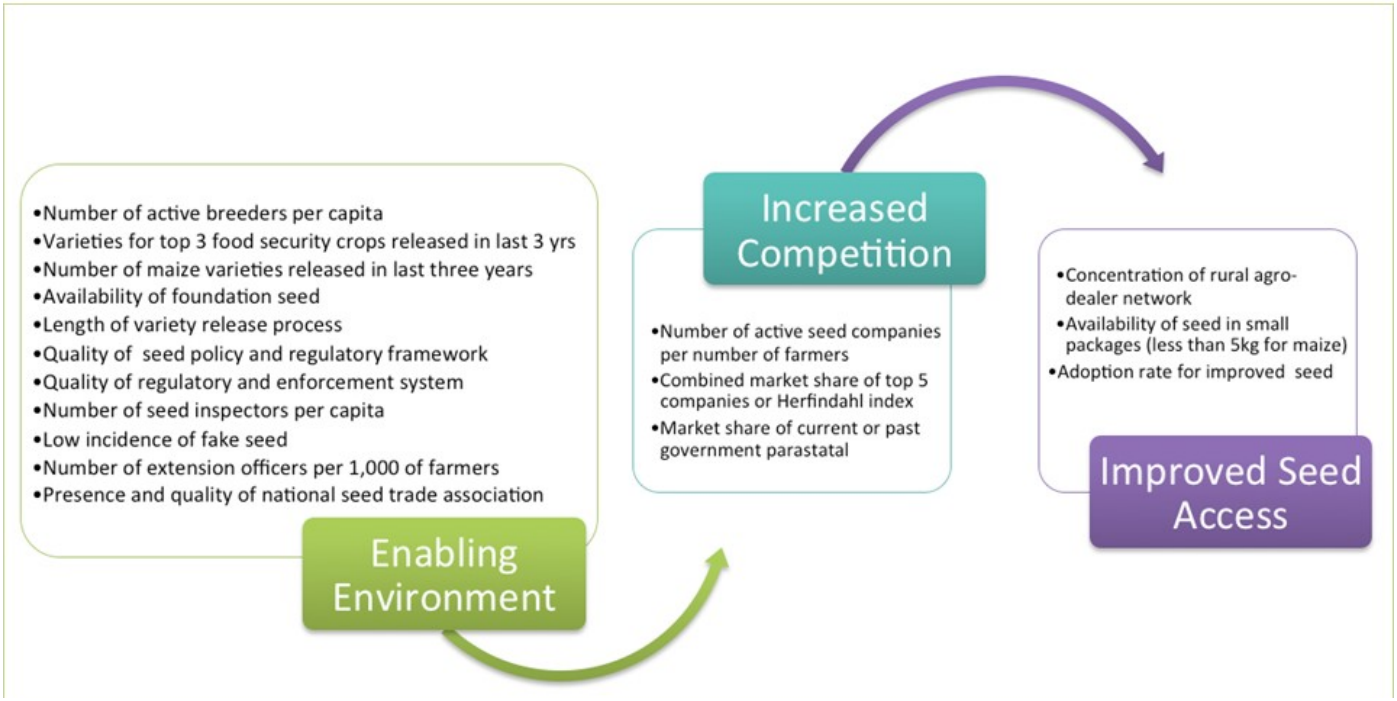
The early stage work by Market Matters Inc, before the entry of KMT, focused on: 1) surveying a broad range of industry participants to understand what variables should be measured and tracked if an index was developed; and 2) studying and conducting interviews to learn about other indices in order to design a robust and accurate methodology and index.

Eventually Market Matters, Inc., designed an index which contained 16 criteria considered vital to an enabling environment for a crop seed sector in sub-Saharan Africa. Importantly, the design of the index included not only fact-based factors, such as concentration of market share, but factors based on the opinions of seed company stakeholders, such as the seriousness of government efforts to stamp out fake seed.

The TASAI Theory of Change, and how the 16 criteria proposed for measurement link to the change process, is illustrated in the diagram below.

[1] Market Matters Inc is an independent, not-for-profit, international development organization with offices in USA, Kenya and South Africa. Dr. Edward Mabaya, the Principal Investigator for TASAI, is a Senior Research Associate in the Charles H. Dyson School of Applied Economics and Management at Cornell University and the current president of the African Association of Agricultural Economists.

TASAI Theory of Change



During extensive dialogues between Kenya Market Trust (KMT) and Agri Experience to design the crop seed work in the MAP project, KMT's resident Market Systems Development advisor repeatedly honed in on the lack of evidence in the sector. Upon hearing about the early TASAI work, he suggested supporting the market actor, Market Matters Inc, to do a pilot – taking TASAI from its existence on paper to an actual field-based reality – and asked Agri Experience to flesh out a possible approach to include in its workplan. The key advantage of this directive was that Kenya would be one of the pilot countries, thus providing a much needed diagnostic tool for Kenya while concurrently laying the groundwork for a possible, much larger, index.

