HARMONIZING REGIONAL SEED REGULATIONS IN SUB-SAHARAN AFRICA: A COMPARATIVE ASSESSMENT

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For the Syngenta Foundation for Sustainable Agriculture

COMMONLY USED ACRONYMS

African Intellectual Property Organization (ARIPO)
African Organization for Standardization (ARSO)
African Seed Trade Association (AFSTA)
African Union (AU)
Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA)
Alliance for the Seed Industry in Eastern and Southern Africa (ASIESA)
Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
Codex Alimentarius Commission (CODEX)
Common Market for Eastern and Southern Africa (COMESA)
Comprehensive Africa Agriculture Development Programme (CAADP)
Conference of the Agricultural Leaders in West and Central Africa (CORAF)
Continental Free Trade Area (CFTA)
Convention on Biological Diversity (CBD)
Distinctness, Uniformity, Stability (DUS)
East African Community (EAC)
Eastern and Central Africa Program for Agricultural Policy Analysis (ECAPAPA)
Economic Community of West African States (ECOWAS)
Forum for Agricultural Research in Africa (FARA)
Food, Agriculture, and Natural Resources Policy Network (FANRPAN)
Food and Agriculture Organization, (FAO)
International Plant Protection Convention (IPPC)
International Seed Federation (ISF)
International Seed Testing Association (ISTA)
International Union for the Protection of New Varieties of Plants (UPOV)
Memorandum of Understanding (MOU)
National Agricultural Research Systems (NARS)
National Performance Tests (NPT)
National Plant Protection Organization (NPPO)
New Partnership for Africa's Development (NEPAD)
Organisation for Economic Co-operation and Development (OECD)
Regional Economic Community (REC)
Sanitary and Phytosanitary (SPS)
South African National Seed Organization (SANSOR)
Southern African Development Community (SADC)
South African Development Community Food, Agriculture, and Natural Resources Directorate (SADC-FANR)
Syngenta Foundation for Sustainable Agriculture (SFSA)
Tripartite Free Trade Area (TFTA)
United Nations (UN)
United Nations Economic Commission for Africa (UNECA)
U.S. Agency for International Development (USAID)
Value for Cultivation or Use (VCU)
West African Catalogue of Plant Species and Varieties (COAFEV)
West African Economic and Monetary Union (UEMOA)

West Africa Seed Network (WASNET)
West African Seed Program (WASP)
World Intellectual Property Organization (WIPO)
World Organization for Animal Health (OIE)
World Trade Organization (WTO)

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Abstract

Throughout sub-Saharan Africa, regional harmonization holds great promise for linking markets and achieving economies of scale, opening up opportunities along value chains and improving livelihoods across sectors, including agriculture. Legal and regulatory reform is a significant component of regional harmonization, and the rules and standards created by Africa's regional economic communities (RECs) are providing an increasingly comprehensive framework for development of the seed sector. Harmonized regulation of seeds and other inputs has been an area of focus across Africa's regional economic communities, and this paper provides a comparative assessment of the progress, opportunities, and remaining challenges within the most significant regional seed harmonization initiatives.

This comparative analysis of African regional harmonization efforts is focused on four of the main regional bodies, namely the Economic Community of West African States (ECOWAS), [2] the Common Market for Eastern and Southern Africa (COMESA),[3] the East African Community (EAC),[4] and the Southern African Development Community (SADC)[5] and will evaluate the progress each REC has made in harmonizing different aspects of seed regulation. While each REC is taking steps to harmonize critical aspects of seed regulation (variety release, quality control, and sanitary and phytosanitary (SPS) measures), the degree of regional harmonization varies across RECs. Most importantly, much more remains to be done before regional efforts can be fully implemented. This study will assess several of the main factors affecting implementation: (1) institutional structure and capacity within the RECs; (2) overlap between different regional initiatives; (3) the degree to which national level action, including further change in law and regulation, are needed to implement regional seed harmonization efforts; and (4) regulatory cooperation among countries within the RECs.

In evaluating the degree to which implementation of seed harmonization efforts are taking place, this analysis will look at: (1) gaps in existing law, regulation, and procedure at the regional level;

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[2] ECOWAS members total fifteen: Benin, Burkina Faso, Cape Verde, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

[3] COMESA members total nineteen: Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, South Sudan, Swaziland, Uganda, Zambia, and Zimbabwe.

[4] EAC members total five: Burundi, Kenya, Rwanda, Tanzania and Uganda.

[5] SADC members total fifteen: Angola, Botswana, Democratic Republic of the Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

(2) gaps in law, regulation, and institutional process at the regional and national levels needed to operationalize these regional frameworks, including between countries; and (3) effect of regional rules in practice. Due to the importance of national level legal structures in implementing regional harmonization efforts, this paper refers to national level laws, regulations, and institutions, but a complete assessment of all national level legislation is beyond the scope of this work. Nonetheless, national level systems for seed regulation are a critical component of regional harmonization.

This comparative assessment is part of a larger project on regional seed harmonization conducted by the Syngenta Foundation for Sustainable Agriculture (SFSA) and its Seeds2B program, in partnership with the New Markets Lab (NML). In addition to this work, SFSA and NML have developed country case studies that more fully assess national level legal systems and the impact of regional initiatives within select countries. Country case studies for Kenya and Zimbabwe have been drafted, and an additional case study for the ECOWAS region will be completed in 2015. Further, in 2016 SFSA and NML will develop a series of regional test cases designed to test regional harmonization procedures on the ground. It is intended that the regional seed harmonization project will be rolled out through a workshop in 2016, with anticipated partnership with a number of the organizations and institutions referred to in this work.

Introduction

Building effective seed systems is essential to successful agricultural transformation, diversification and intensification within the sector, food security, and inclusive market growth. While many factors contribute to how seed systems function and how markets develop, the policy, legal, and regulatory environment (or enabling environment) is often the first gateway to new opportunity.

In sub-Saharan Africa, larger markets can present significant opportunity, since many domestic markets are relatively small and a number of countries are landlocked, without direct access to ports and larger market channels. In many cases, borders physically cut across agro-ecological zones, limiting market potential. In Eastern and Southern Africa, for example, political borders separate "food surplus areas in northern Mozambique and southern Tanzania from intermittently deficit markets in Malawi and eastern Zambia."[6] Accessing the right seeds often depends upon crossing a border as well, and fragmented regional markets can deter investment in farm-level improvements, input supply, and seed multiplication.[7] The impact of more fully integrated regional markets is significant, yet regional harmonization efforts will need to be well implemented in order to fully unlock this potential.

For seeds, regional trade will be increasingly important to ensure adequate supply and long-term productivity gains through access to broader markets for seed enterprises and farmers. The

[6] Haggblade, Steven. 'Unscrambling Africa.' International Food Policy Research Institute, *Development Policy Review* 31.2 (2013): 149-176.

[7] *See* Brenton, Paul, and Gozde Isik (eds.). *Defragmenting Africa: Deepening Regional Trade Integration in Goods and Services,* World Bank (2012) and Brenton, Paul., et.al. *Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples*. World Bank (2012) in John Keyser *Opening Up the Markets for Seed Trade in Africa,* African Trade Practice Working Paper Series Number 2, World Bank (2013).

benefits of regional harmonization in seeds have been widely touted, [8] among them are the potential to lower barriers for movement of varieties and seeds, simplify and increase transparency of procedures in critical areas across countries such as export/import licenses, streamline certificates of origin, cut regulatory costs, and improve SPS controls among countries.[9] Regional harmonization efforts hold the potential to streamline and shorten procedures for evaluating and releasing new varieties; make rules on quality control and certification more uniform across countries; strengthen the design and application of sanitary and phytosanitary (SPS) systems; simplify requirements and procedures for importing or exporting; establish regional efforts on plant variety protection to encourage breeders to develop new crop varieties; and improve rules and regulations that will directly impact participation of the private seed industry in variety evaluation, release, certification, and trade. Although these benefits likely will flow from regional harmonization efforts, they will not be automatic and will require a great deal of work over time well beyond regional harmonization frameworks themselves.

While numerous efforts are underway to harmonize at the regional level, at present gaps in the harmonization process still present impediments to increased agricultural productivity and economies of scale.[10] Movement of seeds, germplasm, and data across borders can be a complicated process due both to the complexity of requirements for allowing such trade to take place and the number of procedural steps that must be navigated. While regional harmonization initiatives require countries to mutually recognize each others' regulatory systems, in practice this is not always the case. Time spent at the border can make a significant difference, and rules on import/export, tariff and non-tariff barriers, and customs administration will directly impact the speed with which seeds cross borders. If seeds are held up for too long, viability and germination may be negatively affected, rendering them unusable.[11] Not only will laws and regulations need to be changed, but the institutions supporting these legal structures will need to be strengthened and numerous regulators trained, all of which can be time consuming and costly. The impact of effective regional harmonization can, however, be significant, with far greater gains going to farmers and other stakeholders in the seed sector if the enabling environment for larger regional markets can be facilitated.[12]

As this paper will discuss, regional harmonization efforts vary across sub-Saharan Africa. While these efforts hold great promise to streamline rules and procedures around seed development and trade, the differences among RECs also introduces an additional degree of complexity in the enabling environment. While most of the RECs included in this study have made quite significant steps towards putting in place a framework for regional seed harmonization, institutions and day-to-day market processes often lag well behind. Adding another layer to the

[8] *See, e.g.,* Isaac Minde, Harmonizing Seed Policies and Regulations In Eastern And Central Africa, International Food Policy Research Institute, (2006) 2.
[9] *See, e.g.,* Gisselquist, David. *Harmonization of seed legislation and regulation in CEEC, CIS and Other Countries in Transition.* Food and Agriculture Organization of the United Nations (2001).
[10] Brenton, Paul, et.al. *Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples*. World Bank (2012).
[11] Brenton, Paul, Nora Dihel, Richard Gicho, Ian Gillson, Matthew Harber, Gozde Isik, John Keyser, Ron Kopicki, Barbara Rippel, and Andrew Roberts. 'Africa Can Help Feed Africa: Removing barriers to regional trade in food staples.' Washington D.C.: World Bank (2012).
[12] *See also* Katrin Kuhlmann. *Enabling Environment for Scaling Seeds, Planning for Scale Brief*. Ag Partner XChange, 2013. Publication forthcoming by the Syngenta Foundation for Sustainable Agriculture as part of collected work.

puzzle, regional harmonization efforts are sometimes overlapping and inconsistent, with many countries belonging to more than one regional economic community (REC),[13] often with differing laws and standards (See Figure 1 below).

The interplay between regional and national level rules and regulations will also play a significant role in unlocking the potential of regional markets. Although regional harmonization efforts endeavor to unify national seed legal and regulatory regimes, the actual process of changing national systems to reflect regional rules, often referred to as "domestication," will take a significant amount of time, and a number of discrepancies between regional and national systems still exist. Further, while national governments are increasingly seeking to take the interests of seed growers and companies into account and engage them in putting in place systems that can both ensure quality of seeds and effectively and flexibly regulate seed systems,[14] further change in national level legal and regulatory systems will be required to bring the private sector into the process as regional harmonization efforts move forward.

When markets cut across a greater number of countries, the enabling environment tends to become both more important and more complex. As discussed below, the enabling environment includes both the written rules and measures that govern the market and a complex system of practices and institutions needed to effectively implement these rules. The ability of the enabling environment to facilitate delivery of high-quality seeds into the hands of farmers will depend upon both legal and institutional factors and failures as well as how gaps in these systems are identified and addressed. Implementation of laws and regulations is particularly critical and often will be the determining factor in whether high-quality seed is available on the market, whether farmers can access and adopt these seeds, and whether seeds and other goods and services, including other inputs, can physically move from one place to another. While having good laws and solid regulations is a critical step in developing a seeds system, these measures are only as effective as their implementation on the ground. The comparative analysis of the different regional integration efforts contained in this paper is focused in particular on this aspect of implementation of laws and regulations and the institutions that are needed to support them.

Scope of Analysis

Implementation of regional agreements will be a significant factor in scaling seed systems, and further study is warranted, both at the regional and the country level. Within sub-Saharan Africa, different regions have quite different regulatory structures for seeds. These structures are not only different legally and at the institutional level, they operate on very different timelines. This study will focus on the regional seed harmonization efforts of four key regions: ECOWAS, COMESA, EAC, and SADC. These four regions have adopted or are in the process of adopting seed protocols and measures to increase agricultural productivity, facilitate regional integration, and ensure food security. The analysis will focus on several critical and often homogenous areas of policy and legal reform (seed variety release, seed certification or some form of quality control, and trade and SPS measures), looking both at ratified seed harmonization protocols and

[13] Eight RECs are recognized by African Union: AMU, CEN-SAD, COMESA, EAC, ECCAS, ECOWAS, IGAD, SADC, each of which has slightly different priorities and institutional capacities.

[14] *A Synthesis of International Regulatory Aspects that Affect Seed Trade*, Organization for Economic Co-operation and Development, 2012. Web. Nov 4, 2014. http://www.oecd.org/tad/code/internationalregulatoryaspectsseedtrade.pdf.

proposed rules. It will also assess the institutional structures in each of the four regions. Particular attention will be placed on how regional harmonization is being implemented and actually working in practice, as the reality in the market is often quite different from protocols and rules.

While numerous instruments exist to harmonize Africa's regional markets, including different aspects of the regional trade agreements discussed below, implementation has been challenging. Actual implementation must include measures at the national level, since that is where laws and regulations are housed.[15] As a result, even when regional agreements and policies exist to harmonize seed systems, the countries that are party to the RECs still have to implement the agreements through national legislation and mechanisms. This will require not only changes in law and regulation at the national level but also improved processes within and between countries.

Section One will first examine institutional and legal frameworks, which includes an overview of the African Regional Economic Communities; a brief introduction to the key international, regional, and national institutions involved in seed regulation; and an introduction to the legal and regulatory issues included in the comparative assessment, namely variety release and registration, certification, and cross-border trade and SPS. Section Two of the paper will assess progress within these areas within ECOWAS, COMESA, the EAC, and SADC. Section Two will examine each REC in detail, with an overview of the institutional structure, both for all regional market regulation and with respect to seeds in particular and will also include a timeline of regional harmonization efforts and corresponding (or contradicting) national measures discussed to the extent possible. Section Three will compare the efforts of each REC in key areas of law and regulation (variety release and registration, certification, and SPS), drawing parallels and identifying gaps among regional initiatives.

