

WORKING PAPER

Seed Policy Harmonization in SADC and COMESA: The Case of Zimbabwe

Co-authored by Yuan Zhou and Katrin Kuhlmann¹

Syngenta Foundation for Sustainable Agriculture

September 2015

The paper is part of a series of research on regional seed policy harmonization in Africa, to assess the process for implementing a seed regulatory system that can better deliver improved seed varieties to farmers. It is part of Syngenta Foundation's Seeds2B initiative.

Seeds2B 

The Seeds2B logo consists of the text 'Seeds2B' in a brown, sans-serif font, followed by a circular icon containing three green leaves.

¹ Yuan Zhou is Head of Research and Policy Analysis at Syngenta Foundation for Sustainable Agriculture, Basel, Switzerland, yuan.zhou@syngenta.com. Katrin Kuhlmann is the President and Founder of the New Markets Lab, Washington DC.

Executive Summary

High-quality seed is fundamental to enhancing agricultural productivity, food security, and rural livelihoods, and the legal and regulatory environment is a significant factor impacting the availability and accessibility of improved seed. Although national and regional frameworks governing seed have been strengthened, implementation of these frameworks is a critical challenge throughout sub-Saharan Africa. This case study on Zimbabwe is the second in a series by the Syngenta Foundation for Sustainable Agriculture and its partner the New Markets Lab to assess regional seed harmonization throughout sub-Saharan Africa, which holds great promise for strengthening seed regulatory systems so that they can better respond to market demands and deliver improved seed varieties to farmers. These case studies are part of a larger project on regional seed harmonization launched by the partners in 2014 that includes a comparative assessment of regional harmonization efforts in seeds and case studies focused on how individual countries are implementing regional seed frameworks. As a next step, the partners will conduct test cases to work through the regulatory process in several of Africa's regions. Three case studies will be done in total; one examining Kenya (a member of EAC and COMESA), another assessing a country in ECOWAS, and this case study on Zimbabwe (a member of COMESA and SADC). All of the case studies in this series assess the legal and regulatory framework on seed at the country level, highlight progress on implementing regional seed protocols, and identify recommendations on how to support efforts already underway to strengthen the seed enabling environment to develop an inclusive and effective seed system. Although each case study can stand alone, the series will enable comparison of regulatory practices across several countries, which will strengthen understanding of how implementation of regional seed initiatives can contribute to a well-functioning seed regulatory system.

This case study focuses on the legal and regulatory environment for seeds in Zimbabwe, as a critical factor in ensuring that sufficient high-quality seed is available in the market. It assesses three aspects of the legal and regulatory system: variety release and registration, certification, and cross-border trade. Company interviews are included below and provide a method for examining Zimbabwe's legal and regulatory system in practice. Based on the authors' findings, Zimbabwe has developed notable regulatory best practices in some areas (for example variety release and registration and certification) that could perhaps be applied in other areas in which processes are more complex (cross-border trade) in order to increase availability and access of high-quality seed.

Overview of the Zimbabwean Seed System

Zimbabwe's agricultural sector has long been central to the country's economic development, and nearly 70 percent of the population relies upon agriculture for livelihood directly and indirectly. Prior to land reform in 2000, Zimbabwe's agricultural GDP had

increased steadily every year and reached 1.6 billion USD (in constant 2005 terms) in 2000, accounting for 18 percent of the total GDP. Fast-track land reform program began in February 2000, characterized by reallocating land from large farm owners and redistributing it in the form of small-scale holdings. The effects of Zimbabwe's land reform are far-reaching and well documented, and one effect of land reform has been a contracted seed sector in Zimbabwe. Between 2002 and 2004, many seed producers moved, and the government began to import seed as a result. Commercial seed production on large farms was impacted, and small-scale seed growers could not produce sufficient quantity of seeds to meet domestic demand. Since the land reform in 2000, demand for high quality seed has only increased, however (Mujaju, 2010). Approximately 28.7 percent of farmers access seed from regional seed distributors or seed company depots, 21.1 percent from government programs, 18.4 percent from farmers and farmer groups, 15.6 percent through NGOs and relief programs, 14.7 percent from rural stockists, and 1.5 percent through contractors (TASAI, 2015). Of all the staple food crops, maize is highly critical because of its significant role in food security. It is estimated that the Zimbabwe market requires at least 50,000 tons of high quality hybrid seeds per annum (Mujaju, 2010). Because the seed industry struggles to meet local demand, imports are much more of a factor.

Zimbabwe's seed sector has historically included private seed companies, and several large companies dominate the market. As evidenced by the number of breeders, varieties released, quantities sold per season, and number of active companies producing and marketing the seed, maize seed is dominant. Zimbabwe's seed market is growing steadily, with major support of the private sector in the areas of development and varietal introduction, elements of certification, and production and marketing of seed. The following subsections provide a brief overview of Zimbabwe's seed market, while the next section describes in more detail the Zimbabwean legal and regulatory process for seed registration, certification, and cross-border trade.

Plant Breeding and Varietal Improvement

Both seed companies and public research institutions carry out plant breeding in Zimbabwe. Seed companies are leading breeding efforts for the major crops (maize, cotton, soybean, and sorghum), and about 80 percent of the active breeders are employed in the private sector (TASAI, 2015). Approximately ten seed companies have their own breeding programs, while the rest depend upon national breeding programs or international breeding organizations like the International Maize and Wheat Improvement Center (CIMMYT) and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) to get new varieties and foundation seeds. The national institutions most involved in research and breeding are the Crop Breeding Institute (CBI), the Cotton Research Institute (CRI), and Zimbabwe Technological Services – Scientific Industrial Research & Development Center (ZTS-SIRDC). Maize seed dominates the breeding efforts; currently there are 21 active maize breeders across the private and public sector (TASAI, 2015). Overall, Zimbabwe has 40 active

breeders, with 35 varieties released in the last three years, compared to South Africa with 310 released varieties, Kenya with 60 released varieties, and Uganda with 19 released varieties (TASAI, 2015). Seed Co Ltd., Pannar, Pioneer, and Quton lead the breeding efforts for maize, soybean, sorghum, and cotton, along with 10 other medium and large seed companies (TASAI, 2015).

Variety Maintenance and Early Generation Seed Multiplication

Breeders of quality seed must keep nucleus seed, or very high-quality seed, in order to produce and multiply seed that maintains its varietal characteristics throughout generations. Early generations of seed are called pre-basic and basic seed (or sometimes breeder and foundation seed). To multiply early generation seed, the producer must have a high degree of technical expertise as well as the right equipment and infrastructure. The breeder often oversees the multiplication of early generations of seed. Research organizations primarily produce and distribute foundation seed for new crop varieties and depend upon the private sector or registered seed companies to multiply and market seed. In Zimbabwe, the government has long recognized the need to enhance the provision of quality seeds to farmers. The Ministry of Agriculture, Mechanization, and Irrigation Development's Department of Research and Specialist Services (DR&SS) was established in 1948, with the mandate to initiate research on new varieties and start seed production in the country (TASAI, 2015). Seed Services falls within the Division of Research Services within DR&SS (See Figure 1) and is responsible for administration of Seeds Act (Chapter 19:13) of 1971, Seeds Regulations, and Seeds Certification Scheme Notice 2000 (Mujaju, 2010).

Formal and Informal Seed Delivery Systems

Zimbabwe has a private sector-led seed industry, characterized by a strong formal seed system that produces high quality seed based on government regulation. Key institutions related to seed sector development are the Crop Breeding Institute (for variety development) and Seed Services (for variety release, seed production and certification, quality control and marketing activities). All seed companies must be registered with Seed Services, which is the national certifying authority.

In the early 1980s, Seed Co. Ltd was the only producer of seed for seven major crops. Later, two other companies, Pannar Seeds and Pioneer joined the seed industry. Since the 1990s, the number of seed companies has increased considerably, and currently there are 38 companies selling seeds, many of which are members of the Zimbabwe Seed Trade Association (ZSTA) (TASAI, 2015), which coordinates seed companies' activities. Along with Seed Services, ZSTA participates in various regional and international associations and technical bodies such as the International Seed Testing Association (ISTA), African Seed Trade Association (AFSTA), Southern African Development Community (SADC), Common Market for Eastern and Southern Africa (COMESA), and Organisation for Economic Cooperation and Development (OECD) (TASAI, 2015).

Table 1: Role of Key Players in the Zimbabwe’s Formal Seed Sector

ROLE	KEY PLAYERS
Research and breeding	CRI; CBI; ZTS-SIRDC; MNCs; SME seed companies
Variety registration & regulation	Seed Services (National Certifying Authority)
Breeders and foundation seed production	CRI; CBI; ZTS-SIRDC; MNCs; SME seed companies
Seed production	SME Seed Companies; MNCs; contract farming companies
Processing and packaging	Seed companies; MNCs
Education, training, extension	Seed companies; government extension agents; NGOs
Distribution and sales	ZSTA; seed companies; rural agro-dealers; NGOs; Government

Source: TASAI, 2015.