The key Market Systems Development principle at work in this decision was the recognition of the importance of using evidence as a tool to advance policy formulation and implementation. By informing national players of best practices on the continent in addition to weak spots in their own seed systems – and making the results transparent to everyone, including donors – it was felt that government decision-making would become more practical, informed and time-sensitive.

Implementation

Market Matters, Inc. proposed a four country pilot, to include Kenya as the key country of interest for KMT. Uganda was included as a close and important neighbor; South Africa was included as an example of a highly successful seed sector; and Zimbabwe was included as an example of a seed sector in decline but still very strong in some areas. For a pilot, it was hoped that having a comparative set of data from four countries would illustrate the benchmarking potential of TASAI.

To conduct the country studies, Market Matters, Inc. elected to work with local investigators, but designed the full approach to be used by the teams, including the assessment tools, data bases, and more. For the initial pilot in Kenya, a capable, proven team of consultants was chosen, and also tasked with assessing a number of addressed issues for the Competition Authority of Kenya (CAK), a government entity with which KMT was partnering with to try to address issues of non-competition in selected markets in Kenya, including crop seed. Thus the initial study met the needs of two separate KMT project objectives: to provide the Kenya pilot for TASAI, and also to conduct a competitive assessment of the crop seed sector for the CAK. Trying to meet two objectives with one study proved to be somewhat problematic, however, as discussed later in the section on lessons learned.

Results

The results have far exceeded expectations. In less than three years since its launch covering the four pilot countries, TASAI has:

- become a 13 country index (in 2017), covering DR Congo, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Senegal, Tanzania, Uganda, Zambia, and Zimbabwe.
- received funding for an additional eight countries to be added in 2018, expanding the coverage to Burkina Faso, Burundi, Cote d'Ivoire, Liberia, Mali, Nigeria, Rwanda and Sierra Leone (see map in Annex I);
- been formally referenced by donors such as USAID, DfID, Syngenta Foundation for Sustainable Agriculture, African Development Bank, and the Alliance for a Green Revolution in Africa (AGRA);
- been awarded over USD $1.9 million in additional funding (over 8 times the total multi-year KMT MAP project funding);
- sparked ongoing conversations with the African Development Bank as well as other major donors;
- been presented twice in workshops at the World Food Prize symposium;
- been highlighted in two TEDx talks in Washington DC (2016) and Johannesburg (2018); and
- received extensive national government, seed industry, policy maker, and media awareness.

A map of the current geographic coverage is included at the end of the case study.

At the time of the launch, public media awareness and coverage was extensive, and included media outlets such as BBC, The East African, and SciDevNet. The media was quick to grasp the significance of TASAI.

"Kenya is ahead of its regional peers in making seeds accessible to smallholder farmers, but scores poorly in its fight on counterfeits a new seed index has revealed.

The index, dubbed The Africa Seed Access Index, TASAI, the first of its kind in Africa, dedicated to monitoring the state of Africa's rapidly evolving seed sector, issued detailed scorecards on seed development and distribution in Kenya, Uganda, South Africa and Zimbabwe, with a focus on increasing choices for smallholder farmers."

"Fake Seed Chokes Farms and Earnings." ***Farmbiz Africa*** **9 April 2015**

"The African Seed Access Index (TASAI) monitors the state of the continent's seed sector and highlights problems that prevent seeds reaching farmers… Dr Mabaya told BBC News: "We thought that we needed an instrument that allowed you to run a very quick diagnostic test across the sector in a way that informed stakeholders, such as decision-makers and investors…The seed delivery system is only as strong as its weakest link, so if there is anyone along that value chain not doing their job or there is a bottleneck then seed does not find its way to the small farmer."

"Africa Seed Index Raises Bigger Yield Hopes for Farmers." ***BBC News*** **13 March 2015**

"Launched yesterday to monitor the state of the continent's seed sector and highlights problems that prevent seeds reaching farmers. The African Seed Access Index (TASAI), as it is called, will help improve smallholder farmers' access to a wider array of modern, more productive food crop varieties. Organisers hope the scheme will shake off "decades of complacent government seed monopolies". Uganda, Zimbabwe, South Africa and Kenya featured in the first assessment."