Section One: Overview of Institutional and Legal Frameworks

Overview of African Regional Economic Communities

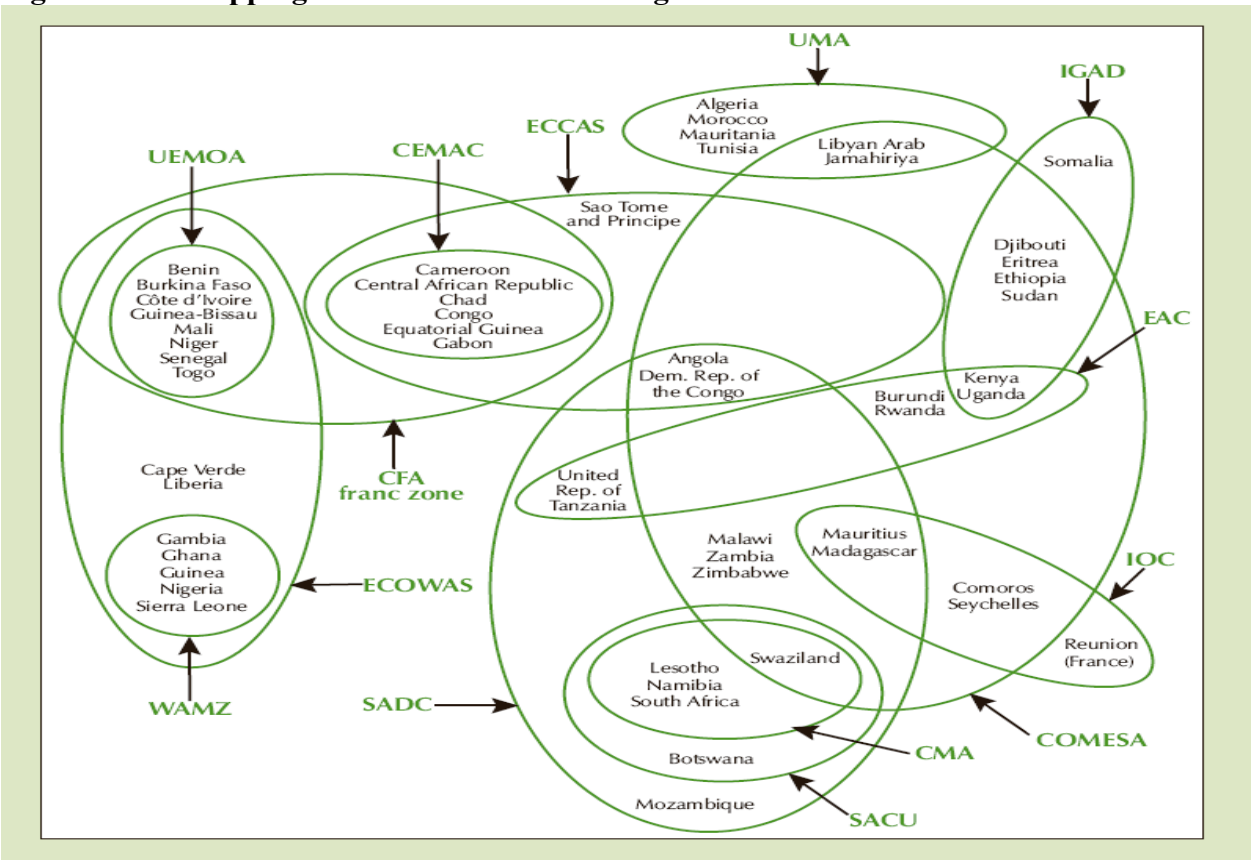
As noted, this paper will focus on four of the main RECs undertaking seed harmonization efforts (ECOWAS, the EAC, COMESA, and SADC), but it is important to note at the outset that these RECs are not isolated institutions operating without any connection to each other or to other regional, sub-regional, pan-African, and international institutions. The African Union (AU) officially recognizes eight RECs, including the four studied in this paper and the Community of Sahel-Saharan States (CEN-SAD), the Arab Maghreb Union (AMU/UMA), the Economic Community of Central African States (ECCAS/CEEAC) and the Intergovernmental Authority on Development (IGAD). Figure 1 below shows these RECs and several others, including the Economic and Monetary Community of Central Africa (CEMAC), the West African Economic and Monetary Union (UEMOA), and the West African Monetary Zone (WAMZ).

As noted above, membership among the RECs does overlap to a significant degree, which will add an additional level of complexity to regional harmonization efforts going forward. This is

[15] Waithaka, Michael, et.al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*. ASARECA, April 2011: 8. Web. Oct. 23, 2014.

not uncommon among sub-Saharan African institutions (See Figure 1), but the full magnitude of these overlapping institutions and rules has not yet been fully assessed since most institutions are still in the rule-setting phase, with much work to be done in implementing these rules in practice.

Figure 1: Overlapping Sub-Saharan African Regional Blocks



Source: United Nations Conference on Trade and Development. *Economic Development in Africa: Strengthening Regional Economic Integration for Africa's Development.* Geneva: United Nations, 2009. http://www.unctad.org/en/docs/aldcafrica2009_en.pdf

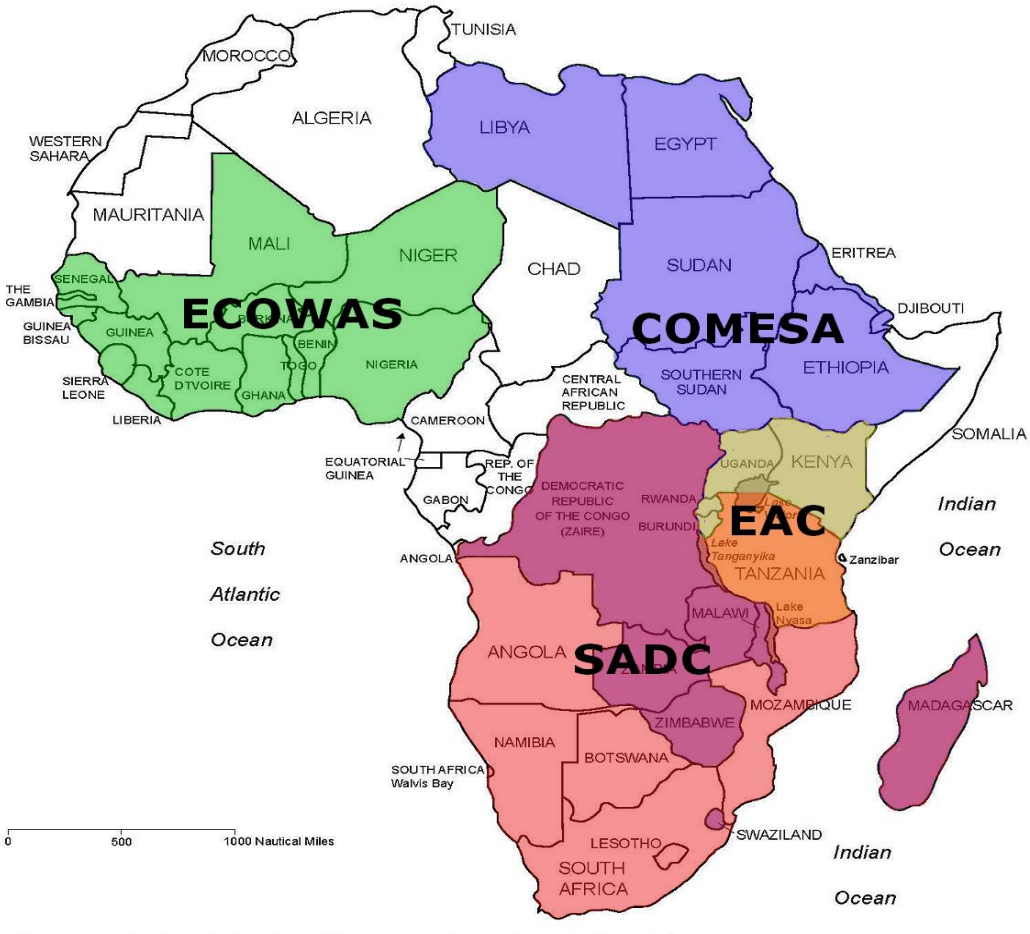
Further, within regions, efforts are underway to integrate among RECs. In 2008, the EAC, COMESA, and SADC agreed to develop a Tripartite Free Trade Area (TFTA), which was officially launched on June 10, 2015, aimed at harmonizing the trade regimes of the three RECs (See Figure 2 below for coverage of the TFTA among the EAC, COMESA, and SADC).[16] The TFTA will have implications for seed trade and all other aspects of regional economic harmonization.[17] As discussed below, tripartite seed harmonization discussions are in a very early stage, so it is not yet possible to evaluate their implications. Nonetheless, as the discussion below will highlight, there are differences in both the substantive content of current seed harmonization efforts and institutional structure among these three RECs that will likely create

[16] Status of Integration in Africa (SIA IV), the AU Commission, 2013: 10. See also the COMESA, EAC and SADC Tripartite 2nd Meeting of the Tripartite Sectoral Ministerial Committee on Trade, Finance, Customs, Economic matters and Home internal Affairs, Pointe aux Piments, Mauritius, (10th July 2013).

[17] *Focal Area 1: The Tripartite Free Trade Area*, COMESA, n.d. Web. Nov. 4, 2014. http://www.comesa-eac-sadc-tripartite.org/intervention/focal_areas/tripartite_fta.

challenges going forward. In addition, negotiations for a Continental Free Trade Area (CFTA) were also launched in June 2015, which will, over time, bring together the RECs throughout sub-Saharan Africa. While the CFTA will require time, differences in legal rules among the RECs will need to be evaluated as this process proceeds.

Figure 2: Composition of ECOWAS, COMESA, EAC, and SADC

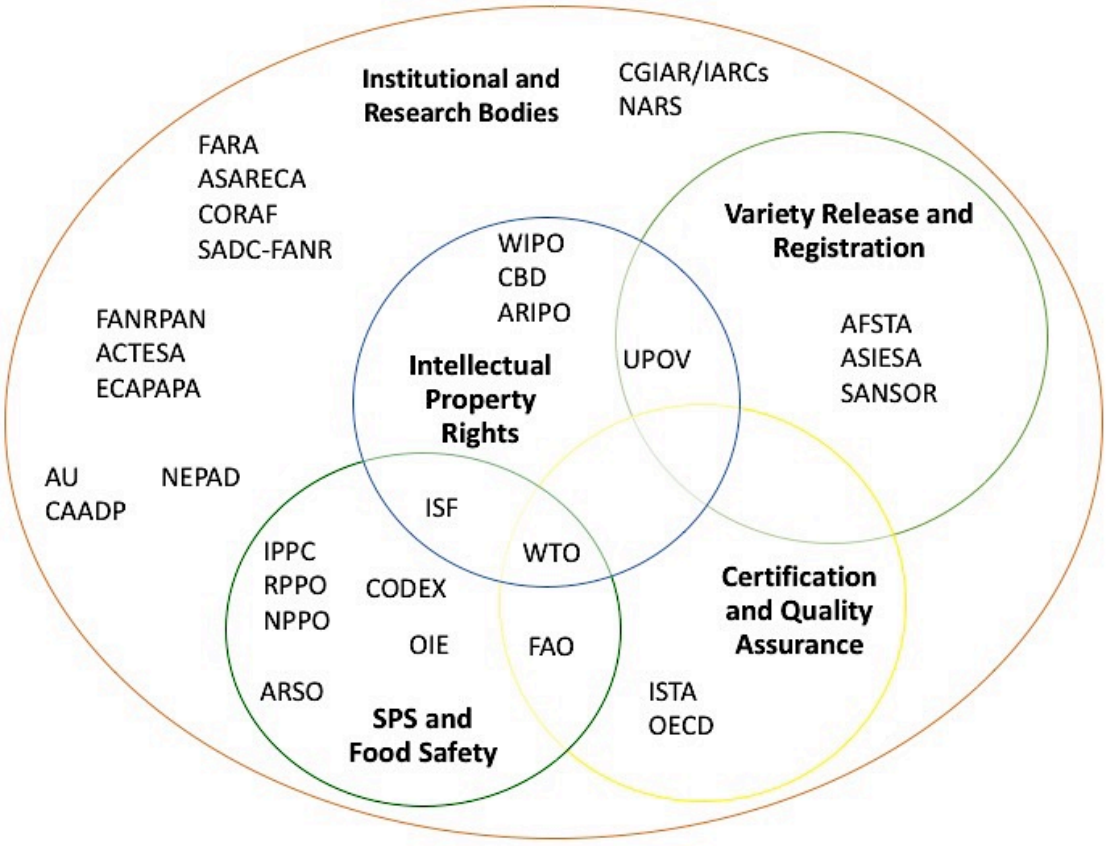


Overview of Key International, Regional, and National Institutional Actors

In addition to the RECs, other institutions play a significant role in Africa's regional seed trade harmonization and will be referenced throughout this paper. These institutional actors exist at the international level (such as the World Trade Organization (WTO)), regional level (such as the Comprehensive Africa Agriculture Development Programme (CAADP) and New Partnership for Africa's Development (NEPAD) under the AU umbrella), and national level (such as national

plant protection organizations). The roles and functions of these different institutional actors are often overlapping, both with respect to seed regulation more generally and within the different aspects of seed harmonization more specifically. These different institutions are discussed below and referred to throughout this analysis, and Figure 3 depicts the interconnection between these different organizations and entities

Figure 3: Interrelationship Among Institutional Actors



Source: New Markets Lab, 2014

The Forum for Agricultural Research in Africa (FARA), which is connected to the AU Commission, is the coordinating platform for agricultural research and development in Africa and includes sub-regional organizations active in the seed sector such as the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), the West and Central African Council for Agricultural Research and Development (CORAF), and the South African Development Community Food, Agriculture, and Natural Resources Directorate (SADC-FANR), the efforts of which are discussed in greater detail below. Internationally, the CGIAR (formerly the Consultative Group on International Agricultural Research), which includes fifteen international agricultural research centers (IARCs), and nationally the National Agricultural Research Systems (NARS) also play significant roles in the seed sector.

On a pan-African basis, the AU's NEPAD, which is also part of FARA, and its CAADP Programme, set goals for development of Africa's agricultural sector and establish processes that could play an increasing role in harmonization of rules and measures governing seeds.[18] CAADP has created a country-based framework and planning process (compacts) for agricultural development and generated widespread support and resource commitments from both African governments and the donor community, including the benchmark for countries to allocate ten percent of their national budgets to the agricultural sector.[19] However, only a handful of countries (namely, Burkina Faso, Ethiopia, Guinea, Mali, Niger, and Senegal) had met the ten percent target by 2010.[20] While the CAADP compact process has primarily focused on the national level, a relatively new regional compact planning process has begun under CAADP. ECOWAS, COMESA, and SADC have regional CAADP compacts, while the EAC is revising a draft CAADP compact.[21] As these efforts proceed and CCADP compacts move forward in their implementation, the CAADP framework could be used more to help strengthen and accelerate implementation of harmonized seed regulations.