Maize and other staple crops are largely managed by the private sector. Of the 38 registered seed companies in Zimbabwe, 15 are active in the production and supply of maize seeds. There are 11 companies that produce sorghum seed, seven that produce soybean seed, and only three companies that produce cotton seed (TASAI, 2015).

Although the formal seed system is strong, farmers in marginalized areas use the informal seed sector to gain access to adaptable crop varieties. Informal seed supply in Zimbabwe consists of farmer-saved seeds and the exchange of seeds among farmers or in local market through seed fairs. Additionally, some nongovernmental organizations (NGOs) are actively engaged in distribution of seeds through seed fairs and seed pack handouts. The quality of seeds in the informal sector is generally perceived to be lower than in the formal sector.

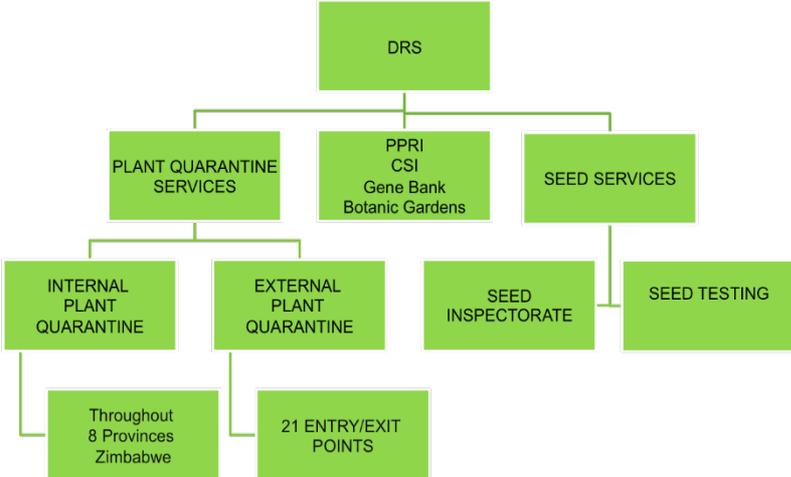
Legal and Regulatory Framework

Generally, laws provide broad frameworks that govern behavior, while regulations contain more specific rules for implementation and enforcement of the laws. Although a comprehensive legal and regulatory system on paper is important to a successful seed system, the implementation of laws and regulations and how the system responds to opportunities and challenges as they arise will determine the effectiveness of the system in practice. Implementation issues are common, particularly as regional seed initiatives become more integrated into countries’ seed systems. Zimbabwe will benefit from its significant regulatory experience in the seed sector, and some of its good practices could be shared regionally. Overall, Zimbabwe’s long history of a developed seed sector and streamlined practices in some aspects of seed system development provide a promising context in which to view implementation of regional seed efforts.

Zimbabwe regulates the seed sector through a number of legal instruments, including the Seeds Act (Chapter 19:13) 1971, revised 2001; Seeds (Amendment) Regulations 1971; Seed Regulations and Seeds (Certification Scheme) Notice 2000; Plant Breeders’ Rights Act (Chapter 18:16) 1979, revised 2001; Plant Pests and Diseases Act (Chapter 19:08); Plant Pests

and Diseases (Importation) Regulations 1976, amended 1988; Plant Pests and Diseases (Pest Control) (Amendment) Regulations 1973; and the Plant Pests and Diseases (Pests and Alternate Hosts) (Amendment) Order 1988. Different institutions have been established in Zimbabwe to implement its seed laws and regulations (See Figure 1). The Ministry of Agriculture, Mechanization, and Irrigation Development houses the Department of Research and Specialist Services (DR&SS), which contains the Division of Research Services and its regulatory arms.

Figure 1: Division of Research Services and Regulation Arms



Source: Seed Status Report, Seed and Plant Quarantine Services, 2010

As noted, Seed Services is an arm of the government within the Division of Research Services (DRS) and it is the primary regulatory authority for seeds. Seed Services has a regulatory mandate to protect seeds and plant varieties, provide seed certification and laboratory services, and administer sanitary and phytosanitary (SPS) matters. The National Variety Release Panel (NVRP), with members appointed by the Ministry of Agriculture, Mechanization, and Irrigation Development, has the final approval on all varieties released to market. Panel members are usually drawn from public and private agricultural research organizations, university representatives, farmers’ unions and organizations, and other stakeholders, who meet at least twice annually on average (Dube and Mujaju, 2013).

The Seeds Act (Chapter 19:13) 1971 (revised 2001) is the primary law governing the seed industry; however, there are a number of issues that are not fully addressed. These include, but are not limited to, the acceptance of ISTA-accredited certification and testing services across borders, and regional harmonization of seed laws, policies, and regulations. The procedures for variety release and registration, centralized certification, and cross-border trade are outlined below, and related issues are flagged in more detail as they arise in the regulatory process.

Variety Release and Registration

The variety release and registration process in Zimbabwe is reportedly relatively straightforward and follows the requirements stipulated in the Seeds (Certification Scheme) Notice 2000 of the Seeds Act (Chapter 19:13). The process involves one or two rounds of distinctness, uniformity, and stability (DUS) testing and two seasons of Value for Cultivation and Use (VCU) testing. VCU data is generally obtained from the private sector, a best practice that streamlines the process and is notable in Zimbabwe's case. VCU data is based on variety performance trials from at least two seasons and at least five sites. The trials are usually conducted by the breeders, who collect data from these trials and report the least significant differences and standard error for all quantitative traits. In addition, breeders need to gather critical information on responses to major constraints (e.g. drought tolerance) and must use at least one control variety from recognized and widely grown varieties of same crop species.

The DUS testing is conducted by Seed Services, whereby:

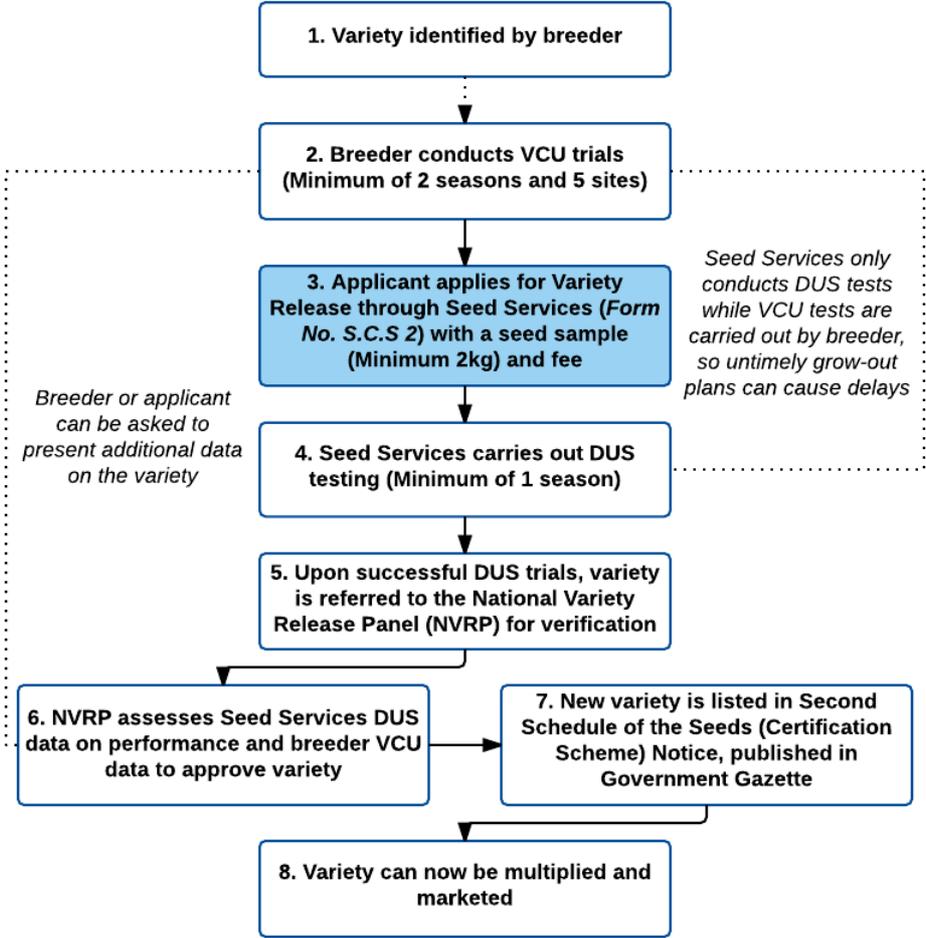
1. Seed Services verifies the application and selects appropriate controlled varieties to compare to the candidate variety;
2. 'Maintainers' of listed varieties provide samples of controlled varieties to Seed Services;
3. Applicants then plant their candidate varieties and appropriate controlled variety according to planting instructions given by Seed Services; where
4. Candidate varieties are grown adjacent to controlled varieties to facilitate easy visual characterization of the crops, and then crops are replicated twice.