"Launch of The African Seed Access Index (TASAI)." ***University of Cambridge, Cambridge Africa,*** **13 March 2015**

"TASAI is the first ever initiative dedicated solely to monitoring the state of Africa's rapidly evolving seed sector on seed development and distribution in Kenya, Uganda, South Africa and Zimbabwe, with a focus on increasing choices for smallholder farmers…

Dr. Mabaya added that TASAI was inspired by the fact that money—from governments, private sector players and donors—is swiftly flowing to agriculture projects across Africa, but information available to guide investments is often anecdotal. "There are enormous opportunities to develop sustainable seed production capacity in Africa," he said. "But investments—whether in the form of private capital or development aid—are often constrained by a poor understanding of what each country needs."

"Launch of the African Seed Access Index (TASAI)." ***The Zimbabwe Sentinel,*** **17 March 2015**

"Manque de choix, paquets trop gros et trop chers, une étude souligne l'inadéquation du secteur des semences aux besoins de l'agriculture en Afrique, en particulier des petits exploitants, qui bride les rendements. L'étude a été conduite dans quatre pays (Kenya - Ouganda - Zimbabwe et Afrique du Sud) et se poursuit actuellement jusqu'à

couvrir 20 pays du continent d'ici deux ans, indiquent les responsables de Tasai dans un communiqué.

Surtout, remarque Ed Mabaya à Nairobi, "beaucoup d'argent est injecté dans le secteur agricole en Afrique mais l'information pour orienter ces investissements est souvent parcellaire et ignore quels sont les besoins de chaque pays."

"Une Étude Pointe L'inefficacité du Secteur des Semences." *Agence France Presse*, 12 Mars 2015

"Seed delivery systems are vital. Getting new seed varieties from breeders to farmers is important for agricultural productivity and sustainability. In a pilot study TASAI found that in some African countries, the time for seeds to reach farmers – and the number of seed varieties released – differed significantly. For example, in a three-year period, South Africa had released a couple hundred varieties of maize, as opposed to Uganda, which had released only 12."

"Seed Index May 'Future-Proof' Farming" *University of California Seed Observer*, 13 March 2015

"TASAI is built on in-depth country studies that are conducted by local research teams. The teams consist of leading academics paired with seed industry professionals to ensure both rigor in the research methods and access to the right information sources and data."

"Monitoring and Evaluating a Complex Seed System: The African Seed Access Index." *Economics that Really Matters*, 11 May 2015

"Africa has made progress in its efforts to provide improved seeds to farmers but the continent still faces numerous challenges that hinder smallholder farmers' access to seeds, according to a new index.

According to a statement from TASAI, a pilot assessment conducted with the index showed uneven access to seeds. For example, whereas it takes an average of 12 months for new seed varieties to reach farmers in South Africa, the duration for Zimbabwe is almost two years and for Kenya and Uganda it is three years."

"New Index to Develop Seed Sector Reveals Challenges." *SciDevNet* , *© Flickr/Gates Foundation*, 23 April 2015

TASAI's analysis rates Kenya as poor in industry competiveness as government-controlled companies still account for the lion's share of seed sales, a situation that can discourage new start-ups from entering the market.

But South Africa, Uganda and Zimbabwe were rated excellent in this category as their governments have largely got out of the seed business. In South Africa, seed production appears to be thriving, but the country scores poorly when it comes to making seeds accessible to smallholder farmers."

"Seed Organisation to Launch New Drive in Africa." ***The East African, 14 March 2015***

"The index is important because there's a lot of money flowing into African agriculture projects and it's more likely to improve seed availability if investors can channel funds to areas that are struggling. Kenya has only 68 crop breeders for the four major crops serving six million farmers. This could be a reason why Kenyan farmers often lack access to improved varieties of staple crops such as maize, cowpea, and sorghum and yields are low."

"Africa's First Ever Seed Access Index." ***African Review of Business and Technology,*** **April 2015**

Dissemination of TASAI studies started in earnest in 2017, when information beyond the initial pilot studies was made available on the TASAI website. Prior to year-end, country briefs had been downloaded over 650 times. To date, over 16,000 site sessions have occurred on the TASAI website.

With the upcoming round of additional publicity, linked to the expansion of the index from the initial four pilot countries to more than a dozen, it is certain that media attention – and that of key stakeholders who are informed by media – will intensify.

Perhaps more important, however, than media and dissemination is the track record of how TASAI is changing behavior in the sector. The impact is fairly widely felt, as indicated by the key examples given below.

Informing sector wide reform Stakeholders in the seed industry in DR Congo, upon being briefed about the TASAI findings for DRC relative to other countries, expressed their intent to utilize the TASAI DRC findings to inform the development of a sector-wide seed strategy for selected provinces in the country – the first in recent years.