In West Africa, CORAF has been a significant partner in regional harmonization efforts (CORAF was formerly the Conference of the African and French Leaders of Agricultural Research Institutes (CORAF/WECARD) and Conference of the Agricultural Research Leaders in West and Central Africa).[22] CORAF is part of FARA and focuses on promoting the efficiency of small-scale producers and strengthening the agribusiness sector, notably putting producers and end-users at the center of research efforts.[23] CORAF has been tasked with implementation of the ECOWAS seed regulations and is doing so in collaboration with the West African Seed Program (WASP) funded by the U.S. Agency for International Development (USAID). CORAF recently issued an official release to ECOWAS, UEMOA, and the Permanent Inter-State Committee for Drought Control in the Sahel (CLISS) Member States, based on Article 88 of the ECOWAS Seed Regulations, requesting publication of the ECOWAS regulations in their official national Gazettes, which would allow the enforcement of the ECOWAS seed regulation at the national level across these regions.[24]

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[18] *The AU/NEPAD African Action Plan 2010-2015: Advancing Regional and Continental Integration in Africa*, NEPAD, 2009: 36. *See also* Samuel Kariuki, Do regional initiatives integrate land reform and rural development? A case of New Partnership for Africa Development (NEPAD), Southern Africa Development Community (SADC) and the East African Community (EAC), Centre for Policy Studies, (2009) 6.

[19] African Union. "Declaration on Agriculture and Food Security in Africa." Assembly/AU/Decl.7 (II). Maputo, Mozambique, 2003. Web. Nov. 2, 2014. http://www.nepad.org/system/files/Maputo%20Declaration.pdf. *See also* Common Market for Eastern and Southern Africa. *COMESA Agricultural Programmes*. Web. Nov 2, 2014. http://programmes.comesa.int//index.php?option=com_content&view=article&id=94&Itemid=111

[20] Diao, Xinshen., et.al. *Evidence on Key Policies for African Agricultural Growth*. International Food Policy and Research Institute (IFPRI), 2013. Web. Oct. 31, 2014. http://www.ifpri.org/sites/default/files/publications/ifpridp01242.pdf.

[21] "EAC CAADP Compact Validated at National Level." MINAGRI News, 18 December 2014.

[22] The Conference of the African and French Leaders of Agricultural Research Institutes (CORAF/WECARD) was established in 1987. In 1995 it became the Conference of the Agricultural Leaders in West and Central Africa Conference (CORAF), and in 1999 CORAF's the name was changed to the West and Central African Council for Agricultural Research and Development.

[23] *See http://www.fara-africa.org/partners/corafwecard/.*

[24] Annual Report-Transforming Regional Research and Strengthening Capacity for Innovation in Agriculture for Development Capacity for Innovation in Agriculture for Development, CORAF/WECARD (2013) P 24.

In Eastern and Central Africa, the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) has played a critical role in seed trade harmonization since 1999.[25] ASARECA is a sub-regional association, with eleven countries as members, with a mission of improving delivery of useful seed varieties, acceleration in innovation in plant varieties, and sharing of scientific knowledge, policy options and technologies to drive the sub-region towards greater harmonization in seeds, consistent with the goals of CAADP.[26]

In southern Africa, the Food, Agriculture, and Natural Resources Policy Network (FANRPAN) began its pilot phase in 2007-08 following introduction of the regional regulations and launched the second phase of the SADC Harmonized Seed Security Project (HaSSP) in 2010 in Malawi, Swaziland, Zambia, and Zimbabwe. HaSSP is a partnership between FANRPAN and SADC, designed to implement the SADC Harmonized Seed Regulatory System (HSRS) in the four pilot nations.[27] The current phase of the project was concluded in September 2014. It was funded, in part, by the Swiss Agency for Development and Cooperation (SDC).[28] HaSSP conducted multiple workshops in the target countries to aid national officials in both the implementation of the HSRS and in overall regulation of the seed market. It also audited countries to measure their compliance with the regional system.[29] Focus shifted to domestication in 2010, and the project made significant progress bringing the four chosen SADC countries' seed rules in line with regional disciplines.

International bodies, conventions, and treaties dealing with the regulation of seed trade also directly influence seed regulation at the regional and national levels. The scope of these bodies' work and range of measures vary from access and delivery of quality seeds to covering the interests of farmers, breeders, companies, and consumers. The WTO contains a number of agreements which apply to the seed value chain, such as the Agreement on the Application of Sanitary and Phytosanitary Measures (WTO SPS Agreement) and Agreement on Trade-Related Intellectual Property Rights (TRIPS Agreement), which contains the requirement that WTO members provide sui generis protection for new plant varieties.

The Organisation for Economic Co-operation and Development (OECD) plays a particularly prominent role in the seed value chain, particularly with respect to seed certification. The OECD has developed common international rules for varietal certification through the OECD Schemes for the Varietal Certification or the Control of Seed Moving in International Trade (OECD Seed

[25] Association for Strengthening Agricultural Research in Eastern and Central Africa, accessed online on 8/20/14) http://asareca.org/old2011/resources/img/resources/photos/securimage/img/index.php?page&as=229.
[26] ASARECA, http://www.asareca.org/content/about-us-0. The members of ASARECA are Burundi, Democratic Republic of Congo, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania, Uganda and South Sudan (joined recently).
[27] See "Harmonized Seed Security Project (HaSSP): Newsletter 01." *FANRPAN.* 1 Nov. 2010. Web. 31 Oct. 2014. http://www.fanrpan.org/documents/d01016/.
[28] Swiss Cooperation Strategy Southern Africa 2013-2016. Swiss Agency for Development and Cooperation, Dec. 2012. Web. 3 Nov.
2014. https://www.eda.admin.ch/content/dam/deza/en/documents/Laender/resource_en_221645.pdf. Note, SDC reports that a total of six countries have domesticated the HSRS.
[29] Harmonized Seed Security Project. FANRPAN, June 2011. Web. 3 Nov.
2014. http://www.fanrpan.org/about/brochure_tour/hassp/HaSSP_brochure.pdf

Schemes).[30] The OECD Seed Schemes cover the following seven species: (1) grasses and legumes; (2) crucifers and other oil and fibre species; (3) cereals; (4) beets; (5) subterranean clover and similar species; and (6) maize and sorghum; and (7) vegetable seeds.[31] The OECD Seed Schemes may be adopted by WTO Members and United Nations (UN) Members that elect to apply them, and participating states are then obligated as prescribed. The OECD seed schemes have formed the basis for some of the regional harmonization efforts discussed below. While some experts have highlighted as one reason regional efforts have struggled, countries have indicated that organizing around international standards actually facilitates more effective regional harmonization. Countries that have had their national seed certification validated by the OECD may affix OECD labels to seed sacks. At present, however, only seven African countries formally participate in the OECD seed schemes (Egypt, Kenya, Morocco, South Africa, Tunisia, Uganda, and Zimbabwe).[32] Other countries, including Tanzania, follow OECD formalities and are going through the process of formal participation.

The International Seed Testing Association (ISTA), which develops and publishes international rules for seed testing and certification, also plays a key role in the seed value chain and regional seed harmonization efforts. ISTA offers an accreditation program for laboratories, provides international seed analysis certificates and training, and promotes research in seed science and technology.[33] ISTA's standard procedures for sampling and testing seeds have also been cited as setting a high bar in African regional harmonization, yet, again, countries have voiced their support for recognized outside standards like ISTA rules. Internationally-traded seed must often be accompanied by certificates issued by an ISTA-accredited laboratory, yet only seven ISTA-accredited laboratories exist in Africa (ISTA-accredited labs are in Egypt, Kenya, Malawi, South Africa, Uganda, Zambia, and Zimbabwe).[34] Once again, other countries, such as Tanzania (which is already an ISTA member), are far along in the process of having ISTA-accredited labs.

The International Union for the Protection of New Varieties of Plants (UPOV) oversees implementation of the International Convention for the Protection of New Varieties of Plants and describes the criteria required for a new variety to be protected and the rights conferred to the breeder of a protected variety. UPOV also sets guidelines for Distinctness, Uniformity, Stability (DUS) and Value for Cultivation or Use (VCU) tests.

For SPS, the International Plant Protection Convention (IPPC) is an international agreement among 177 contracting parties that focuses on establishing common phytosanitary measures to reduce the risk of pests associated with internationally traded plants.[35] Under IPPC, exporters

[30] OECD Schemes for the Varietal Certification or the Control of Seed Moving in International Trade, available at http://www.oecd.org/tad/code/1_complete%20document.pdf.
[31] OECD Schemes for the Varietal Certification or the Control of Seed Moving in International Trade, available at http://www.oecd.org/tad/code/1_complete%20document.pdf.
[32] *OECD Schemes for the Varietal Certification or the Control of Seed Moving in International Trade*. Organization for Economic Co-operation and Development, 2014. Web. 2 Nov. 2014. http://www.oecd.org/tad/code/1_complete%20document.pdf.
[33] International Seed Testing Association, available at http://seedtest.org/en/about-ista-_content---1--1011.html
[34] These laboratories are seven out of 116 worldwide ISTA-accredited laboratories. *See* John C. Keyser, *Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2*. World Bank, 2013: 4.
[35] International Plant Protection Convention. N.d. Web. Nov. 2, 2014. https://www.ippc.int/.

must obtain a phytosanitary certificate from their National Plant Protection Office (NPPO) to certify that the importing country's requirements are met. Regional Plant Protection Offices (RPPOs) will play an increasingly important role. Additional requirements are also imposed pre- and post-importation.[36] A number of African countries are contracting parties to the IPPC, although a number do require additional capacity in order to fully comply with the treaty's requirements.

The Food and Agriculture Organization (FAO) also plays a role in the seed value chain. Based on Article XIV of its Constitution, FAO provides guidelines and assistance with developing regulatory frameworks for related aspects of seed trade, including plant health, SPS measures, access and benefit sharing for plant germplasm, and use of pesticides.[37] The FAO is providing support to ECOWAS and SADC, for example.[38] The FAO has also issued general guidelines on Quality Declared Seed (QDS) that present an alternative to centralized seed certification as discussed below.[39]

The African Organization for Standardization (ARSO) also plays a role in seed trade harmonization. ARSO is an intergovernmental body created by the United Nations Economic Commission for Africa (UNECA) and the Organization of African Unity (now the AU) in 1977.[40] ARSO's mandate is to harmonize African standards and conformity assessment procedures to promote intra-African and international trade.[41] The RECs have Memoranda of Understanding (MOUs) with ARSO to grant ARSO recognition to coordinate harmonization of regional standards, which includes standards for agriculture and seeds.[42]

Other treaty bodies, such as the Convention on Biological Diversity (CBD), that brings together member states around sharing and using genetic resources, and the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA), which aims to establish a global system to provide farmers, plant breeders, and scientists with access to plant genetic materials, can help to balance the interest smallholder farmers, industries, and researchers.[43] IT-PGRFA is significant because it establishes the right for farmers to save and recycle seed, and only a few African countries are not party to the treaty.[44]

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[36] *See* John C. Keyser, *Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2.* World Bank, 2013: 8.
[37] *See* Treaties under Article XIV of the FAO Constitution, Conventions, Agreements and Treaties Deposited with FAO, Available at http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/?page=2&ipp=10&no_cache=1&tx_dynalist_pi1[par]=YToxOntzOjE6IkwiO3M6MToiMCI7fQ==.
[38] AGP-Seed Rules and Regulatory Frameworks. FAO. N.d. Web. Aug. 20 2014. http://www.fao.org/agriculture/crops/thematic-sitemap/theme/seeds-pgr/seed-sys/rules/en/
[39] *Quality Declared Seed System*. Food and Agriculture Organization of the United Nations, 2006. Web. 2 Nov. 2014. http://www.fao.org/docrep/009/a0503e/a0503e00.htm.
[40] *See* African Organization for Standardization http://www.arso-oran.org/.
[41] *See* African Organization for Standardization http://www.arso-oran.org.
[42] *See* "ARSO-REC Relations http://www.arso-oran.org/?page_id=37 (accessed on 8/20/14).
[43] Convention on Biological Diversity (UN, 1992) Article 1; the International Treaty on Plant Genetic Resources for Food and Agriculture (FAO; 2009) Article 1.
[44] Namely, Botswana, Equatorial Guinea, Mauritania, Mozambique, Somalia, South Sudan, and South Africa. *See* John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 21.

In the area of intellectual property, the African Intellectual Property Organization (ARIPO)[45] issues patents, copyrights, trademarks, and other intellectual property rights in its member states, and recently adopted the Arusha Protocol for the Protection of New Varieties of Plants.[46]

The International Seed Federation (ISF), an international organization representing the seed industry, is active in developing and providing seed schemes for certification, standards and procedures for sampling and testing, intellectual property protection, and trade (including SPS) and arbitration rules. The African Seed Trade Association (AFSTA)[47] was formally established in March 2000 to create a regional representative body for the seed industry that could also serve to promote the development of private seed enterprises. Currently, membership stands at 95 and is comprised of seed companies and National Seed Trade Associations, among others.[48]

Overview of Substantive Areas of Law and Regulation

Laws and regulations related to seeds, whether at the regional or national level, cover a number of stages in the seed value chain such as ensuring that high-quality seeds are available in the market (including variety release and registration, certification, seed testing, marketing of seed, governmental and parastatal control over the process, and trade and cross-border issues). Fully assessing the implications of regional harmonization requires parsing through each aspect of regional seed regulation; understanding the status of the regulations (whether member states automatically adopt regional rules or are required to take additional steps at the national level, which is most common); and looking at member states' different laws, standards, and regulations.

Overall, easier and more transparent procedures for variety release and registration, seed certification, inspection and accreditation, plant variety protection, science-based SPS regulations, seed trade procedures will be needed to increase the continent's seed trade while helping farmers boost production and improve food security. Member states of the RECs, besides adopting standards at the ministerial level, will need to take adequate steps to implement harmonized seed regulations and provide adequate political, financial and legal commitments to see these efforts through.

Variety Release and Registration

Variety release processes are perhaps one of the most critical aspects of building sustainable seed regulatory systems, and these processes directly impact how well and how quickly new seed varieties get into farmers' hands. Seed variety evaluation, release, and registration systems

[45] Includes member organizations from all regional economic groups: Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Rwanda, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

[46] 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 as a region, for example the issue of a unitary territory was changed to ensure that member states have a role in the grant of rights.

[47] *About AFSTA*. African Seed Trade Association, n.d. Web. Nov. 2, 2014. http://afsta.org.