The DUS testing will generally last for one season, but a second season may be required: (1) if problems relating to distinctness, uniformity and stability are encountered; (2) or the variety shows a high level of off-types (greater than the tolerance level for a certified crop of the same species) (Mujaju, 2010). DUS data from a third country may be accepted on a case-by-case basis.

When Seed Services is satisfied with the DUS results, the variety will be referred to the National Variety Release Panel (NVRP) for verification. The NVRP assesses the data on VCU and DUS tests, and approves or rejects the release of the variety. The NVRP constitutes members from various stakeholders, including representatives of research institutions, farmer associations, seed companies, and consumers.

Once a variety has been approved for release, it will be listed on the Second Schedule of the Seeds (Certification Scheme) Notice 2000. The amended varieties will be published in the Government Gazette. The new variety will remain on the Second Schedule for as long as it is properly maintained and the required annual renewal fee is duly paid to the Seed Services. Seed companies may only multiply seed of registered varieties.

Figure 2: Variety Release Process in Zimbabwe



Source: New Markets Lab, 2015. Based upon Seeds (Amendment) Regulations 1971, Seed Regulations and Seeds (Certification Scheme) Notice 2000. See also Mujaju, 2010 and Setimela, et al., 2009.

Typically, the time it takes for a variety to be released ranges from 12 to 24 months, and the average release time is 22 months (TASAI, 2015). This is relatively a very short time period and singles Zimbabwe out among other countries in the region. The minimum time of 12 months can only be achieved when all documents on VCU and DUS tests are submitted according to regulation, although allowing the private sector to submit data for VCU testing likely contributes to the short time frame overall. During the period between 2011 and 2013, approximately 28 maize varieties were released, followed by three varieties of soybeans and sorghum respectively (TASAI, 2015).

Notably, the variety release process in Zimbabwe is quite similar to the SADC process for variety release. The SADC system requires one season of DUS testing and two seasons of VCU testing. A variety released in two member countries within SADC will be allowed to enter the regional variety catalogue and be marketed in the rest of the countries with similar agro-ecological conditions. The regional variety release process has not yet been fully implemented in practice, but several companies have gone through the process of adding

maize varieties to the SADC regional variety catalogue. Further testing of this regional process will highlight any potential challenges with implementation. The fact that Zimbabwe's system is already closely aligned with SADC, which is partially a result of Zimbabwe's leadership within SADC, should facilitate implementation at the country level.

Seed Certification

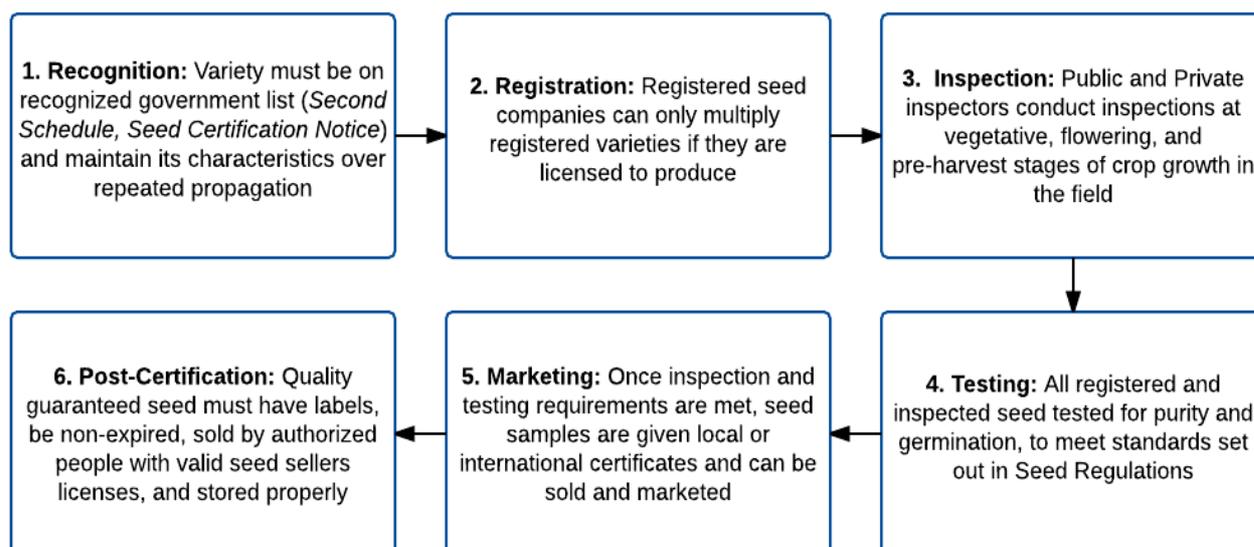
Seed certification is designed to control quality through field inspection of registered seed varieties are produced and testing for minimum purity and germination before sale. Certified seed also provides assurance for both the buyer and seed supplier. Certification is a legal requirement applicable to eight crops under Zimbabwe's Seeds Certification Scheme Notice, 2000, and Seed Services administers this process. Legislation governs production, processing, labeling, and marketing of certified seed in Zimbabwe. Within the Seed Services is the Official Seed Testing Laboratory, which is accredited to ISTA and conducts purity, germination and moisture tests on agricultural, vegetable, tree, and flower seeds.

In Zimbabwe, seed certification is centralized and mandatory for eight crops that are of commercial importance, namely maize, soybean, tobacco, cotton, wheat, barley, oats and potatoes (Mujaju, 2010). There are four existing seed classes: Breeder Seed, Foundation Seed, Certified Seed, and Standard Grade Seed. The first three fall under the certification process, while the Standard Grade Seed refers to a class of the seed that only meets the minimum germination and purity requirements stipulated in the Seeds Regulations, thus its genetic purity cannot be guaranteed. It is illegal to sell non-certified seeds or so called 'standard grade seed' for these crops.

As a first step in the certification process, the variety must be on the recognized government list (Second Schedule, Seed Certification Notice, 2000) and maintain its characteristics over repeated "propagation." Once recognized, seed companies may multiply registered varieties, but companies must be licensed to produce seed in order to do so.

Certification inspections then are conducted at vegetative, flowering, and pre-harvest stages of crop growth in the field. Inspectors generally examine elements such as varietal and species purity, incidence of pests and diseases, and crop and land history, among others. After passing field standards, all registered and inspected seed is tested for purity and germination before it is sold to ensure that it meets with the purity and germination standards set out in the Seed Regulations. Seed samples that meet these requirements are given local or international certificates and can be sold and marketed in Zimbabwe. Certified seed must have labels, not be expired, be sold by authorized sellers with valid seed seller's licenses, and stored properly.

Figure 3: Steps in Seed Certification Process in Zimbabwe



Source: Information from Seeds (Amendment) Regulations 1971, Seed Regulations and Seeds (Certification Scheme) Notice 2000. See also Mujaju, 2010.

All issues regarding seed certification are handled by Seed Services and any other certifying agency accredited to Seed Services, such as a registered seed company. Registered seed companies have quite a central role in the certification process in Zimbabwe, which is another best practice that sets Zimbabwe’s regulatory structure apart. By allowing registered seed companies to be involved in inspection, the certification process is able to cover a relatively broader area and more efficiently deliver services to many seed growers located throughout the country.

According to the Seed Regulations, seed companies must be registered with Seed Services, and they may only multiply seeds of crops they are licensed to produce. Seed companies must notify Seed Services of its seed growers, including where they are located, hectareage grown, and the varieties being produced. Recognized varieties listed in the Second Schedule should only be produced by seed growers under authorized seed companies (Mujaju, 2010).

Only authorized seed inspectors can conduct certification inspections at the vegetative, flowering, and pre-harvest stage of crop growth. Further, no seed company can be registered without an inspectorate section in place. However, in reality, some companies have no such capacity and are therefore supported by Seed Services. Altogether, there are currently over 60 inspectors, including 12 public inspectors from Seed Services, who are authorized to certify all crops. Private company inspectors can unusually inspect any crop except cotton, which has specially trained inspectors. The inspectors check on all field standards stipulated in the Seeds Certification Scheme and issue field inspection reports. As an example, there are in total five field inspections required for hybrid maize, which usually consists of two inspections by public inspectors and three inspections by private inspectors. One challenge is that public inspectors often lack resources like vehicles and equipment. As a

result, they sometimes depend upon the seed companies’ vehicles to get to the field, giving rise to compromised impartiality of inspectors.