Market exploration and investment opportunities by seed companies Seed companies from Africa and India have expressed interest in exploring investment opportunities in a number of African countries, including DRC, Ethiopia, Uganda, Zambia and Zimbabwe. These companies are actively utilizing the relevant TASAI country reports to inform their investment decisions. For example, the latest issue of Seed Times (April 2018), a trade magazine of the National Seed Association of India, published TASAI country briefs for Zambia, Zimbabwe, Kenya and South Africa.

Monitoring and evaluation tool for the public sector Seed regulatory authorities have quoted TASAI findings as confirmation of changes in their own country as well as their perception of the seed industry environment in neighboring countries.

Race to the top Stakeholders such as seed trade associations are looking at best practices from other countries and actively working to learn more about and implement them. For example, the Seed Trade Association of Kenya visited their peer institution in South Africa, SANSOR, to learn about how they run the association, protect seed quality, and more.

Shedding light on the differences between prescribed procedures and reality It has become more difficult for regulators and other government practitioners to claim that they do not have data on private sector perceptions and experiences. For example, looking at the variety registration process in Ghana, TASAI findings have highlighted the significant gap between the defined government procedures on registration of new varieties and the actual experiences of the seed industry.

Lessons Learnt & Future Considerations

TASAI's success has been strongly driven by several key factors. It is recommended that future similar activities build upon these, and other factors.

1. The Principal Investigator for TASAI is a young African economist (approximately 40 years of age when KMT funded the TASAI pilot), but one with an impeccable international education and a very strong host university with a specialization in agriculture. Having TASAI be African-led is essential for dialogue with African policy-makers and stakeholders. The relatively young age of the Principal Investigator will help to ensure longevity, and offers the opportunity of a career defining project for the economist.

2. A lengthy period of up-front dialogue, investigation, and stakeholder inquiry was in place prior to the entry of KMT. This laid the foundation for a substantive, and largely very effective, pilot program versus a hastily conceived pilot which would not have resonated as well with the intended audience, or subsequent donors.

3. The utilization of local experts to conduct the studies created a link between the lessons of TASAI and the host country, with subsequent dialogue occurring outside the parameters of TASAI and involving well informed nationals.

4. The level of commitment by KMT was sufficient to get the pilot off the ground. In the first year, four countries were profiled, and in a subsequent year two country profiles (Kenya and Uganda) were profiled. A lower level of funding would have severely jeopardized the integrity of the pilot.

5. With each round of studies, TASAI has been modified to incorporate selected feedback from researchers, policy makers, seed companies and other stakeholders. For example, several indicators were dropped or modified while a few were added. This flexibility by donors and implementing partners has been key to keeping the tool current and relevant to the industry. For example, an indicator related to climate smart varieties available to farmers was added post-pilot.

Despite the strong success to date of TASAI, there are key lessons to be considered as recommendations for the future. Some of these lessons relate to the path for making TASAI stable and respected on a continental level, looking beyond just Kenya.

1. It will be important, to fully assess KMT impact in the crop seed sector, to continue to support TASAI updates for Kenya for a minimum of two additional cycles, and more if possible. A key benefit to the TASAI information related to Kenya is the longitudinal nature of the index: true value is gained when updates

in the index begin to reflect changes made in the sector. For example, the current TASAI data for Kenya does not reflect company responses in the wake of the roll out of the scratch-off label program, or the gazetting and initial steps towards implementation of the new regulations. Changes in other important measures such as industry concentration and parastatal presence will continue to be relevant for the next decade, and possibly beyond.

2. Trying to combine the TASAI Kenya study with a study for another KMT purpose was ultimately suboptimal, as it did not save significant monies and delivered a pilot report for TASAI that had some notable challenges. Some of these challenges were able to be corrected in the updated study, but significant time was lost by then, and credibility potentially threatened.

3. Key elements of the work that would have been much improved with additional funding include more and better dissemination, and the earlier introduction of countries such as DR Congo, which were ultimately dependent upon another donor entering the funding circle – albeit late.

4. A key benefit of a tool such as TASAI is the increased understanding it can bring to public-private dialogue. Joint forums to review results, and decide upon key priorities for future change, will be very useful but most likely will need to be convened by a donor in the absence of existing public private dialogue.

5. Agriculture is a very long term proposition, and results of decisions are often observed over the course of a decade rather than a few years. TASAI is still in its infancy, with only the pilot countries having undergone study for more than one year. For the future, a project with a longer lifespan than the KMT MAP project (which had stable funding for only three years of the life of the seed work) will be a more suitable vehicle for launching and sustaining an effort such as TASAI.

Postscript: *On July 18, 2018, Dr. Edward Mabaya was invited to speak at the upcoming UN General Assembly meeting about the transformational power of seed in Africa.*

ANNEX I: Map of TASAI coverage