[48] Africa Seed Trade Association, Membership Africa Seed Trade Association, n.d. Web. Oct. 20, 2014. http://afsta.org/memberships/.

include the procedures related to release of new varieties and the conditions and administrative procedures required by government before the production and distribution of new seed can commence.[49] At the border, additional requirements apply, including import requirements to let in seed tested and approved in another country and requirements for sharing data across borders.

All national governments within sub-Saharan Africa, with the notable exception of South Africa, place considerable government controls on the introduction of new seed varieties and require varying rounds of DUS and VCU tests to evaluate characteristics and performance, often at multiple sites, which can add to the cost and complexity of variety release. In some countries clear guidelines for interpreting DUS and VCU trial results have not been published, creating uncertainty in the process.[50] Within countries, each stage in the variety release process may requires interaction with different government and parastatal actors, and the precise procedures for the different steps in the process are not always well understood. For example, review by a national variety release committee (or sometimes multiple committees) is often required before new varieties can be registered for sale in the market. These committees tend to meet infrequently (perhaps once a year), and meeting schedules may be unpredictable due to lack of resources.[51]

Even with clear laws and regulations, the variable implementation of these processes means that it may not be possible to predict exactly what will happen until things unfold in practice. It is also possible that these processes do not match with the objectives outlined in seed regulations, such as increasing production, facilitating distribution, and ensuring reliance and quality control.[52]

In sub-Saharan Africa, systems for variety release and registration vary in length and complexity. The World Bank estimates that it can take between two and three years to introduce new seed varieties in sub-Saharan Africa even if varieties are present in neighboring countries,[53] while other reports indicate that the process can take even longer.[54] Regional initiatives on variety release and registration hold the promise of reducing these timeframes if well implemented. Generally speaking, three main approaches to regional variety release and registration exist, including: (1) Waiving controls for some or all crops; (2) Producing a list of accepted varieties that have been approved in one or more countries which each additional country will automatically accept without further testing (or with more limited testing, as has been done within the EAC); and (3) Establishing a regional body that will test or approve new varieties

[49] Zewdie B. and Anthony van Gaste. *Plant Breeding and Farmer Participation: Variety Release and Policy Options*. Food and Agriculture Organization of the United Nations, 2009: 567.
[50] John Keyser *Opening Up the Markets for Seed Trade in Africa,* African Trade Practice Working Paper Series Number 2, World Bank (2013).
[51] John Keyser *Opening Up the Markets for Seed Trade in Africa,* African Trade Practice Working Paper Series Number 2, World Bank (2013).
[52] USAID's Enabling Agriculture Trade Project, "Building an Enabling Environment for Seed Sector Growth," (2011) 2.
[53] Brenton, Paul, et.al. 'Africa Can Help Feed Africa: Removing barriers to regional trade in food staples.' Washington D.C.: World Bank, 2012.
[54] Coulson, Andrew and Bitrina Diyamett. 'Improving the Contribution of Agricultural Research to Economic Growth: Policy Implications of a Scoping Study in Tanzania,' International Growth Center (2012).

following a list of crops.[55] These approaches will be examined below and the compared in Section Three.

Across RECS, regional seed harmonization efforts discussed below are beginning to have a positive impact on the time and cost required for variety release and registration, although these initiatives will need to be implemented to a greater degree in order to produce significant change.

Seed Certification and Quality Assurance

Certification systems are maintained by many governments as a way to ensure the supply of quality seed to the market by establishing genetic purity, genetic identity, and origin of seed. While centralized certification systems are prevalent in sub-Saharan Africa, different approaches to seed certification do exist and can sometimes be used in combination. These can include alternative approaches, such as QDS standards, which are increasingly being used in East Africa, for example.

Seed certification systems tend to involve intricate, multi-step processes, and these schemes are sometimes criticized for their cost and complexity.[56] Other criticisms of centralized certification systems include concerns that small farmers may not be able to afford the cost of certified seed and may be unable to access quality seed as a result; enterprises may not use formal certification systems due to the time, cost, and complex steps involved; or that centralized certification schemes may not deliver sufficient benefits relative to costs.[57]

While regional harmonization efforts on seed certification are underway, almost all countries have developed their own certification standards.[58] In most countries, except South Africa, national level certification is compulsory.[59] As referenced above and discussed in greater detail below, a number of regions and countries are looking to the OECD Seed Schemes to harmonize practices around an international standard that will signal quality for domestic and international consumers.[60] For example, in Eastern Africa, seed certification standards were developed through ASARECA based on OECD and ISTA standards for ten crops (maize, sorghum, beans, groundnut, soybean, wheat, Irish potato, rice, sunflower, and cassava), and adherence to OEDC

[55] Gisselquist, David. *Harmonization of seed legislation and regulation in CEEC, CIS and Other Countries in Transition,* Food and Agriculture Organization (2001).
[56] Bentley, J.P. van Mele and R.G. Guei. 'African Seed Enterprises: Sowing the Seeds of Food Security.' FAO and AfricaRice (2011).
[57] Katrin Kuhlmann. *Enabling Environment for Scaling Seeds, Planning for Scale Brief*. Ag Partner XChange, 2013. Publication forthcoming by the Syngenta Foundation for Sustainable Agriculture as part of collected work.
[58] *OECD Seed Schemes: A Synthesis of International Regulatory Aspects that Affect Seed Trade*, Organization for Economic Co-operation and Development, 2012: 4. Web. Nov 2, 2014. http://www.oecd.org/tad/code/internationalregulatoryaspectsseedtrade.pdf.
[59] Joseph Cortes, Overview of the Regulatory Framework in Seed Trade, 2nd World Seed Conference, FAO, Rome, (Sept. 8-10, 2009) slide 5. In South Africa, the South African National Seed Organization (SANSOR) monitors voluntary certification, holding seed to strict requirements, and SANSOR requires a guarantee that the seed meets the varietal purity and quality certified on the labels they provide. SANSOR. "Seed Certification," South African National Seed Organization (2013).
[60] *OECD Seed Schemes: A Synthesis of International Regulatory Aspects that Affect Seed Trade*, Organization for Economic Co-operation and Development, 2012: 4. Web. Nov 2, 2014. http://www.oecd.org/tad/code/internationalregulatoryaspectsseedtrade.pdf.

and ISTA standards is a common characteristic across the RECs.[61] While adoption of OECD and ISTA standards can raise the level of quality assurance, African regions struggle with the capacity to comply with these standards, and many countries do not yet adhere to OECD Seed Schemes or have ISTA laboratories.[62]

Regional harmonization efforts could lead to simpler, better-coordinated certification standards if well implemented. Allowing for countries in a region to accept each other's certified seed would be a significant step in regional market development.[63] Regional reforms such as harmonized seed certification standards and seed certification accreditation[64] are being rolled out in African regions, including the EAC, SADC, and ECOWAS. While many governments look to seed certification requirements to ensure quality, if too restrictive, they can limit the quantity of seed available on the market.

Alternative quality assurance systems, such as QDS systems, can provide more efficient and cost-effective alternatives to centralized certification for a variety of crops, such as vegetatively propagated crops, for which farmers are not likely to go through centralized certification due to transaction costs,[65] and proponents of QDS stress that it can be more easily implemented under limited resources.[66] Even with QDS, however, the World Bank reports that it can still take up to three years to get quality seed on the market.[67]

QDS guidelines note several components of the QDS framework, including the designation of varieties eligible for QDS certification, the registration of seed producers who are held responsible for the quality of the seed, and labeling requirements. The 'truth-in-labeling' component of QDS, with requirements for labels to display defined aspects of seed origin, purity and quality, QDS systems can also encourage effective market self-regulation. Field inspections and laboratory analysis are required for ten percent of seed fields registered for the production of quality declared seed and seed for sale.[68]

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[61] Nyachae, Obongo. *Seed Certification Standards for Ten Selected Crops of Major Economic Importance in East Africa and Rwanda.* Association for Strengthening Agricultural Research in Eastern and Central Africa (2007). The technical working group on certification met in September 2003 and September 2005, to develop these standards for Kenya, Tanzania, and Uganda, and in 2006 standards were developed for Rwanda.

[62] *See* John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2, World Bank (2013).

[63] Gisselquist, David. *Harmonization of seed legislation and regulation in CEEC, CIS and Other Countries in Transition.* Food and Agriculture Organization (2001).

[64] Central America and MERCOSUR are examples of regions in which such reforms have taken place.

[65] Bentley, J.P. van Mele and R.G. Guei. 'African Seed Enterprises: Sowing the Seeds of Food Security.' FAO and AfricaRice (2011).

[66] McEwan, Margaret, Sam Namanda and Dorothy Lusheshanija. 'Whose Standards Matter? Piloting Quality Declared Planting Material Inspection Guidelines in Lake Zone, Tanzania.' *16th Triennial Symposium of the International Society for Tropical Root Crops.* Abeokuta, Nigeria, 23-28 September 2012.

[67] Van Manen, Bert, Ruben Jessop, Boubacar Diallo, Marjan Duursma, Abdallah Mallek, and Job Harms. "Creating Access to Agricultural Finance: Based on a horizontal study of Cambodia, Mali, Senegal, Thailand, Tanzania, and Tunisia," Agence Française de Développement (2012).

[68] *Quality Declared Seed System*. Food and Agriculture Organization of the United Nations, 2006: 15. Web. 2 Nov. 2014. http://www.fao.org/docrep/009/a0503e/a0503e00.htm.

Cross-Border Trade and SPS Measures

While much of the seed value chain rests within individual countries, cross-border trade is a considerable component and is inherent in the regional harmonization efforts discussed below. Import and export requirements and SPS measures (the international, regional, national or local measures, regulations or official procedures that aim to prevent the introduction and/or spread of pests) are among the most considerable aspects of cross-border seed trade.[69] Such measures are often applied to protect human, plant or animal life from risks associated with contaminants, toxins, or disease-causing organisms and, by their very nature, they may result in restrictions on trade.[70] International trade rules, including the WTO SPS Agreement, require that SPS measures be applied in a way that does not restrict seed trade while making trade in seed and plant products safe.[71]
SPS measures will often include testing at the border, requirements for SPS certificates, and post-entry quarantine measures. As noted above, ISTA certification is often needed for cross-border trade, which can present challenges for many companies and governments.

Farmers, seed companies, and governments all have a great deal to gain from regional harmonization in SPS. Regional harmonization of SPS measures could increase certainty around how testing will be done at the border, streamline notification or release of test results and risk profiling, and simplify paperwork. As is true in other areas, there are different approaches to regional harmonization in SPS that include paring down the list of pests and diseases for which controls exist to include only those that: "(1) exist in some of countries but not in others; and (2) represent an economic threat. When this is done, seeds for many crops [could] be moved from one country to another without phytosanitary certificates, while seed for other crops [could] be traded with phytosanitary controls for a reduced list of realistic threats."[72]

However, despite regional harmonization efforts and legal instruments requiring equal treatment, many countries do not consistently recognize the inspection processes and SPS regimes of neighboring countries.[73] Permits for seed export and import are often not routinely granted, due only in part to SPS controls, but SPS issues could be better dealt with to achieve significant gains at the regional level.

Across all substantive areas, knowledge of regional and national requirements is often lacking, and many enterprises simply do not know enough about the existence or content of the rules and regulations. In many cases, regional and national authorities also do not have the information they need to fully implement standards or comply with international best practices, which makes sharing of information and capacity building initiatives a priority.

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[69] *See* International Standards For Phytosanitary Measures: Guidelines For Phytosanitary Certificates, FAO, (2001) 4.
[70] Understanding the WTO Agreement on Sanitary and Phytosanitary Measures, WTO, (1998) (accessed online)
[71] Renée Johnson, Sanitary and Phytosanitary (SPS) and Related Non-Tariff Barriers to Agricultural Trade, Congressional Research Service, (2014)2.
[72] Gisselquist, David. *Harmonization of seed legislation and regulation in CEEC, CIS and Other Countries in Transition.* Food and Agriculture Organization (2001).
[73] World Bank. "Non-Tariff Measures on Goods Trade in the East African Community." World Bank (2008).

Section Two: History of Seed Regulation within the Regional Economic Communities

The four RECs that are the subject of this study have different institutional structures and have moved forward with seed harmonization to different degrees. These efforts are summarized below followed by a comparative assessment of the four regions in variety release and registration, certification, and SPS.

Economic Community of West African States (ECOWAS)

The Economic Community for West Africa States (ECOWAS) is a regional group of fifteen countries, founded in 1975 and based in Abuja, Nigeria, to promote economic integration in all fields of economic activity including agriculture, natural resources, commerce, monetary and financial issues, and social and cultural matters.[74] ECOWAS has been working on regional seed harmonization since the mid-2000s, when efforts began under UEMOA. The most significant step in seed harmonization within ECOWAS has been the 2008 regional agreement on harmonized seed regulation (2008 Seed Regulation). A brief discussion of the institutional structure of ECOWAS and relevant measures on seeds is included below, along with a timeline of milestones in regional seed harmonization.

Following the founding of ECOWAS, the ECOWAS Treaty was amended in 1993 and 2006 to expand the functions of the community and modify its institutions.[75] The 1993 amendment provided ECOWAS with the mandate to harmonize and coordinate national policies, laws and regulations concerning food, trade, and agriculture, among others.[76] Led by the Authority of the Heads of State and Government, the ECOWAS Commission (formerly the ECOWAS Secretariat), Parliament, and Court of Justice are the three major institutions, [77] although a number of other institutions fall under the ECOWAS umbrella. For example, in 2013, the Regional Agency for Agriculture and Food (RAAF) was established to implement CAADP and the ECOWAS Regional Agriculture Investment Plan.[78] Due to its role, RAAF stands to play a prominent role in the implementation of the regional seed regulation.