After seed has met all field standards, it must be tested in registered laboratories for minimum purity and germination standards as laid out in the Seed Regulations. Apart from the Official Seed Testing Laboratory, the government has accredited six private seed testing laboratories to test and certify seeds for local market. Before certified seed is sold, it must also: (1) have labels; (2) not be expired; (3) be sold by authorized entities with valid seed sellers’ licenses; and (4) be stored properly for maintenance of quality (Mujaju, 2010).

Within the seed certification process, allowing private companies to conduct inspections and laboratory testing is a best practice in Zimbabwe’s system. This practice could be further studied and understood for its application to other countries within regional seed systems.

Conformity with SADC and COMESA regional standards

Zimbabwe’s national system and SADC regional certification system have similar general principles and requirements, however, there are a few distinctions. First, as noted below in Table 2, the seed classes in Zimbabwe differ slightly from those in SADC and COMESA.

Table 2: Zimbabwean vs. SADC Seed Classes

<i>Zimbabwe Seed Classes</i>	<i>SADC Seed Classes</i>	<i>COMESA Seed Classes</i>
Breeder Seed	Breeder Seed	
	Pre-Basic Seed	Pre-Basic Seed
Foundation Seed	Basic Seed	Basic Seed
Certified Seed	Certified Seed (1 st Generation)	Certified Seed (1 st Generation)
	Certified Seed (2 nd Generation)	Certified Seed (2 nd Generation)
Standard Grade Seed	Quality Declared Seed*	

Source: Authors Compilation. Information derived from Mujaju, 2010, SADC Technical Agreements on Harmonization of Seed Regulations, 2008, and COMESA Seed Trade Harmonization Regulations, 2014. *Quality Declared Seed recognized under SADC does not imply ease of trade across borders of all SADC members.

In addition, while the national certification system in Zimbabwe requires seed to be properly labeled, labels following the SADC color scheme are not currently followed.²

Both Zimbabwe and SADC recognize the role of a National Seed Certification Authority to accredit personnel (including seed samplers, seed inspectors, and laboratory staff). In Zimbabwe, the National Seed Certification Authority accreditation of personnel must be

² According to the *Technical Agreements on Harmonization of Seed Regulations in the SADC Region*, “The seed containers shall be fastened and sealed at the time of sampling and the contents of each container indicated by a SADC label. Labels will include information such as seed class, name of species and variety, lot and certificate number, date of testing, net weight and others.”

gazetted, while SADC requires issuance of certificate or identity card (Mujaju, 2010). Further, differences exist in the specific requirements for field and laboratory standards of individual crops (Figures 5 & 6). For example, the isolation distances required by SADC in some crops are much higher than what is acceptable at the national level in Zimbabwe.

Cross-Border Trade

While Zimbabwe produces various cereals and cotton seed, the majority of vegetable seeds are imported since they cannot be grown locally, and cross-border trade of seed is a routine business. In 2013, Zimbabwe imported 178 metric tons of maize seed, 80 metric tons of sorghum seed, and eight metric tons of cotton and soybean seed combined. In the same year, 250 metric tons of cotton seed and 141 metric tons of maize seed were exported. In addition to cross-border trade requirements, phytosanitary measures are often required for imported seed to prevent spread of quarantine pests.

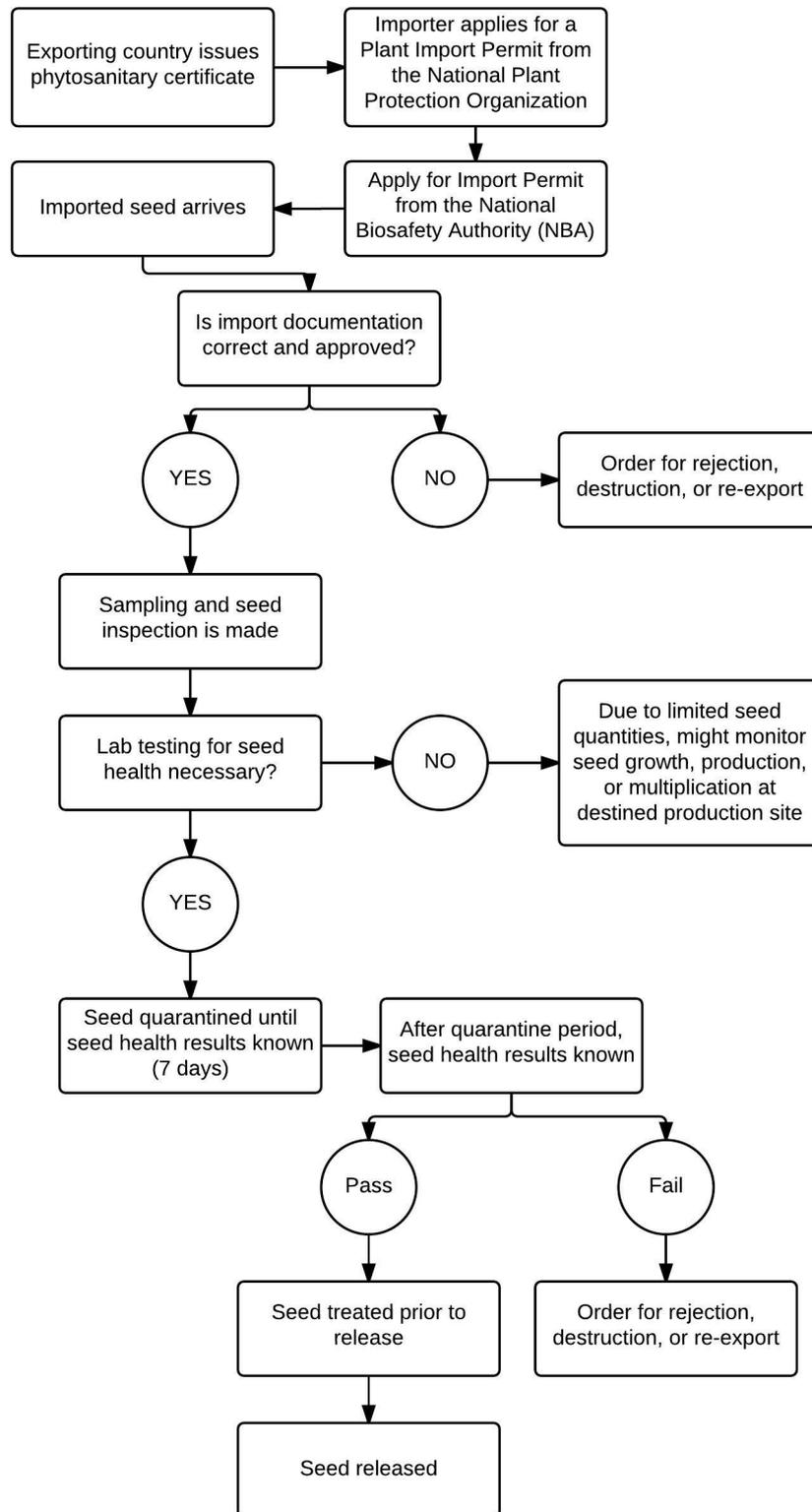
In Zimbabwe, Seed Services and Plant Quarantine Services along with the National Plant Protection Office (NPPO) are the primary regulators of cross-border trade. The Plant Pests and Diseases Act (Chapter 19:08) governs Plant Quarantine Services and allows plant health inspectors to inspect, disinfect, and eradicate pests and diseases. Only registered seed companies are allowed to import and export seed.

To import seed into Zimbabwe, the importer must apply for an import permit prior to the movement of seed across the border. The **Plant Import Permit** is issued by the National Plant Protection Organization (NPPO), which authorizes the importation of seeds in accordance with specific phytosanitary requirements. The permit must accompany the seed lot and be presented to inspectors at exit and entry points. The import permit also is sent to the exporter for use to apply for exporting seeds.

A **Phytosanitary Certificate** is issued by the exporting country, which certifies that requirements specified on the import permit are met. The certificate must accompany the consignments of seeds and be presented at the exit and entry points. The National Biosafety Authority (NBA) approves or denies applications for an **Import Permit**.

Applicants must be registered with the NBA and the application must include the plant import permit. If the applicant is importing GM seed and plants, the application must include a GM certificate issued by the exporting country. The plant health inspectors at the border must fill in a form verifying that the conditions required by Zimbabwe are satisfied, and at this point sampling and inspection of seed take place. If inspectors deem laboratory seed health test warranted, then seed is quarantined until the seed health results are known. The test usually takes seven days. If the results are satisfactory, the seed will be released. Otherwise, inspectors may require the imported seed to be treated before release or recommend re-export, destruction, or rejection.

Figure 4: Movement of Imported Seeds



Source: New Markets Lab, 2015. Information from DR&SS, 2010.