The ECOWAS Commission publishes all relevant rules and regulations, including Supplementary Acts, Regulations, Directives and Decisions in the Official Journal of the Community, and these must also be published within the National Gazette of each Member State within thirty days of signature.[79] Supplementary Acts, Regulations, and Directives enter into

[74] Treaty of the Economic Community of West African States (ECOWAS)". 1975. United Nations—Treaty Series. UN General Assembly. June 1976. Article 2 and 3. Treaty pub.
[75] 1993 Revised Treaty of the Economic Community of West African States (ECOWAS) and the Supplementary Protocol A/Sp.1/06/06 Amending the Revised ECOWAS Treaty.
[76] Article 3 of the 1993 Revised Treaty of the Economic Community Of West African States.
[77] Art 6 of the 1993 Revised Treaty of the Economic Community Of West African States.
[78] "ECOWAS Launches Regional Agency for Agriculture and Food Security," Press Release, ECOWAS. 28 Oct, 2014, available at http://news.ecowas.int/presseshow.php?nb=284&lang=en&annee=2013.
[79] Economic Community of West African States (ECOWAS). Supplementary Protocol A/SP.1/06/06 Amending The Revised ECOWAS Treaty. Abuja, Nigeria. 14 June, 2014. Web, available at http://documentation.ecowas.int/legal-documents/protocols/.

force after publication by the ECOWAS Commission as specified in each document.[80] ECOWAS Decisions enter into effect on the date of notification, and Member States must also take further parliamentary and publication action nationally to ratify ECOWAS regulations.[81]

Under the ECOWAS Trade Liberalization Scheme (ETLS), the main operational measure for the regional Free Trade Area,[82] ECOWAS Member States agreed to reduce barriers to regional trade of crop inputs, but, in practice, governments still maintain measures that make regional input trade difficult and expensive.[83]

In 2002, the ECOWAS Heads of State issued the mandate to coordinate and monitor implementation of strategies consistent with NEPAD and CAADP.[84] In 2005, the ECOWAS Heads of State adopted a common agricultural policy that includes seeds, the Regional Agricultural Policy for West Africa (ECOWAP), which was designed to improve the productivity and competitiveness of the agricultural sector, including as an instrument for implementing CAADP.[85] ECOWAP is structured around three areas: "(1) Improvement of the productivity and competitiveness of agriculture, (2) Implementation of the intra-community trade regime, and (3) Adaptation of the external trade regime according to the specific circumstances of the agricultural sector."[86]

ECOWAS Seed Harmonization

Initially, regional harmonization in ECOWAS for seeds included two measures, a Common and Harmonized Regulatory Framework for the Control and Certification of Seeds and a Framework for Crop Varieties Evaluation for a Common Regional Catalogue focusing on eleven crop varieties. Following the adoption of its policy on agriculture, ECOWAS began to press forward with harmonizing seed regulation in the region,[87] taking a leadership role in collaboration with UEMOA and SILSS as noted above.[88] In January 2004, the UEMOA initiated the harmonization of national seed regulatory frameworks in its member states with the support of the FAO, the

[80] Economic Community of West African States (ECOWAS). Supplementary Protocol A/SP.1/06/06 Amending The Revised ECOWAS Treaty. Abuja, Nigeria. 14 June, 2014. Web, available at http://documentation.ecowas.int/legal-documents/protocols/.
[81] Economic Community of West African States (ECOWAS). Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region. 2008. Institute of Sahel. 2010: Article 87. Print.
[82] Article 3 of ECOWAS Treaty, available at http://www.etls.ecowas.int/.
[83] John Keyser, "Regional Trade of Food Staples and Crop Inputs in West Africa," Africa Trade Policy Note 36 (2013): 3-4.
[84] Regional Partnership Compact for the Implementation of ECOWAP/CAADP, ECOWAS Commission, (2002).
[85] Regional Agricultural Policy for West Africa: Make Agriculture the Lever of Regional Integration. P.2.) See also Decision A/DEC 11/01/05.
[86] Maroya, Norbert. "ECOWAS playing the leading role in the process of harmonization of seed rules and regulations in West Africa." West Africa Seed and Planting Material. 16 Jan, 2016: 17.
[87] Maroya, Norbert. "ECOWAS playing the leading role in the process of harmonization of seed rules and regulations in West Africa." West Africa Seed and Planting Material. 16 Jan, 2016: 17.
[88] UEMOA Member States include Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo. CILSS Member States are Burkina Faso Cape Verde Gambia, Guinea-Bissau Mali Mauritania Niger Senegal and Chad. *See* Waithaka, Michael. et.al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*. ASARECA, April 2011: 5. Web. 23, Oct. 2014.

IFDC, and WASNET.[89] ECOWAS is now leading these harmonization efforts and has been working with CORAF/WECARD on seed harmonization and other aspects of agricultural development since 2005.[90]

In 2008, ECOWAS adopted a regional agreement on harmonized seed regulation, which included measures on quality control, certification, and marketing of plant seeds and agricultural plants (2008 Seed Regulation).[91] The focus on harmonized standards and testing provides the underlying rationale for the regional variety catalogue registration process. The regional catalogue was developed with support of the FAO and aggregates varieties registered in the national catalogues of the member states. Under the regulations, varieties registered in one ECOWAS country will be included in the West African Catalogue of Plant Species and Varieties (COAFEV) and may be introduced in any ECOWAS member country without restrictions.

ECOWAS has approved a common variety release system, which is in the process of being worked through and implemented in practice. The ECOWAS 2008 Seed Regulation, which is applicable to all seed related activities including seed quality control, certification and marketing, established the West African Catalogue of Plant Species and Varieties (WACPSV), although the regional catalogue is mandated but not yet formed.[92] Under the ECOWAS 2008 Seed Regulation any variety of seed registered in one ECOWAS country would be eligible entry in the WACPSV and production and commercial sale any other ECOWAS country without further certification or testing. [93] The centralized regional registration system is intended to facilitate marketing of seeds within ECOWAS by avoiding duplicative procedures and could encourage the involvement of domestic and international seed producers and distributers if properly implemented.[94]

Under the harmonized regulations, all members must have a national catalogue that has two separate lists: (1) List A, comprised of released varieties that can be multiplied and commercialized within ECOWAS and (2) List B, comprised of released varieties that can be multiplied in ECOWAS for export outside the region. These two lists have separate registration requirements. List A varieties must have undergone DUS and VCU testing and have a designation by an approved denomination. List B varieties must have undergone DUS testing and have a designation by an approved denomination. VCU testing is not required for a variety included in List B. The first version of the COAFEV lists includes the most widely disseminated varieties registered in the members' national catalogues and contains varieties of (1) pearl millet, (2) sorghum, (3) maize, (4) rice, (5) groundnut, (6) cowpea, (7) cassava, (8) yam, (9) Irish potato,

[89] Maroya, Norbert. "ECOWAS playing the leading role in the process of harmonization of seed rules and regulations in West Africa." West Africa Seed and Planting Material. 16 Jan, 2016: 17.
[90] "Mission, Function and Objectives" CORAF/WECARD. N.d. Web. 24 Oct. 2014; See also *Strategic Plan 2007-2016*. CORAF/WECARD, 2007. Web. Oct. 31, 2014. http://www.coraf.org/documents/StrategicPlan07_016.pdf.
[91] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008); see also
[92] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008) Article 4.
[93] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008) Article 69
[94] Zoltán BEDO, Regional cooperation in the seed sector of the CEEC, CIS and other Countries in Transition, Budapest, Hungary, (2001) available ftp://ftp.fao.org/docrep/fao/005/y2722E/y2722E00.pdf.

(10) onion, and (11) tomato. The catalogue includes information on the variety holders and their contact details. Implementation of the regional seed catalogue is a significant step in regional harmonization within ECOWAS and will help to facilitate local production of quality seeds, encourage trade amongst member countries, and create a positive investment climate for the private seed industry.[95]

One challenge within ECOWAS and other regions will be that regional governments generally still only recognize their own test results. In Ghana, for example, the 2010 Plants and Fertilizer Act requires that, regardless of approval in another ECOWAS member country, all varieties of seed should undergo domestic VCU testing for at least two-three years.[96] As noted, the ECOWAS Seed Regulations also included the requirement to establish plant species and variety catalogues at the national level, a process that is still underway. The impact of the ECOWAS 2008 Seed Regulation is a strong step forward in creating a regional framework, but its impact will be difficult to determine without fully assessing national level implementation.

Under the ECOWAS harmonized seed system, all plant seed produced for marketing purpose shall be certified before reaching consumers.[97] Seed certified in one country should be eligible for sale as certified seed in other member countries. However, seeds may not be certified unless they are eligible for inclusion in the regional seed catalogue (WACPSV).[98]

The ECOWAS harmonized seed system also covers trade and provides that seeds imported to and exported from the ECOWAS region should be accompanied by a phytosanitary certificate issued by the institution responsible for pest examination in the member state in which the seed originates.[99] SPS measures and pest quarantine must be science-based, technically justified, and appropriate to the level of pest risk. ECOWAS member states are also required to prepare seed import and export manuals.[100]

ECOWAS Timeline of Regional Seed Harmonization

2004
• The West African Economic and Monetary Union (UEMOA), a customs and currency union among eight of ECOWAS's member states, initiated harmonization of national seed regulatory frameworks
2005

[95] OECD Seed Schemes: A Synthesis of International Regulatory Aspects that Affect Seed Trade, OECD, 2012: 6.
[96] Keyser, John. "Africa Trade Policy Notes: Regional Trade of Food Staples and Crop Inputs in West Africa." Policy Note No.36. 2013: 4.
[97] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008) Chapter XVI.
[98] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008) Article 60.
[99] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008)Article 78.
[100] Article 5 of the WTO Sanitary and Phytosanitary (SPS) Agreement.

• Heads of State and Government adopt ECOWAS Agricultural Policy for West Africa (ECOWAP); CORAF/WECARD becomes leading institution in seed harmonization
2007
• UEMOA adopts Framework SPS Standards Agreement, but it is not adopted by ECOWAS as a whole
2008
• The ECOWAS Council of Ministers Adopts a Regional Agreement on Harmonized Seed Legislation, which, if fully enacted, would make any variety of seed registered in one ECOWAS country available in all ECOWAS countries
2013
• ECOWAS establishes the Regional Agency for Agriculture and Food (RAAF), which is charged by the Commission with assisting in the UN Millennium Development Goals, including implementing the agricultural goals of ECOWAS. CORAF appointed to coordinate technical work and support implementation of harmonized seed regulations until 2018

Common Market for Eastern and Southern Africa (COMESA)

The Common Market for Eastern and Southern Africa (COMESA) is a regional group of nineteen countries with headquarters in Lusaka, Zambia that was established in December 1994. COMESA is a relative latecomer to regional harmonization efforts on seeds, particularly in Eastern and Southern Africa, with COMESA Seed Harmonization Regulations recently approved in 2014. A brief discussion of COMESA's institutional structure and relevant measures on seeds, also outlined above, follows.[101]

In July 2013, COMESA, the EAC, and SADC agreed to harmonize seed regulations under the Tripartite Free Trade Area (TFTA),[102] which was officially launched on June 10, 2015. As the comparative assessment below will show, both institutional and substantive differences do exist among COMESA, the EAC, and SADC, and integrating these different regional efforts to advance the TFTA will likely present challenges.

The COMESA Treaty requires that COMESA member states simplify and harmonize their trade documents and procedures.[103] Legal instruments adopted by the COMESA Authority (Heads of the State) are legally binding on COMESA member states, as are regulations issued by the Council of Ministers.[104] The Council also issues directives and decisions, but these only bind those COMESA member states to which they are addressed.[105] Under directives, COMESA

[101] Institutionally, COMESA consists of the following bodies: Authority (sets policy and issues binding decisions), Council (make policy recommendations to the Authority and regulatory body), Court of Justice, Committee of Governors of Central Banks (financial and monetary policy cooperation), Intergovernmental Committee (cooperation of policies other than finance and monetary), Technical Committees (sector-specific policy cooperation), Secretariat (administration), and Consultative Committee (liaison with private sector and interest groups). Treaty Establishing the Common Market for Eastern and Southern Africa, Art. 7- Art 20 (December 1994).
[102] Waithaka, "Harmonizing Seed Policy in Eastern and Central Africa," (2013).
[103] Treaty Establishing the Common Market for Eastern and Southern Africa, Art. 7- Art 20 (December 1994).
[104] Treaty Establishing the Common Market for Eastern and Southern Africa, Art.8 (December 1994).
[105] Treaty Establishing the Common Market for Eastern and Southern Africa, Art. 10.

member states are only bound to achieve the stated result and have considerable discretion on how to do so.[106] Countries must domesticate COMESA agreements through their national laws, instruments, and mechanisms, so national level action is required to implement any binding instrument of COMESA.[107]

The COMESA Treaty (Article 4, Section 5) requires that member states adopt a common agricultural policy, enhance regional food sufficiency, coordinate their policies regarding the establishment of agro-industries and enhance rural development. The objectives of the COMESA Treaty and the COMESA Agricultural Policy (CAP) are designed to be in line with NEPAD and CAADP.[108]

COMESA Seed Harmonization

COMESA's seed trade harmonization efforts were initiated under a directive of the Ministers of Agriculture at a meeting in Seychelles in March 2008 with the goal of expediting the harmonization of regional seed trade regulations and standards.[109] Because COMESA entered regional seed harmonization somewhat later than the other RECs studied, they were able to benefit from work done in other regions and draw from harmonization efforts under SADC and the EAC (as discussed below, much of the work in the EAC has been done under ASARECA and does not yet extend to all EAC countries, although other countries are coming on board through national legislation).[110] Ultimately, this should help facilitate eventual harmonization among COMESA, the EAC, and SADC under the TFTA, but, given the number of countries involved (26 countries total) and the differences in institutional processes among the three RECs, tripartite harmonization may take time and effort.

In 2009, following the Council of Ministers' decision for harmonization and rationalization of seed regulation in the region, the COMESA Authority established the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) as a specialized agency to integrate small farmers into national, regional and international markets.[111] In 2010, ACTESA signed an MOU with COMESA to accelerate the implementation of regional initiatives in agriculture, trade, and investment.[112] ACTESA has focused on three technical areas of seed trade harmonization: regional variety release, regional seed certification, and a regional quarantine pest system, with

[106] Treaty Establishing the Common Market for Eastern and Southern Africa, Art. 10
[107] Waithaka, Michael , and Jonathan Nzuma, Miriam Kyotalimye, Obongo Nyachae. Impacts of an Improved Seed Policy Environment in Eastern and Central Africa, ASARECA, April 2011: 8. Web. 23, Oct. 2014.
[108] See CAADP Pillar 2,3, and 4 available at http://www.caadp.net/
[109] COMESA, Report of the Fifth Meeting of the Ministers of Agriculture, Environment and Natural Resources. Report. 19-20 September 2013.
[110] COMESA, Report of the Fifth Meeting of the Ministers of Agriculture, Environment and Natural Resources Report, (19-20 September 2013), Para. 64.
[111] About The Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA), http://www.actesacomesa.org/ (accessed on 10/24/2014).
[112] About The Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA), http://www.actesacomesa.org/ (accessed on 10/24/2014).

progress through technical meetings of delegates from national seed authorities, private seed companies, farmer organizations, and others.[113]

ACTESA was also assigned to implement various projects related to seed trade harmonization, such as the COMESA Regional Agro-Inputs Program (COMRAP) and the Alliance for the Seed Industry in Eastern and Southern Africa (ASIESA). COMRAP was designed to increase agricultural productivity through enhanced access to seed, fertilizer and finance and has contributed to the COMESA harmonized seed trade regulations.[114] In particular, COMRAP worked on harmonization of variety release and certification requirements for twelve crops, including maize, rice, groundnuts, cotton, beans, millet, and sorghum, with the objective of lowering costs by not requiring seed that has already met requirements in one country to 'jump through all of the same hoops again.'[115] Under the ASIESA program, ACTESA is targeting Kenya, Ethiopia, Uganda, Tanzania, Malawi, Zimbabwe, Zambia and Madagascar as reliable sources of quality seeds, helping to address limitations facing the supply of certified seeds to farmers in those countries.[116]

In October 2012, the COMESA Seed Trade Harmonization Regulations were presented in Lusaka, Zambia,[117] and, following extensive consultations and discussions, in September 2013 the draft regulations were adopted by the COMESA Ministers of Agriculture in Addis Ababa. In November 2013, the COMESA Ministers of Justice/Attorney Generals meeting in Lusaka endorsed the draft and recommended the regulations for adoption by the Meeting of COMESA Council of Ministers.[118] The September 2013 Addis Ababa meeting also directed ACTESA to establish guidelines and a timeframe for the implementation of the regulations.[119] In February 2014, The COMESA Council of Ministers approved the COMESA Seed Trade Harmonization Regulations in Kinshasa, Democratic Republic of Congo.

The 2014 COMESA Seed Trade Harmonization Regulations (2014 Seed Regulations) are designed to increase the diversity, quality, and quantity of seed available for farmers in the region and reduce transaction costs for the seed industry that have arisen due to differing

[113] Seventeenth Meeting of the Ministers of Justice and Attorneys General, Lusaka, Zambia, (6th November, 2013). http://www.comesa.int/attachments/article/998/CS%20LEG%20MJAG%20XVII%203%20Final%20Report%20after%20adoption%2015%2011%202013.pdf

[114] COMESA, COMRAP Winds Up (accessed on 10/24/2014 http://www.comesa.int/index.php?option=com_content&view=article&id=38:comrap-winds-up&catid=5:latest-news&Itemid=41

[115] Brenton, Paul, Nora Dihel, Richard Gicho, Ian Gillson, Matthew Harber, Gozde Isik, John Keyser, Ron Kopicki, Barbara Rippel, and Andrew Roberts. 'Africa Can Help Feed Africa: Removing barriers to regional trade in food staples.' Washington D.C.: World Bank (2012) citing Tripp (2005).

[116] Alliance for the Seed Industry in Eastern and Southern Africa (ASIESA), AgInvest Africa, http://www.aginvestafrica.org/?q=node/2099

[117] Seventeenth Meeting of the Ministers of Justice and Attorneys General, Lusaka, Zambia, (6th November, 2013). http://www.comesa.int/attachments/article/998/CS%20LEG%20MJAG%20XVII%203%20Final%20Report%20after%20adoption%2015%2011%202013.pdf

[118] Addis Ababa Declaration of the Fifth Joint Meeting of the Ministers of Agriculture, Environment and Natural Resources, COMESA, Addis Ababa, Sept. 19-20, 2013. Decision No. 12. See also Seventeenth Meeting of the Ministers of Justice and Attorneys General, Lusaka, Zambia, 6th November, 2013

[119] See the Fifth Meeting of the Ministers of Agriculture, Environment and Natural Resources, COMESA, Addis Ababa, Sept. 19-20 2013.

regulatory and trade arrangements across COMESA member states.[120] The regulations are divided into two parts: the first part consists six chapters that establish an administration and enforcement system, certification system, variety release system, and quarantine and SPS measures; the second part consists of ten schedules that show required certificates, label colors, and label contents, among others.

The 2014 Seed Regulations establish a common seed catalogue and set regional rules for variety release, seed certification, and SPS. These regulations are binding on COMESA members but do require national level legislative and regulatory change to implement their requirements. The 2014 Seed Regulations require that member states adopt the COMESA Variety Release System for the release of new and existing seed varieties in the region which include the obligation that any new variety satisfy DUS and VCU test requirements in accordance with the UPOV guidelines.[121] In order for a variety to be entered in the common catalogue under the COMESA Variety Release System, applicants are required to submit the results of two seasons of DUS and VCU tests; suggested denomination; proof of release in two Member States; and a reference sample provided by the relevant authorities.[122] However, a COMESA member can prohibit the use of a variety in its territory based on technical issues, such as unsuitability for cultivation, or risk to other seed varieties, human health, animal health and the environment.[123]

The 2014 Seed Regulations also required the establishment of a Seed Coordination Unit within the COMESA Secretariat to ensure that regionally registered varieties satisfy COMESA test requirements before being entered into the COMESA Variety Catalogue and Database, and national variety release systems are required to ensure that varieties meet the requirements of the 2014 Seed Regulations.[124] In September 2015, COMESA launched the regional Seed Committee in Lusaka, Zambia, the same location as the SADC Seed Center, described below. A variety already released in one Member State prior to the establishment of the COMESA Variety Catalogue and Database can be entered in the region's catalogue upon application with the required information on the DUS and VCU data from the first Member State and proof of one season of VCU testing and release in the second Member State.[125] However, varieties already released in two Member States prior to the establishment of the COMESA Variety Catalogue can be entered provided that the necessary information on DUS and VCU is included in the application.[126]

The 2014 Seed Regulations also require that COMESA members adopt Seed Certification Rules relating to eligible seed varieties registered in the COMESA Variety Catalogue seed classes; field and laboratory seed certification standards; and other standards listed under Article 13 of 2014 Seed Regulations.[127] Beside specifying seed classes, labeling colors, and label contents, the 2014 COMESA Seed Regulations order member states to adopt specified seed certification

[120] See the COMESA Seed Trade Harmonization Regulations, Legal Notice No. 1, Volume 19, (2014) Chapter 1, Section 3.
[121] See the COMESA Seed Trade Harmonization Regulations, Legal Notice No. 1, Volume 19, (2014) Article 20.
[122] Article 27 of the 2014 COMESA Seed Trade Harmonization Regulations.
[123] See Article 29 of the 2014 COMESA Seed Trade Harmonization Regulations.
[124] See Article 20(1) (2) of the 2014 COMESA Seed Trade Harmonization Regulations
[125] Article 28 of the 2014 COMESA Seed Trade Harmonization Regulations.
[126] See Article 28(2) of the 2014 COMESA Seed Trade Harmonization Regulations.
[127] See Chapter 3, Article 13 of the 2014 COMESA Seed Regulation.

standards for beans, maize OPV, maize hybrid, rice, groundnut, cotton OPV, cotton hybrid, wheat, sunflower OPV, sunflower hybrid, sorghum OPV, sorghum hybrid, soybean, pearl millet, cassava, and Irish potato during certification of basic and certified seed.[128]

The 1994 COMESA Treaty allows member states to maintain SPS measures to ensure human, plant and animal safety. However, member states are not allowed to use SPS measures as trade-restricting measures and are required to harmonize their SPS standards and rules.[129] COMESA's 2009 Regulations on the Application of Sanitary and Phytosanitary Measures recommend application of international rules, guidelines, and codes of practice, including through international bodies such as the WTO, the Codex Alimentarius Commission (Codex), IPPC and the World Organization for Animal Health (OIE).[130] The COMESA Green Pass program,[131] discussed below, was designed to facilitate implementation of these regulations.

The 2014 COMESA Seed Regulations include rules on quarantine and SPS measures for seed and allow an importing member state to issue a plant import permit to a seed importer based on the 2009 COMESA SPS Regulations. Plant import permits must accompany the seed lot and be presented to inspectors at port (exit and entry points).[132] Besides requiring issuance of SPS certificates to certify that the requirements specified on the plant import permit have been satisfied, the 2014 Seed Regulations include rules on non-compliance notification, re-export with phytosanitary certificates, seed testing certificates, and declarations for genetically modified organisms (GMOs).[133] Under the 2014 Seed Regulations, COMESA made significant progress on SPS; however, these regulations are only a framework and will need to be enforced through regional and national institutions and changes in national law and regulation.

The COMESA Green Pass program was designed to help build national capacity, but it has also struggled with implementation and lacks clear implementation guidelines.[134] The Green Pass program is a commodity-specific SPS certification scheme that was initiated in 2009 to facilitate the movement of food and agricultural products.[135] The COMESA Committee on Agriculture, which was created under Article 15 of the 1994 COMESA Treaty, can certify a national institution as a Green Pass Authority if it satisfies the program's requirements,[136] which can then issue a Green Pass that will be valid in other member states.[137]

As discussed above, ACTESA was directed by the COMESA Ministers of Agriculture to develop a detailed implementation plan and timeline for the 2014 COMESA Seed Regulations. In April 2014, COMESA member states, the private seed sector, and civil society organizations

[128] Article 18 and Schedule D of 2014 COMESA Seed Trade Harmonization Regulations.
[129] See Article 132(d) of the Common Market for Eastern and Southern Africa Treaty (December 1994).
[130] See Article 4, 5 and Art 6 of the 2009 COMESA Regulations on the Application of Sanitary and Phytosanitary Measures.
[131] See Art. 7 and 8 of the 2009 COMESA Regulations on the Application of Sanitary and Phytosanitary Measures.
[132] Article 32(2) of 2014 COMESA Seed Trade Harmonization Regulations.
[133] See Article 33, 34, 35 and 36 of the 2014 COMESA Seed Trade Harmonization Regulation.
[134] João Magalhães, Regional Sanitary and Phytosanitary Frameworks and Strategies in Africa Report for the Standards and Trade Development Facility (STDF), (2010)10.
[135] Article 8 of COMESA Regulations on the Application of Sanitary and Phytosanitary Measures. http://famis.comesa.int/pdf//COMESA_SPS_Regulations_16_12_2009.pdf)
[136] Article 11 of COMESA Regulations on the Application of Sanitary and Phytosanitary Measures.
[137] Article 7 of COMESA Regulations on the Application of Sanitary and Phytosanitary Measures.

approved the draft COMESA Seed Harmonization Implementation Plan, an effort to domesticate the 2014 COMESA Seed Regulations in line with the COMESA CAADP Regional Compact.[138] The Seed Harmonization Implementation Plan notes the differences among regulatory systems within COMESA's membership, which will be a critical factor in implementation of the 2014 Seed Regulations. COMESA Member States are grouped into three categories that signify readiness to implement the 2014 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.[139]

COMESA Timeline of Regional Harmonization

1994
• COMESA established
2008
• COMESA Seed Trade Harmonization Program initiated by Ministries of Agriculture
2009
• COMESA Customs Union established • Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) established as a specialized agency • COMESA Green Pass Program initiated
2010
• ACTESA signed MOU with COMESA to implement agricultural programs COMRAP adopted (ended 2011)
2011
• COMESA-EAC-SADC Free Trade Agreement (FTA) established (Tripartite Agreement)
2013
• COMESA approves the "Draft COMESA Seed Trade Harmonization Regulations" • The COMESA member states, private seed sector, and civil society organizations approved the draft COMESA Seed Harmonization Implementation Plan
2014
• Final COMESA Seed Harmonization Regulations approved
2015

[138] Meeting on the COMESA Seed Harmonisation Implementation Plan, http://ecdpm.org/events/meeting-comesa-seed-harmonisation-implementation-plan/.
[139] John Mukuka, COMESA Seed Harmonization Implementation Plan (COM-SHIP). ACTESA, 2014.

- COMESA Seed Committee established in Lusaka, Zambia
- Tripartite Free Trade Agreement launched in June 2015

East African Community (EAC)

The current East African Community (EAC) is a relatively small REC with five members: Burundi, Kenya, Rwanda, Tanzania, and Uganda.[140] Several EAC members It was established in 1999 building on the earlier EAC and strives to increase cooperation in economic, social, legal, and judicial areas.[141] The EAC is headquartered in Arusha, Tanzania. The EAC's work on seed harmonization has largely taken place through ASARECA, with full EAC harmonization still coming together. A brief discussion of the EAC's institutional structure and relevant measures on seeds, also outlined above, follows.

The EAC has the following institutional components: Summit (gives general directions and impetus), Council of Ministers (sets policy, initiates bills, and declares standards), Coordination Committee (mixed role), Sectoral Committees (sector-based), Court, Legislative Assembly (legislative organ), and Secretariat (administration).[142] The EAC Treaty provides the foundation for EAC law,[143] with member states bound by the Treaty and any other legal instruments to which the Summit assents.[144] A bill passed by the Legislative Assembly is sent on for consideration by the Summit, which must assent to the bill and publish it in the EAC Gazette before it becomes binding on partner states. The EAC Summit may withhold assent and send a bill back down to the Assembly with comments.[145]

The EAC has perhaps the most binding system of regional law of the four RECs that are the subjects of this study. All EAC Regulations, Directives and Decisions from the Council of Ministers are binding upon the EAC partner states.[146] If there is a clash between EAC norms and national norms, then the EAC Treaty will govern and EAC laws will take precedence over similar national laws on matters pertaining to the implementation of the EAC Treaty.[147] Upon signing the EAC Treaty, EAC partner states must enact implementing legislation that gives effect to EAC legislation, regulations, and directives.[148] As a result, when the EAC passes a regulation, it has an automatic binding effect on its members at the national level.[149] All legal instruments must be published in the official EAC Gazette and will enter into force on the date of publication or as otherwise noted in the Gazette.[150]

[140] The old East African Community collapsed in 1977 primarily due to diverse governance systems among the member countries. *See* Mwangi Kimenyi and Katrin Kuhlmann, *"African Union: Challenges and Prospects for Regional Integration in Africa,"* Whitehead Journal of Diplomacy and International Relations, Seton Hall University, 13 no. 2 (Summer-Fall 2012).
[141] East African Community, Treaty Establishing the East African Community (Nov. 1999).
[142] East African Community, Treaty Establishing the East African Community (Nov. 1999).
[143] East African Community, Treaty Establishing the East African Community Arts. 8, 58.
[144] East African Community, Treaty Establishing the East African Community Nov. 1999.
[145] East African Community, Treaty Establishing the East African Community Arts. 11, 30 Nov. 1999.
[146] Treaty Establishing the East African Community Art. 16, 30 Nov. 1999.
[147] Article 16 of the East African Community, Treaty Establishing the East African Community.
[148] Article 8(2) East African Community, Treaty Establishing the East African Community.
[149] East African Community, Treaty Establishing the East African Community, Art. 8, § 2, Nov. 1999.
[150] East African Community, Treaty Establishing the East African Community Art. 8.