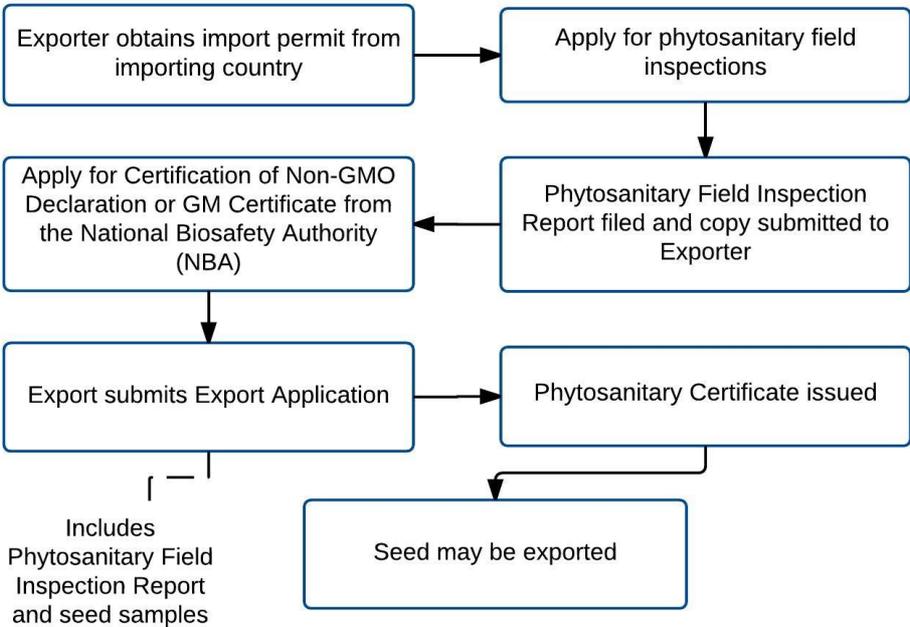
To export seed, the procedure is essentially the reverse. Exporters need to get an import permit from the importing country and apply for phytosanitary field inspections. If the seed

is produced in Zimbabwe, then the field inspections are conducted during active growth stage of the crop. (See Figure 5).

The **Phytosanitary Field Inspection Report** is filed and a copy is submitted to the exporter. The exporter must be registered with the NBA, to which it submits the application for **Certification of non-GMO Declaration or GM Certificate**. The exporter submits an **Export Application**, which is accompanied by the Report and seed samples. A decision will be made on whether further seed health testing is necessary.

Once testing is complete, a **Phytosanitary Certificate** is issued and seed may be exported. In the vegetable seed business, it is common to re-export. In this case, a **Re-export Phytosanitary Certificate** will be required in the transit country. In Zimbabwe, it is issued by the NPPO and attached to the original Phytosanitary Certificate by the exporting country.

Figure 5: Seed Exportation Process



Source: New Markets Lab, 2015

It takes approximately 12 days to both import and export seeds from neighboring countries (TASAI, 2015) (See Table 3). However, according to one seed company, receiving an export permit can take an average of two months, due to the time it takes to complete testing in the ISTA lab. The number of days it takes to process required paperwork varies by crop and is constrained by stringent national biosafety requirements and the absence of a one-stop permit management system (TASAI, 2015). For instance, differences in DUS testing periods in different countries, which range from one to three seasons, can cause entry delays of new varieties into the market since one country with a more extensive DUS requirement will not accept a relatively shorter DUS testing period from a country such as Zimbabwe.

Table 3: Seed Varieties and Import/Export Processing Data (2013)

Seed Variety	Days for Import Processing	Imported (2013)	Exported (2013)
Maize	10	178 mt	141 mt
Sorghum	12	80 mt	Negligible
Cotton	--	4 mt	250 mt
Soybean	15	4 mt	Negligible

Source: Information from TASAI, March 2015.

Within Africa, Malawi, Mozambique, Swaziland, Burundi, Rwanda, the Democratic Republic of the Congo, South Sudan, and Uganda import seed from Zimbabwe. Kenya, South Africa, Zambia and Zimbabwe lead the seed export efforts within the continent. A deeper study of cross-border trade practices reveals how laws and regulations from different countries interact in practice. For instance, Zimbabwe's labs are ISTA-accredited; however, other countries in the region do not always accept Zimbabwe's ISTA certificates, causing further trade delays. Although a regulatory framework aligned to regional or international standards is in place, challenges in implementation still occur. The next section discusses regional harmonization efforts in more detail.

Regional Harmonization

Opportunities for farmers along agricultural value chains are enhanced significantly by the openness of regional markets (Brenton et al., 2012). However, while access to broader markets presents the possibility of better prices and business expansion, the complex system of national, regional, and international laws and regulations can pose challenges to regional market access and future potential (Kuhlmann and Sourang, forthcoming). While progress on harmonizing seed regulations can be seen across regional economic communities (RECs), effective implementation of regional harmonization will require further action at the national level as well as mutual recognition of rules and regulatory systems between countries. For most RECs, including COMESA and SADC of which Zimbabwe is a member, new rules and standards must be incorporated into national law in order to make regional initiatives effective. Understanding national rules that govern variety release and registration, seed certification, and trade and SPS measures, as well as plant variety protection (PVP) laws, within the context of regional harmonization will assist in understanding how implementation of regional rules will work in practice, as well as in

gauging future market potential (See Annex I for a comparison of relevant regional harmonization efforts).

It is important also that the differences among regional initiatives, including differences in regional legal structures, are well studied and understood. For instance, COMESA, which approved Seed Regulations quite recently in 2014, is institutionally structured such that regional rules are binding, but national level implementation is required before such rules can take effect. Under the SADC structure on the other hand, only Protocols are legally binding, while other SADC instruments, including Memoranda of Understanding (MOUs), are not. Instruments that are not legally binding (e.g. the SADC Seed MOU) do not require full formal domestication processes to be undertaken as a result of the voluntary nature of the instrument, but they can also be brought into effect through national law, and countries have begun to domesticate SADC standards despite this institutional difference.

Relevant to Zimbabwe's membership in both SADC and COMESA, Zimbabwe's Seed Services participates in the OECD scheme and has ISTA-accredited labs, In July 2013, COMESA, the EAC, and SADC agreed to harmonize seed regulations under the Tripartite Free Trade Area (TFTA), which has been under discussion for some time and was officially launched on June 10, 2015. A number of institutional differences among COMESA, the EAC, and SADC remain, however, and integrating these different regional efforts will likely present challenges that require greater study and focus.

Within COMESA, which has nineteen members, institutional capacities vary. The implementation strategy for COMESA groups member states into three categories that signify readiness to implement the 2014 COMESA Seed Regulations: (1) Countries with existing legal structures: Egypt, Ethiopia, Kenya, Madagascar, Malawi, Sudan, Swaziland, Uganda, Zambia, and Zimbabwe; (2) Countries with legal structures in draft form: Burundi, the Democratic Republic of Congo, Mauritius, Rwanda, and Seychelles; and (3) Countries with no legal structures: Comoros, Djibouti, Eritrea, Libya, and South Sudan (Mukuka, 2014). The significant differences in institutional capacity among member states will make regulatory cooperation and the implementation of regional regulations difficult. These differences, coupled with the legal structure of COMESA, which requires domestication of regional regulations before they enter into effect, means that implementation of agreements will take place faster among certain member states than others. A COMESA Seed Committee was set up in Lusaka in September 2015 to provide member states with technical assistance to help implement the harmonized seed regulations, among other responsibilities.

Differences in institutional capacity similarly exist within SADC, which has fifteen Member States. One main difference between COMESA and SADC, at least in the case of seed harmonization, is that the approval of a non-legally binding instrument such as the SADC MOU on the Harmonized Seed Regulatory System (HSRS) does not require a full formal

domestication processes to be undertaken because of its voluntary nature. SADC member states may, however, still proceed with domestication, which has begun to happen, in particular under the Harmonized Seed Security Project (HaSSP) that has impacted Zimbabwe's adoption of the SADC Harmonized Seed Regulatory System (SADC HSRS). The HaSSP was implemented by the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) in cooperation with the local Seed Services Institute, Plant Quarantine Services, GRM International, and Agricultural Research Council. The aim of HaSSP, which ran from January 2010 through September 2014, was to encourage the domestication and implementation of the SADC HSRS in Malawi, Swaziland, Zambia, and Zimbabwe by aligning national variety release, seed certification, and phytosanitary policies with SADC technical agreements, and in particular focusing on the strengthening of related technical capacity among government, civil service and key stakeholders, particularly with respect to seed certification facilities.

Variety Release and Registration

Countries in SADC and COMESA are in the process of harmonizing their seed policies and laws with respect to variety release, including the requirements on seed variety evaluation, release, and registration. Both COMESA and SADC have approved a common seed catalogue, a model also used by the European Union. SADC's regional seed catalogue is available, although COMESA's has yet to become operational.

Regional alignment efforts in Zimbabwe notably include the Seeds Act and the Plant Pests and Diseases Act and are largely aligned to the SADC Seed Regulatory System. Further focus on alignment with the 2014 COMESA Regulations is also now underway. Amendments to align subsidiary legislation are under development and include the draft Seed Certification Scheme Notice, 2012, the draft Plant Pests and Diseases (Nursery) Regulations of 2012, the draft Plant Pest and Disease (Importation, Pests and Alternate Hosts Control) Regulations 2012 (FANRPAN, 2014).

Both the SADC and COMESA Variety Release Systems provide for an expedited process whereby a variety released in two member states can be marketed in all Member Countries with similar agro-ecological conditions. The regional variety release system has yet to be fully tested, but Monsanto petitioned to enter nine maize varieties that were registered in Zambia and South Africa into the regional catalogue. A total of 12 regional maize varieties have been registered in the catalogue, which are now eligible for release in the region following the SADC system.

Seed Certification

While harmonization efforts on seed certification are underway, almost all countries have developed their own certification standards, which now need to be aligned. In most SADC and COMESA countries, except South Africa, national level certification is compulsory. Movement towards regional harmonization is however aided by the fact that both COMESA

and SADC recognize common international standards and guidelines such as ISTA, OECD, and the International Union for the Protection of New Varieties of Plants (UPOV).

The COMESA and SADC seed certification systems require certification methodology under ISTA rules, but within COMESA only Egypt, Uganda, Kenya, Malawi, Zambia, and Zimbabwe have ISTA-accredited laboratories. Within SADC, only South Africa, Malawi, Zambia, and Zimbabwe have ISTA-accredited laboratories. The SADC MOU also requires that harmonized labeling be established based on ISTA standards and appropriate laboratory analysis.

The Zimbabwean national and the SADC regional certification systems acknowledge the role of a National Seed Certification Authority (NSA). In both cases the NSA is responsible for authorizing samplers, field inspectors and accrediting or registering laboratories. Differences lie within the formalities for accreditation, however. Accredited personnel are issued a certificate or identity card at the SADC level, whereas at the national level in Zimbabwe they are just gazetted (Mujaju, 2010). Under SADC, accredited personnel identified by member states must pass an authorized class and complete at least one season of training by an authorized SADC system seed specialist (Technical Agreements on Harmonization of Seed Regulations in the SADC Region, 2008). The two systems provide for the NSAs to register seed fields and issue inspection reports.

Cross-Border Trade

Cross-border trade brings its own set of rules and regional standards, ranging from rules for import and export to application of sanitary and phytosanitary (SPS) measures which aim to prevent the introduction and/or spread of pests (FAO, 2001). Cross-border movement of seed requires the careful implementation of standards, and countries are required to apply SPS measures in such a way that does not restrict seed trade. Safety controls include testing at the border, SPS certificate requirements, and post-entry quarantine measures (Kuhlmann, SFSA 2015).

Both the COMESA Regulations and SADC harmonized Quarantine and Phytosanitary Measures aim to facilitate safer and faster movement of seeds through the establishment of common quarantine and phytosanitary measures. If well implemented, such measures could reduce the direct and indirect costs related to seed trade and result in greater transparency and harmonization of regulatory processes and documentation.

For Zimbabwe, while the country's national laws either support or sometimes exceed the standards for regional harmonization of variety release and certification rules, the greatest challenges exist in the implementation of cross-border trade and SPS measures. More broadly, SPS measures for seeds is an area in which regional efforts have not moved as quickly, and many countries do not consistently recognize the inspection processes and SPS regimes of neighboring countries, despite regional trade agreements requiring this type of treatment.

Zimbabwe is a signatory to the WTO Agreement on Sanitary and Phytosanitary Measures (SPS Agreement), the International Plant Protection Convention, and International Standards of Phytosanitary Measures (DR&SS, 2010).

Zimbabwe is also a signatory to the WTO Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) and has initiated the process of acceding to UPOV. Zimbabwe's Plant Breeders Rights Act, Chapter 18:16, of 1973 was revised in 2001 to conform to UPOV in order for Zimbabwe to complete the accession process, which is still underway. Within COMESA, Kenya is the only country that is currently a member of UPOV, and other Member States are either in the process of adopting laws that are compatible with international standards for plant variety protection or have made no efforts to align with international standards. Similarly within SADC, South Africa is currently the only UPOV member, although Tanzania will soon accede to UPOV (UPOV, 2015). Zimbabwe is also a member of the African Regional Intellectual Property Organization (ARIPO), which adopted the Arusha Protocol for the Protection of New Varieties of Plants on July 6, 2015.³

SADC concluded the Draft Protocol for the Protection of New Varieties of Plants (Plant Breeders' Rights) in November 2012, but it has not yet been adopted. With regard to the scope and conditions for protection, Zimbabwe's plant breeders' rights legislation conforms to the *draft* SADC plant breeders' rights protocol. However, Zimbabwe's legislation does not cover issues of essential derived varieties, which are covered under the SADC plant breeders' rights protocol (Mujaju, 2010).

As regional harmonization proceeds, it is possible that issues could arise with exclusive marketing rights for varieties that are developed using international breeding material (which is shared under material transfer agreements). As the regional market expands, companies may seek to regionalize these marketing rights, potentially leading to "first-in-time" regional registrations or conflicts between contractual rights. This will be a space to watch carefully.

Industry Experience

In development of this case study, the authors conducted interviews with seed companies in Zimbabwe to understand their perspectives with respect to variety registration, seed certification, and international trade. Their experiences are summarized below.

³ The Draft ARIPO PVP Protocol conformed to the UPOV Convention, and ARIPO is currently listed as a member of UPOV, however the final Arusha Protocol that was adopted contains material changes that make it impossible for ARIPO to join UPOV, for example the issue of a unitary territory was changed to ensure that member states have a role in the grant of rights.

One common problem facing the seed industry is liquidity. Zimbabwe's decision to phase out its official currency during the summer of 2015 officially allowed what was already common practice: use of the US dollar, the Euro, the South African rand, the British pound, and the Indian rupee (among others) for all monetary transactions. This makes doing business more expensive and complex, in particular for SMEs.

Company A's main business focus is import and export of horticultural seeds. Most seeds are imported from overseas e.g. Thailand and the Netherlands. Some are re-exported to countries in the SADC region.

For import, Company A reported that it usually takes a month to get the import permit from Zimbabwean authorities. It requires (1) a pro forma invoice, (2) a GMO-free certificate, and (3) an ISTA certificate. The overseas seed suppliers provide all of these documents. The company submits these to Seed Services in order to get the plant import permit. The next step is to go to the National Biotechnology Authority to obtain the biosafety permit. With these two permits the company then goes to Ministry of Agriculture, Mechanization and Irrigation Development (AMID) for the issuance of the import permit. All the steps in the process incur costs: the GMO-free certificate costs about 200 euro, ISTA certificate 150 euro, and the import permit about 120 USD (110 Euro).

For regional harmonization in both SADC and COMESA, Company A thinks that two things would add value: (1) a list of crops needing GMO-free certificate (including where genetically modified crops are banned, such as in Zambia), and (2) a standardized phytosanitary list. Countries exporting the most (e.g. South Africa, Zimbabwe, Zambia and Kenya) as well as countries importing the most should drive this process, as they would benefit tremendously from the harmonized market. For protection of genetics, it is important that all countries are signatories of UPOV. This can happen in two waves: in the first stage major exporting countries would become members, and in the second stage importing countries would gradually join. As Zimbabwe has not yet signed the UPOV convention, this company is not contracted by its overseas partners to produce seeds domestically.

Company A also underscored several issues with the ISTA certification. For export, obtaining the ISTA certificate from Zimbabwe can take up to six weeks to two months. When the seeds cross a border, authorities do not always honor the ISTA certificate. Kenya does not recognize ISTA certificates from Zimbabwe – a circumstance that is a significant barrier to business. In Mozambique or Malawi, authorities also tend to retest the seeds. If the results differ, this can become a serious issue. Mozambique doesn't have an ISTA accredited lab, and the local lab can produce different testing results on the same lot of seed. Retesting effectively depresses the value of the certificate. Finally, it is impossible to import from countries that don't have an ISTA testing lab (e.g. Mozambique). Experiences also show that border inspectors lack a good understanding of ISTA, and training seems badly needed to

facilitate the cross-border transfer of seeds. Overall, effectively implemented regional harmonization would greatly enhance the company's opportunities.

Company B produces and distributes hybrid maize and vegetable seeds. Contract farmers operating between 20 and 200 hectares multiply the maize seeds. As a seed company, an annual registration fee must be paid to Seed Services. Retail outlets need to be registered as well, and the company paid a fee of 125 USD (115 Euro) per outlet in 2015. It has a total of 16 outlets, leading to a total sum of 2000 USD (1833 Euro) per annum. The registration of seed varieties seems to be a straightforward process.