In addition to resolving disputes that arise over EAC rules in national courts, partner states may refer matters concerning an alleged violation of the EAC Treaty to the EAC Court, which interprets the EAC Treaty. Similarly, the EAC Secretary General may address a partner state directly if it believes the partner state is in violation of its treaty obligations. If a national court and the EAC Court rule on similar matters, then the decision of the EAC Court takes precedence over that of the national court.[151]

The EAC has an EAC Agriculture and Food Security Policy based on the policies and programs of the EAC Treaty. The EAC's Agriculture and Food Security Department plays a coordinating role among national seed programs, national seed control agencies, policymakers, private seed companies, training institutions, seed growers, and farmers, among others, with respect to quality assurance systems and regulations for seed quality assurance in line with regional frameworks and international standards.[152] The EAC Treaty requires that EAC Partner States harmonize SPS measures for pest and disease control, consistent with international standards, guidelines, and recommendations.[153] In 2001 and 2006, respectively, the EAC adopted the 'Protocol on Standardization, Quality Assurance, Metrology and Testing' and the EAC 'Standardization, Quality Assurance, Metrology and Testing Act.' Under these measures, EAC member states are required to harmonize their national laws on standardization, quality assurance, metrology, testing, and accreditation and align them with these Acts.[154] In July 2015, ministers at the EAC Summit signed the EAC Protocol on Sanitary and Phytosanitary (SPS) Measures, which covers seed and other goods. The Legislative Assembly also passed the EAC Elimination of Non-Tariff Barriers Act in 2015, and the Act is awaiting assent by the EAC Summit. The Act reportedly would provide a process for companies to report non-tariff barriers directly to the EAC Secretariat and receive compensation for the resulting financial loss.[155]

EAC Seed Regulation

The EAC has not yet passed centralized seed harmonization legislation as required under the EAC Treaty, with the exception of the adoption of the measures discussed below. In July 2013, the EAC announced its intention to harmonize regional seed and fertilizer policies within two

[151] Treaty establishing the East African Community as amended 20 August 2007, Art 33, §2.
[152] EAC Agriculture And Food Security Department, *Support to Improving Seed Quality to Enhance Seed Trade*. East African Community, June 2011. Web. Nov. 3, 2014.
http://www.eac.int/invest/index.php?option=com_docman&task=doc_download&gid=18&Itemid=127.
[153] Treaty Establishing the East African Community, Art. 108, 30 Nov. 1999. The EAC Harmonized Sanitary and Phytosanitary standards, measures and procedures for Phytosanitary (Volume I); for mammals, birds and bees (Volume II); for fish and fishery products (Volume III) and for food safety (Volume IV, draft). See All Set for EAC Harmonization of Food Safety Measures in Kigali, Press release, East African Community Secretariat, Arusha, 14 March 2013.
[154] The EAC Standardization, Quality Assurance, Metrology and Testing Act of 2006 and the Protocol on Standardization Quality Assurance, Metrology and Testing.
[155] Elizabeth Nderitu, "EAC Act on Non-Tariff Barriers a Boon to Regional Trade." The East African (May 26, 2015). Web. 19 Sept 2015.
URL: http://www.theeastafrican.co.ke/OpEd/comment/EAC-Act-on-non-tariff-barriers-a-boon-to-regional-trade-/-/434750/2718908/-/vgnnbjz/-/index.html

years.[156] By May 2014, the EAC Technical Committee on seeds had held two formal meetings to address seed policies and discussed modifications to the Draft East African Standards for maize, sorghum, sunflower, soybean, and groundnuts seeds.[157] The EAC Technical Committee also intends to focus on harmonization of cassava, wheat, common beans, rice, and sesame policies in the future (see below). The World Bank and International Finance Corporation have provided technical support to the EAC Technical Committee,[158] as has the Alliance for a Green Revolution in Africa (AGRA).[159]

As mentioned above, much of the EAC'S regional seed policies have stemmed from the work of ASARECA, which has been active in regional seed harmonization since the 1990s[160] including through its pilot the ASARECA/ Eastern and Central Africa Program for Agricultural Policy Analysis (ECAPAPA).[161] ASARECA's focus has been on policy development and input with respect to harmonizing seed laws, standards, and regulations in the region in the areas of variety evaluation, release and registration; seed certification; SPS regulation; plant variety protection; and seed law and regulations.[162]

Kenya, Tanzania, and Uganda were the first to become active in ASARECA, following a wide-ranging analysis of these three countries' seed systems and 2002 agreement for policy reform.[163] An agreement on variety release and registration followed under which a variety registered in one country's catalogue would be made available in another country following only one year of VCU testing if sufficient test data was provided from previous field trials in in similar agro-ecological zones.[164] By 2004, Burundi, the Democratic Republic of the Congo, Eritrea, Ethiopia, Rwanda, Madagascar, and Sudan had become part of ASARECA, [165] although the original three ASARECA states show the greatest degree of harmonization.[166] In 2007, ECAPAPA converted

[156] Ubwani, Zephania. *EAC Set to Harmonise Seed, Fertiliser Policies*. The Citizen, Oct. 14, 2013. Web. Nov. 3, 2014. http://www.thecitizen.co.tz/News/EAC-set-to-harmonise-seed--fertiliser-policies-/-/1840392/2031260/-/luafbcz/-/index.html.
[157] EAC Seed Standards Harmonization Meeting. Minagri News, May 2, 2014. Web. Nov. 3, 2014. http://www.thecitizen.co.tz/News/EAC-set-to-harmonise-seed--fertiliser-policies-/-/1840392/2031260/-/luafbcz/-/index.html.
[158] EAC Seed Standards Harmonization Meeting. Minagri News, May 2, 2014. Web. Nov. 3, 2014. http://www.thecitizen.co.tz/News/EAC-set-to-harmonise-seed--fertiliser-policies-/-/1840392/2031260/-/luafbcz/-/index.html.
[159] Ubwani, Zephania. *EAC Set to Harmonise Seed, Fertiliser Policies*. The Citizen, Oct. 14, 2013. Web. Nov. 3, 2014. http://www.thecitizen.co.tz/News/EAC-set-to-harmonise-seed--fertiliser-policies-/-/1840392/2031260/-/luafbcz/-/index.html.
[160] Nyachae, Obongo. Seed Certification Standards for Ten Selected Crops of Major Economic Importance in East Africa and Rwanda. Association for Strengthening Agricultural Research in Eastern and Central Africa (2007).
[161] *Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA)*. Eldis, n.d. Web. Oct. 22, 2014. http://www.eldis.org/go/home&id=6717&type=Organisation#.VFdl7_TF9UM.
[162] Minde, Isaac. East Africa Seed Policies: Harmonizing Seed Policies and Regulations in Eastern and Central Africa. International Food Policy Research Institute (2006).
[163] *African Seed: Harmonized seed policies begin to bear fruit*. East African Community, 2012.
[164] *See, e.g.,* John Keyser, "Regional Trade of Food Staples and Crop Inputs in West Africa," Africa Trade Policy Note 36 (2013): 12-13.
[165] *African Seed: Harmonized seed policies begin to bear fruit*. East African Community, 2012.
[166] Nyachae, Obongo. Seed Certification Standards for Ten Selected Crops of Major Economic Importance in East Africa and Rwanda. Association for Strengthening Agricultural Research in Eastern and Central Africa (2007).

into the Policy Analysis and Advocacy Program (PAAP) to focus on advocacy around implementation of regional agreements.[167]

The ASARECA/ECAPAPA regional variety release agreement has been incorporated into domestic legislation and regulation in Kenyan, Tanzania, and Uganda, and other EAC members (such as Rwanda) are incorporating elements of this regional variety release initiative into their national seed laws and regulations. Despite the agreement, implementation has not been complete due to lack of awareness of the agreement, differences in approach, and interpretation among the signatory states.

The Eastern Africa Seed Committee (EASCOM) was created to serve as the implementation arm of ASARECA and facilitate regional harmonization of seed laws and regulations.[168] EASCOM's role is to spearhead the review of policies, laws and regulations; strengthen national seed associations; operationalize agreements and databases; and build capacity and representation in both the EAC and COMESA.[169] EASCOM and ASARECA have identified variety evaluation, release and registration; certification; SPS harmonization; plant variety protection; and import and export related matters as focus areas for seed harmonization in the region. Related priorities include determining the appropriateness of compulsory certification; developing harmonized field and laboratory certification standards; harmonizing seed classes as breeder, basic, certified, and standard; authorizing private inspectors/laboratories to certify seed; developing a common seed tag for movement of seed in the region; establishing an inter-agency certification scheme amongst members; and devising a mechanism for graduating the informal seed sector to the formal seed sector.[170] As noted, however, much of work is still in the initial stages, and it remains to be seen how different regional initiatives will intersect and become harmonized.

Through the efforts of ASARECA and EASCOM,[171] the EAC has agreed to harmonize certification standards covering at least 42 staple foods, including grains, pulses, edible oil, and tubers. Of these standards, 29 are already in place while 13 new standards were in the final draft stage.[172] These additional certification standards for maize, sorghum, sunflower, soybean and groundnut have been prepared by the Technical Committee for Seed and Propagation Materials (EASC/TC/012) in accordance with the EAC Principles and Procedures for Harmonization of Standards and have been circulated for public comments.[173]

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[167] *Policy Analysis and Advocacy Programme*. ASARECA, N.d. Web. Nov. 3, 2014. http://www.paap.asareca.org.
[168] EASCOM includes four representatives from each of the ten countries, covering policy (Ministry of Agriculture), regulation, seed trade, and plant breeding (Minde and Waithaka, 2006: 7). For more information, see the how it was formed under ASARECA/ECAPAPA in the report by Waithaka, 2013. *See* EASCOM's report regarding seed certification standards for 10 selected crops of major economic importance in East Africa and Rwanda (2007), available at http://www.asareca.org/sites/default/files/Regionalseedcertificationstandards.pdf.
[169] ASARECA, Impacts of an Improved Seed Policy Environment in ECA (April 2011) EASCOM (ECAPAPA, "Harmonizing Seed Policies and Regulations in Eastern Africa" Monograph Series 6 (December 2004).
[170] Report of the Eastern Africa Seed Committee (EASCOM) Regional Seed Certification Standards, (2007) 4-5.
[171] *See* EASCOM's report regarding seed certification standards for 10 selected crops of major economic importance in East Africa and Rwanda (2007), available at http://www.asareca.org/sites/default/files/Regionalseedcertificationstandards.pdf.
[172] John Keyser, "Regional Quality Standards for Food Staples in Africa: Harmonization Not Always Appropriate," Africa Trade Policy Note 33 (2012): 5.
[173] Standards for Public Review, EAC, 2014. http://www.eac-quality.net/the-sqmt-community/standardization/public-drafts.html.

According to IFPRI, the harmonization process in East Africa has helped to streamline variety evaluation, release, and registration processes; reduce the number of SPS measures and the time needed to receive a SPS certificate; and simplify export and import documents, with increased seed volumes traded as a result.[174] In 2011, ASARECA reported that changes in seed policy in the region have increased consumer surplus for seed maize in Kenya, Uganda and Tanzania by 41 percent, 423 percent and 1,150 percent respectively.[175] Similarly, producer surplus for seed maize growers in Kenya and Uganda increased by 270 percent and 203 percent, respectively, but decreased by 28 percent in Tanzania. Overall, the implementation of harmonized seed policies is expected to translate into welfare gains of about US$128 million for the three original ASARECA countries. Given that these three countries account for only 44 percent of the region's maize seed industry, the EAC as a whole could experience welfare gains totaling US$727 million.[176]

At the national level, seed harmonization has seen some progress as a result of the coordination through ASARECA and EASCOM.[177] There is flexibility for great variance within the EASCOM recommendations, however, and seed regulations vary among the EAC members. EAC countries have enacted Seed and Fertilizer Acts that are in line with harmonization agreements arranged under EASCOM, and several countries, including Kenya and Tanzania, are revising a number of aspects of their seed regulatory systems.[178]

EAC member states have also begun harmonizing in the area of intellectual property (IP) for plant variety protection (PVP). Although at the time of publication Kenya is the only country that is formally a party to the UPOV Convention, Tanzania's process for UPOV membership is in the advanced stages and is expected in 2015. EAC member countries have either adopted or in the process of adopting laws that are compatible with international standards for plant variety protection.[179] EAC members have also taken additional steps at the institutional level, including establishment of a number of institutions and organizations related to seeds.

[174] Waithaka, Michael., et.al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*. ASARECA, April 2011: 26. Web. 23, Oct. 2014.
[175] Waithaka Michael., et al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*, ASARECA, 2011: 26.
[176] Waithaka, Michael., et.al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*. ASARECA, 2011: 26. Web. Oct. 23, 2014.
[177] Waithaka and Kyotalimye, Harmonizing seed policy in Eastern and Central Africa: lessons from a public-private partnership model, 2.
[178] Minde, Isaac and Waithaka, Michael. *Rationalization and Harmonization of Seed Policies and Regulations in Eastern and Central Africa: Effecting Policy Change through Private Public Partnerships*. International Association of Agricultural Economists, 2006: 7; Waithaka, Michael. *Harmonising Seed Policy in Eastern and Central Africa: Lessons from a Public-Private Partnership Model.* Technical Centre for Agricultural and Rural Cooperation, 2013. Web. Nov. 6, 2014.
[179] *See* UPOV Forty Eighth Ordinary Session, Geneva, October 16, 2014, availablehttp://www.upov.int/edocs/mdocs/upov/en/c_48/c_48_18.pdf

EAC Timeline of Regional Seed Harmonization

Late 1990s • Study by ASARECA identifies differences among the laws, policies, regulations and standards on seed and related areas of Kenya, Tanzania and Uganda
1997 • Eastern and Central Africa Programme for Agricultural Policy Analysis (ECAPAPA) created by Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)
1999 • Treaty for the Establishment of the East African Community signed by Kenya, Uganda and Tanzania. (Amended in 2006 and 2007)
2001 • EAC Protocol on Standardization, Quality Assurance, Metrology and Testing adopted
2004 • Eastern Africa Seed Committee (EASCOM) formed
2005 • EAC Customs Union established
2006 • EAC Standardization, Quality Assurance, Metrology and Testing Act adopted
2007 • Eastern and Central Africa Program for Agricultural Policy Analysis (ECAPAPA) converted into the Policy Analysis and Advocacy Program (PAAP)
2010 • EAC Common Market established
2011 • COMESA-EAC-SADC Free Trade Agreement (FTA) adopted • EAC Secretariat calls for support to improve seed quality to enhance seed trade
2013 • EAC announces two year initiative to establish regional harmonization for maize, sorghum, sunflower, soybean, and groundnuts seeds
2014 • EAC Technical Committee meets to revise Draft East African Standards for maize, sorghum, sunflower, soybean, and groundnuts seeds
2015 • EAC Elimination of Non-Tariff Barriers Act passed by Legislative Assembly • EAC Protocol on Sanitary and Phytosanitary Measures adopted by EAC Summit

Southern African Development Community (SADC)

The Southern African Development Community (SADC), with headquarters in Gaborone, Botswana, is a regional group of fifteen countries that was established in 1992. SADC is working to harmonize rules and procedures on seeds, yet SADC's rules are primarily voluntary and are not as binding as the measure in other RECs. This does not mean, however, that countries cannot make SADC initiatives binding through domestication, which has already begun to occur.