In terms of import, it takes the company about three weeks to get an import permit. The total cost is about 140 USD (128 Euro) including 30 USD (27 Euro) for biosafety permit and 70 USD (64 Euro) import permit fee.

The Agricultural Marketing Authority (AMA) controls the marketing of commodities, in particular maize. The AMA thus directly impacts seed import and export business; for example, the AMA imposed a ban on maize exports until 2014. Even after the AMA lifted the ban they retained the caveat that there should be enough stock for domestic supply after export. This significantly increased the cost of production, which in turn created a disincentive for maize exports and harmed the profits of the company.

Company C started with variety testing rather recently. The official requirement is two years of VCU in 10 sites. The VCU testing is conducted through ART Farm, which is a private agricultural research and extension institute, which cooperates with seed and crop companies. The application is usually submitted to ART Farm in August or September, and the results are due in June next year. The cost of trialing is 55 USD (50 Euro) per variety per site, which implies that going through the required VCU testing would cost at least 550 USD (500 Euro) per variety.

ART Farm is a unique organization, which transitioned from a collective of farmer associations to a totally independent and private institution. It charges on a full cost recovery basis for all of its services. ART Farm remains a non-profit, and all proceeds are reinvested internally. It currently has 700 hectares of land, of which 230 hectares (ha) are arable and 60 ha are designated for conducting trials. It cooperates with willing farms to run off-farm trials or research with some 30 sites around the country for both summer and winter crops. The trials cover VCUs, irrigation, fertilizers, chemicals, and tillage.

Generally, some companies are operating in difficult times due to liquidity and enabling environments problems. The lack of stability in the political economy can affect the development of the seed sector. For these companies, variety registration is a relatively straightforward process, while cross-border trade presents more challenges.

Recommendations

National Level

- **Further linking National Laws and Regulations with Regional Frameworks:** Alignment efforts in Zimbabwe are well underway, notably the Seeds Act and the Plant Pests and Diseases Act, which are aligned to the SADC Seed Regulatory System. Further amendments to legislation are also underway (including as part of the ACTESA/ FoodTrade partnership which is helping seven countries, including Zimbabwe) and will also focus on the implementation of the more recent COMESA Seed Trade Harmonization Regulations.
- **Applying Best Practices in Variety Release and Registration and Seed Certification to Cross-Border Trade:** Zimbabwe has developed significant regulatory experience in seed, particularly with respect to variety release and registration and seed certification, and some notable best practices are evident in these aspects of Zimbabwe's seed system, particularly with respect to interaction between government and the private sector. The private sector conducts testing in the variety release and registration process, conducts field inspections in the seed certification process, and houses accredited laboratories. Yet, by many accounts, the process for cross-border trade does not allow for this close collaboration between private sector and government. As an important step forward in further developing Zimbabwe's seed sector and expanding regional trade, the process for cross-border trade should be carefully examined to determine where bottlenecks may exist and could be addressed.
- **Increasing Awareness of Regional Frameworks:** While a number of the enterprises and stakeholders interviewed noted the importance of regional harmonization, many market participants know little about the specific content of these initiatives. Raising awareness of regional frameworks and the opportunities they can provide to market participants can be done in a number of ways, for example through legal guides that outline different regional regulations and how to take advantage of them in practice, or through in-country platforms that are focused on opportunities with regard to a particular crop. Raising awareness of regional frameworks is explicitly recognized in the COMESA implementation guidelines as a strategic objective.
- **Clear Reference to Regional Protocols:** Including clear references to regional agreements or their provisions in national legislation helps raise awareness of regional opportunities and enhances transparency in implementation processes.

Regional Level

- **Align Different Regional Processes:** Identify a process to align regional processes, clarify commitments on variety release and registration under COMESA and SADC, evaluate the effect of the different systems, and align commitments based on best practices and the most advantageous overall system. This will be increasingly important, as the Tripartite Free Trade Area is implemented, and as the continent moves toward the Continental Free Trade Area, the negotiations for which were launched in June 2015. (For example, the COMESA regional variety registration requires two seasons of DUS testing, while Zimbabwe’s national rules only require one season barring a problem with the first, which signifies a best practice that could be more widely adopted. The SADC regional variety registration does not specify that two seasons of DUS testing are necessary, signaling greater flexibility.)

- **Third Country Regulatory Recognition and Data Sharing:** Regional efforts cannot progress unless countries begin to recognize each other’s data and regulatory processes. Both SADC and COMESA procedures are reliant on recognition of test results and data from institutions other than the members’ own. Entry of twelve maize varieties in the SADC catalogue signals how mutual recognition might work in practice.

- **Focus on Implementation of Regional Standards for Cross-Border Seed Trade:** From the industry experience it is evident that cross-border trade is the main challenge in practice. Border inspectors need to be trained regarding all aspects of seed harmonization regulations and application of regional SPS rules. Import and export requirements could also be built into trade facilitation efforts, for example, including the creation of information technology (IT) platforms.

- **Regulatory Collaboration:** The member states of both SADC and COMESA differ vastly in technical capacity and in their abilities to implement complex high-level regional requirements. The effectiveness of regional harmonization efforts will depend upon the degree to which regulators from the different member states are willing to work together, share best practices, and recognize each other’s procedures and results.

Conclusion

This study shows that Zimbabwe has developed significant experience in seed regulation that will support the regional harmonization efforts that are well underway, and many opportunities for expanded seed sector development under regional frameworks already exist. It is, however, also clear that there is still much that needs to be done to fully

implement regional frameworks and unlock their potential. Given the diverse membership of both SADC and COMESA, it will be exceedingly important for regulators to work together and share experiences and best practices, and Zimbabwe could play a leadership role in this area.

Under the Syngenta Foundation for Sustainable Agriculture's Seeds2B project, the authors will move forward with some of the recommendations noted above, including in partnership with the RECs, companies, and other stakeholders and institutions working to implement these important frameworks.

Going forward, additional analysis of how regional harmonization is being carried out at the country level should be done and updated on an ongoing basis, and tools for measuring and sharing information and progress in some of the areas noted above will be critical. All of the recommendations outlined above could evolve into concrete initiatives, best practices, and regulatory guidance, and all will require a greater degree of private sector input (approaches should be tied to market demand and will vary to some degree with the particular crops and circumstances involved) to become operational. Innovative models for advancing implementation of laws, regulations, and regional protocols can be taken from work in other countries and regions, such as corridors approaches, innovation platforms focused on a particular sector or crop, and inclusive legal models. As the other Case Studies in this series are completed, we hope that a greater degree of comparative assessment will be possible as well, with best practices, successes, and challenges shared within and across regions.

References:

The African Seed Access Index (TASAI). "Zimbabwe Brief." March, 2015.

Brenton, Paul, et al, 2012. "Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples." World Bank.

Department of Research and Specialist Services (DR&SS). "Seed Status Report for Zimbabwe." Seed and Plant Quarantine Services, Zimbabwe. May, 2010.

Dube, P and Claid Mujaju. "A Simplified Technical Guide for Seed Certification Procedures for Some Crops of Commercial Importance in Zimbabwe." *Advanced Journal of Agricultural Research*. Vol. 1(6), pp.95-104. October 2013. Available at [http://advancedjournals.org/ajar/pdf/2013/October/Dube percent20and percent20Mujaju.pdf](http://advancedjournals.org/ajar/pdf/2013/October/Dube%20and%20Mujaju.pdf)

FANRPAN, Operational Report to the Swiss Development Co-operation (SDS), 2014

Food and Agriculture Organization of the United Nations, International Standards For Phytosanitary Measures: A Guidelines For Phytosanitary Certificates (2001).

Kuhlmann, Katrin. *Harmonizing Regional Seeds Regulations in Sub-Saharan Africa: A Comparative Assessment*. Syngenta Foundation for Sustainable Agriculture, September 2015.

Kuhlmann, Katrin and Cheikh Sourang. "The Role of Law and Regulation in Scaling Up African Value Chains." Working draft, 2015. IFAD Occasional Paper to be published.

Members of the International Union for the Protection of New Varieties of Plants. UPOV, 2015. Web. Last visited 27 Aug 2015.

Mujaju, Claid. "Zimbabwe Seed Sector: A Baseline Study/Survey." Seed Services. September, 2010.

Mukuka, John. COMESA Seed Harmonization Implementation Plan (COM-SHIP). ACTESA, 2014.

"ARIPO Protocol for the Protection of New Varieties of Plants Adopted." ARIPO, n.d. Available at <http://www.aripo.org/news-events-publications/news/item/69-aripo-protocol-for-the-protection-of-new-varieties-of-plants-adopted>

UPOV *The International Union for the Protection of New Varieties of Plants*. UPOV, n.d. Web. 7 June 2015. <http://www.upov.int/portal/index.html.en>.

Technical Agreements on Harmonization of Seed Regulations in the SADC Region. Southern Africa Development Community (SADC) Secretariat, 2008.

Waithaka, "Harmonizing Seed Policy in Eastern and Central Africa," (2013).

World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (WTO SPS Agreement), 1867 U.N.T.S. 493.

World Trade Organization Agreement on Trade Related Aspects of Intellectual Property (WTO TRIPS Agreement), 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994).

Annex 1: Comparison of COMESA and SADC Harmonization on Variety Release & Registration, Certification, and SPS

Comparison of COMESA and SADC Harmonization on Variety Release & Registration		
<p>COMESA</p> <p>COMESA member states are bound by its regulations, but countries must domesticate the agreements through national legal instruments and mechanisms before they can take full effect.</p> <p>Variety release and registration are covered in COMESA Seed Trade Harmonization Regulations 2014 (Chapter 4).</p>	<p>Regional Status</p> <ul style="list-style-type: none"> • COMESA Regulations shorten variety release to two seasons of DUS and VCU/NPT tests, and members are required to follow UPOV guidelines. • Regional seed catalogue is under development that would allow entry of a new variety when it has been registered in two member countries upon application with necessary DUS and VCU data. • Process also streamlined if variety registered in another COMESA country –can register in a second following one season of NPT if DUS and VCU data from first country submitted. • Member States can ban a variety for technical reasons, including unsuitability for cultivation or risk to other seed varieties, human or animal health, or the environment. • GM varieties may only be released at the national level and in compliance with national bio-safety regulations. 	<p>National Implementation</p> <ul style="list-style-type: none"> • Given the recent passage of the COMESA Seed Trade Harmonization Regulations, Member States have not yet fully harmonized their national seed laws with the new seed regulation. • Zimbabwe is working on accession to UPOV. Kenya is the only COMESA country that is a member of UPOV (out of 19). • Zimbabwe only requires one season of DUS testing, unless problems occurred during first season of testing, in which case it requires two seasons, which is a simpler standard than COMESA.
<p>SADC</p> <p>Protocols are legally binding and must be domesticated through national law, but other SADC instruments are not, including MOUs such as the MOU to</p>	<p>Regional Status</p> <ul style="list-style-type: none"> • The SADC HSRS provides rules on testing and variety release and establishes a regional seed catalogue, although this does not override national seed laws. • The SADC Variety Catalogue and the SADC Variety Database list 	<p>National Implementation</p> <ul style="list-style-type: none"> • SADC member states are not legally bound to domesticate (make operational through national law) the SADC HSRS, but countries are proceeding with implementation.

<p>implement the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC's fifteen members (Angola, Madagascar, Mauritius, Seychelles, and Zimbabwe have not yet signed).</p> <p>Countries may choose to domesticate the regional principles contained in an MOU.</p>	<p>varieties approved for marketing throughout SADC.</p> <ul style="list-style-type: none"> ○ Once a variety is released and registered in two member states, it qualifies, (upon application) for entry into the regional seed catalogue and can be accessed in the rest of the SADC market without further testing. ○ An exception exists however, and a country may reject the approved variety if the agro-ecological conditions are deemed unsuitable. <ul style="list-style-type: none"> • GM seeds will only be added to the SADC catalogue upon the consensus of all members. GM seeds may be released at the national level pursuant to national laws. 	<ul style="list-style-type: none"> • Zimbabwe, as a member of the HaSSP project, has actively pursued and achieved high levels of domestication of the SADC HSRS even though it was not a signatory to the MOU. For example, the Zimbabwean Seeds Act is aligned to the SADC HSRS.
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Comparison of COMESA and SADC Harmonization on Certification

COMESA	Regional Status	National Implementation
<p>COMESA member states are bound by regulations, but countries must domesticate the agreements through national legal instruments and mechanisms.</p> <p>Certification covered in COMESA Seed Trade Harmonization Regulations 2014 (Chapter 3), which require members to</p>	<ul style="list-style-type: none"> • Harmonized labeling to be established based on ISTA standards. • COMESA Seed Classes (four total): (1) pre-basic seed (violet band on white); (2) basic seed (labeled white); (3) first generation certified seed (labeled blue); and (4) second generation certified seed (labeled red). 	<ul style="list-style-type: none"> • COMESA regulations very new; much remains to be done before they are fully implemented. • Kenya and Zimbabwe participate in OECD seed certification schemes. • Of the 19 COMESA member states, Egypt, Kenya, Malawi, Uganda, Zambia, and Zimbabwe have ISTA-accredited laboratories.

<p>adopt common Seed Certification Rules.</p>		<ul style="list-style-type: none"> • Zimbabwe’s seed classes differ; they are Breeder Seed, Foundation Seed, Certified Seed, and Standard Grade Seed.
<p>SADC</p> <p>Protocols are legally binding and must be domesticated through national law, but other SADC instruments are not, including MOUs such as the MOU to implement the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC’s fifteen members. Countries may choose to domesticate the regional principles contained in an MOU.</p>	<p>Regional Status</p> <ul style="list-style-type: none"> • SADC Seed Certification and Quality Assurance System ensures quality of seeds listed in the SADC Variety Catalogue. Testing procedures are based on ISTA rules. The SADC Seed Committee provides technical support for the system’s implementation and development. Seeds that are not listed in the Variety Catalogue can still be traded among member states. • Harmonized labeling to be established based on ISTA standards and appropriate laboratory analysis. • The SADC Project Management Unit (PMU), with technical support from the SADC Seed Committee (SSC) and national agencies governing seeds, will coordinate the SADC Seed Certification and Quality Assurance System. • SADC Seed Classes are: Pre-basic Seed (labeled violet band on white), Basic Seed (labeled white), 1st Generation Certified Seed (labeled blue), 2nd Generation Certified Seed (labeled red), and Quality Declared Seed (labeled green). 	<p>National Implementation</p> <ul style="list-style-type: none"> • Seeds not listed in the SADC Variety Catalogue can still be traded among member states. • Note that GM varieties are not accepted in the SADC Variety Catalog. In part, this is because some countries, like Swaziland, do not yet have their own structure in place to deal with GM varieties. • SADC provides for labeling and trade of QDS as long as variety registered in accordance with regional DUS and VCU test requirements (Keyser, 2013). Zimbabwe does not have a QDS system. • South Africa, Malawi, Zambia, and Zimbabwe have ISTA-accredited laboratories. • South Africa formally participates in OECD seed certification schemes; Zimbabwe also participates but informally. • In Zimbabwe seed

		<p>certification satellite stations were established to provide certification services to HaSSP seed growers.</p> <ul style="list-style-type: none"> The main seed-testing laboratory in Zimbabwe was re-furbished under the HaSSP project and the laboratory was re-accredited by ISTA.
--	--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Comparison of COMESA and SADC Harmonization on Trade and SPS

COMESA	Regional Status	National Implementation
<p>COMESA member states are bound by regulations, but countries must domesticate the agreements through national legal instruments and mechanisms.</p>	<ul style="list-style-type: none"> Covered in 2014 COMESA Seed Trade Harmonization Regulations (Chapter 5). Universal pest list being developed for each seed crop. 	<ul style="list-style-type: none"> COMESA has prepared one set of draft lists for all types of seed trade; countries have yet to implement.
SADC	Regional Status	National Implementation
<p>Protocols are legally binding and must be domesticated through national law, but other SADC instruments are not, including MOUs such as the MOU to implement the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC's fifteen members. Countries may choose to domesticate the regional principles</p>	<ul style="list-style-type: none"> SADC Quarantine and Phytosanitary Measures contain (i) pest control list for seeds traded among SADC members and (ii) pest control list for seeds imported into SADC countries from outside the region (universal pest list). Members are also encouraged to recognize alternate methods that provide the equivalent level of pest control. A common pest list for seed inspections is also being developed. SADC has prepared two sets of pest lists, one for pests that require control when seed is 	<ul style="list-style-type: none"> Quarantine and phytosanitary measures for seed have been aligned to the SADC HSRS in draft legislation developed by national task teams with support from HaSSP. Plant and Disease Regulations, 2012, and Plant and Pest Disease (Importation, Pests and Alternate Host Control), 2012 align with SADC HSRS and are awaiting Cabinet Approval.

<p>contained in an MOU.</p>	<p>traded among SADC members and another for seed coming from outside the region (Keyser, 2013).</p> <ul style="list-style-type: none"> • The SADC Plant Protection Subcommittee provides technical support. 	<ul style="list-style-type: none"> • Pest Risk Analysis training workshops have taken place under HaSSP.
-----------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------

Source: Kuhlmann, SFSA, 2015.