Institutional Structure

It is of significance to note that only SADC Protocols are legally binding on SADC members, but other SADC instruments, including Memoranda of Understanding (MOUs) (which are the primary instrument used for seed harmonization measures), are not binding absent other action by a member state to implement these measures. This is a significant institutional difference between SADC and the other RECs that are included in this study, although most RECs, with the exception of the EAC, still require domestication of regional measures.

Under SADC, the Summit of Heads of States or Government (Summit) is the ultimate policy-making institution, while the Secretariat is responsible for strategic planning, co-ordination and management of SADC programs.[180] The Council of Ministers oversees the functioning, development and implementation of policies,[181] and the SADC Tribunal ensures adherence to, and proper interpretation of the provisions of the SADC Treaty and subsidiary instruments.[182] Other bodies include the SADC Commissions (sector-specific policy coordination) and the Standing Committee of Officials (technical advisory committee). The Sectorial and Cluster Ministerial Committees provide policy advice to the SADC Council and are responsible for overseeing the activities of the core areas of integration, monitoring and control of the implementation of the regional strategic development plan,[183] while the National Committees oversee the implementation of programs at the national level and provide assistance with formulations of regional efforts.[184]

Under the SADC Treaty, only the SADC Summit can make legally binding decisions and enter into legally binding instruments (Protocols) within SADC.[185] MOUs (which are entered into by Member State ministers) are generally not considered to be independently legally binding.[186] A

[180] *See* Summit of Heads or State or Government. SADC. Web. 22 Oct. 2014. http://www.sadc.int/about-sadc/sadc-institutions/summit/ and see also SADC Secretariat. SADC. Web. 22 Oct. 2014. http://www.sadc.int/sadc-secretariat

[181] SADC Council of Ministers. SADC. Web. 22 Oct. 2014. http://www.sadc.int/about-sadc/sadc-institutions/council/

[182] SADC Tribunal. SADC. Web. 22 Oct. 2014. http://www.sadc.int/about-sadc/sadc-institutions/tribun/)

[183] Sectoral and Cluster Ministerial Committee. SADC. Web. 22 Oct. 2014. http://www.sadc.int/about-sadc/sadc-institutions/sectoral-cluster-ministerial-committees/

[184] SADC National Committees. SADC. Web. 22 Oct. 2014. http://www.sadc.int/about-sadc/sadc-institutions/national-committees/

[185] SADC Treaty, Art. 10, 22 (2).

[186] Centre for Applied Legal Research, The SADC Harmonized Seed Regulatory System: A Review of National Seed Policy Alignment Processes in HaSSP Project Countries (August 2012): 12-13. http://www.fanrpan.org/documents/d01457/hassp_policy_study_20121122.pdf.

Protocol enters into force thirty days after two-thirds of SADC member countries ratify it.[187] SADC member countries may accede to a Protocol any time thereafter.[188] Only parties to a Protocol are bound by it, and Article 22(14) prohibits SADC member countries from making reservations.[189] Unlike Protocols, SADC MOUs and SADC Declarations generally are not binding.

Non-legally binding instruments do not have a direct legal effect, due to their voluntary nature, and do not require full formal domestication processes (approving states are not obligated to bring national law into conformity with the instrument, but they may do so of their own accord). Approval of a binding instrument however, does obligate approving states to domesticate in order to provide the instrument with the force of law at the national level.[190] Within the area of seed regulation, SADC has adopted a Sanitary and Phytosanitary (SPS) Annex to the SADC Protocol on Trade, which does carry more binding status.[191]

SADC Seeds Regulations

The SADC Harmonized Seed Regulatory System (HSRS) (2008 Technical Agreements on Harmonization of Seed Regulations) is in the form of an MOU and is not legally binding as discussed above.[192] The process for developing the Technical Agreements of the HSRS was initiated in 2004-06[193] and focused on three areas: i) a variety release system; ii) a seed certification and quality assurance system, and iii) quarantine and phytosanitary measures for seed.[194] In 2007, the SADC Council of Minister endorsed the HSRS.[195] These three areas are covered under the SADC Variety Release System; SADC Seed Certification and Quality Assurance System; and the SADC Phytosanitary Measures for Seed System. The MOU on implementation of the HSRS was approved in May 2009,[196] with ten Member States signing the MOU in June 2010.[197] However, in order for the HSRS to be functional, SADC Member States will be required to align their national seed regulations. Despite the apparent political

[187] SADC Treaty, Art. 22(4).
[188] SADC Treaty, Art. 22(6).
[189] SADC Treaty, Art. 22(9).
[190] Centre for Applied Legal Research, The SADC Harmonized Seed Regulatory System: A Review of National Seed Policy Alignment Processes in HaSSP Project Countries (August 2012): 10. http://www.fanrpan.org/documents/d01457/hassp_policy_study_20121122.pdf.
[191] Approved by the SADC Committee of Ministers of Trade on 12 July 2008, Lusaka, Zambia, http://www.sadc.int/files/7413/5817/6371/SADC_Sanitary_and_Phyto_Sanitary_ANNEX.pdf).
[192] Technical Agreements on Harmonization of Seed Regulations in the SADC Region, Seed Variety Release Seed Certification and Quality Assurance Quarantine and Phytosanitary Measures for Seed, the SADC Secretariat (2008).
[193] Waithaka, Michael , and Jonathan Nzuma, Miriam Kyotalimye, Obongo Nyachae. Impacts of an Improved Seed Policy Environment in Eastern and Central Africa, ASARECA, April 2011: 8. Web. 23, Oct. 2014.
[194] SADC Secretariat. "Technical Agreements on Harmonization of Seed Regulations in the SADC Region: Seed Variety Release, Seed Certification and Quality Assurance, and Quarantine and Phytosanitary Measures for Seed," (Gaborone: 2008).
[195] Lopi, Barbara. "Southern Africa Addresses Regional Seed Supply Challenges." Maravi Post, 2011. *Available at* http://www.trademarksa.org/news/southern-africa-addresses-regional-seed-supply-challenges.
[196] K.C. Kawonga, "Implementation of the SADC Harmonized Seed System: Progress and Future Prospects," SADC Seed Centre (2013). There is a slight discrepancy as the Centre for Applied Legal Research states that the stated MOU was signed in February 2010 (CALR, 2012).
[197] CALR, The SADC Harmonized Seed Regulatory System: A Review of National Seed Policy Alignment Processes in HaSSP Project Countries (August 2012): 5-6.

endorsement of the HSRS at the SADC regional level, along with technical and financial support provided to countries at the national level (from FANRPAN via the Harmonized Seed Security Project (HaSSP) discussed above), national policy and regulatory alignment processes have only just started to progress beyond signing the MOU to implement the technical agreements of the HSRS.[198]

Under the 2008 HSRS, [199] SADC has developed a common variety approval framework that includes a regional variety catalogue and standards for variety testing; tests for agricultural value and seed certification are also covered, as is a reduced quarantine pest list.[200] Implementation began in 2013 after two-thirds of the SADC members signed the MOU agreeing to implement the proposed regional rules. If well implemented, the SADC will mark a significant improvement in a number of areas, including over requirements for independent approvals for variety registration, which could take three to five years to complete and threaten to keep the market fragmented with limited investment in new seed varieties.[201] Notably, the SADC HSRS established the SADC Variety Catalogue and the SADC Variety Database, and regional seed registration is permitted if a variety is approved and registered in at least two member states and agro-ecological conditions are suitable for release.[202] Twelve regional maize varieties have already been registered in the SADC Variety Catalogue, and further application will help the system become fully operational.

The SADC Seed Certification and Quality Assurance System has also been established, with testing procedures based on ISTA rules. These components of the system will need to be strengthened through formulation of the necessary technical guidelines and procedures, including crop-specific requirements, which the SADC Seed Committee has been assigned to undertake.[203]

The Project Management Unit of the SADC Seed Security Network, the SADC Secretariat and the Plant Protection Sub-committee facilitated SADC's harmonized Quarantine and Phytosanitary Measures for Seeds. Under the SADC Quarantine and Phytosanitary Measures, there are two rationalized pest lists: (a) the list of pests which require control when a seed is traded between SADC Member States and (b) the list of pests that require control when seeds are

[198] Waithaka, Michael , and Jonathan Nzuma, Miriam Kyotalimye, Obongo Nyachae. Impacts of an Improved Seed Policy Environment in Eastern and Central Africa, ASARECA, April 2011: 5. Web. 23, Oct. 2014.
[199] *Technical Agreements on Harmonization of Seed Regulations in the SADC Region*. Southern African Development Community, 2008. http://www.icrisat.org/Publications/EBooksOnlinePublications/Publications-2008/Seed_harmonization_English_J304_2008.pdf.
[200] Van der Walt, Wynand. 'Plant Variety Protection for Southern Africa: Progress and Pitfalls.' *SeedQuest* (2007); *See also* the SADC Framework for Integration. (http://www.sadc.int/files/5713/5292/8372/Regional_Indicative_Strategic_Development_Plan.pdf
[201] K.C. Kawonga. Implementation of the SADC Harmonized Seed Regulatory System: Progress and Future prospects. SADC Seed Centre, n.d.: slide 6. Web. Nov. 6, 2014. http://www.slideshare.net/resakss/implementation-of-the-sadc-harmonized-seed-regulatory-system-progress-and-future-prospects.
[202] Technical Agreement on the Harmonization of Seed Regulations in the SADC Region, The SADC Secretariat (2008): 20. *See* Opperman, Cuan and Niraj Varia. 'Technical Report: Soybean Value Chain.' AECOM International Development (2012).
[203] Mpofu, Bellah. *Comparison of the Proposed SADC System with Seed Regulations in SACU Countries and Zambia and Amendments Recommended to Effect Harmonization*. U.S. Agency for International Development, 2006. Web. Nov. 6, 2014.

traded into SADC country from outside the region.[204] Additional specific guidelines and technical requirements may be required for facilitating intra- and extra- seed trade the community.

The SADC Harmonized Seed Security Project (HaSSP) was launched in 2010, in partnership with FANRPAN, to advance implementation of the HSRS in four pilot nations, namely Malawi, Swaziland, Zambia, and Zimbabwe.

SADC Timeline of Regional Seed Harmonization

1987 • Discussion of harmonized seed policies began • *The Southern African Development Coordination Conference* (SADCC), SADC's predecessor, commissions study of seed systems in members that recommends harmonization
1988 • SADCC technical experts propose harmonization of seed laws within the region
1993-2000 • Ongoing technical workshops discussing harmonization of seed laws
1993 • Regional workshop on improved on-farm seed production for SADC countries in Mbabane, Swaziland which reiterates recommendation for harmonization of seed laws and extension of regulations to support on-farm seed production
1994 • Regional workshop to discuss study on harmonization of seed laws
1997 • Enhancing research impact through improved seed supply options for strengthening national and regional seed supply systems (10-14 March 1997, Harare) • Regional Technical Meeting on promotion of regional network for on-farm seed production and seed security in SADC countries (23-26 Sep 1997, Maseru, Lesotho), which recommends establishment of SADC Seed Security Network
1999 • Strategic Planning Workshop for the Seed Sub-Committee (22-24 Nov 1999, Kadoma, Zimbabwe)
2000 • Round table Discussion on sui generis protection of plant varieties under article 27.3(b) of TRIPS (27-28 Jan 2000, Harare); recommends development and implementation of PVP protection • Sub-Saharan Africa Seed Initiative stakeholders workshop (10-11 Feb 2000, Lusaka)

[204] Technical Agreement on the Harmonization of Seed Regulations in the SADC Region, The SADC Secretariat (2008), 38.

2001 • SDC (Swiss Agency for Development and Cooperation) commits funding to establishment of SADC Seed Security Network • Sub-Saharan Africa Seed Initiative stakeholders workshop (26-28 Sep 2001, Kadoma)
2002 • Strategic Planning Workshop for the Seed Sub-Committee (28-30 Jan 2002, Nyanga, Zimbabwe)
2007 • SADC Council of Ministers approves Harmonized Seed Regulatory System
2008 • SADC issues comprehensive Regional Seed Rules
2009 • MOU on implementing the Harmonized Seed Regulatory System rules is approved in May 2009
2010 • Five SADC Ministers of Agriculture signed MOU to implement Regional Seed Rules (2/3 SADC Member States will need to be signatories for MOU to enter into force) • HaSSP (Harmonized Seed Security Project) begins work to domesticate Harmonized Seed Regulatory System rules in Malawi, Swaziland, Zambia, and Zimbabwe as a pilot project for SADC-wide domestication
2011 • SADC Seed Centre appointed as secretariat of HSRS
2013 • Two-thirds of SADC Members sign on to implementation MOU in June 2013 • HaSSP comes to an end • On July 7, Implementation MOU enters into force; countries begin domestication (modifying national seed laws to confirm to Regional Seed Rules)

Section Three: Regional Comparative Analysis

Variety Release and Registration

By harmonizing variety release systems at the regional level, the amount of time required to introduce new seed varieties in the market could be reduced, yet, as discussed throughout, regional harmonization measures will still need to be implemented at the national level. This will both add to the timeline for regional harmonization and also means that some of the factors that have contributed to long wait times for bringing new varieties to market will not disappear immediately due to regional harmonization efforts in the absence of further action and commitment.

Different approaches to regional variety approval exist (See Table 2 below) and are being implemented on different timelines across African regions. ECOWAS, COMESA, and SADC,

for example, have approved a common seed catalogue, a model that the EU uses as well.[205] ECOWAS has also approved a common variety release system, which is in the process of being worked through and put into practice.[206] Within SADC and COMESA, varieties can be entered into the regional catalogue if they have gone through the required testing and registration process in two other Member States and appropriate data is provided. This process has begun to be implemented within SADC (See Table 1 below), and varieties in the regional catalog will be allowed for use throughout the region without any additional registration requirements. The process within ECOWAS is similar, with the notable exception that the ECOWAS rules state that a variety can be entered into the regional seed catalog once approved by only a single Member State. Unlike in SADC, in ECOWAS and COMESA, these regulations were immediately binding on all members once they entered into force, but member countries still require action and time to implement them. The process within the EAC is a bit different, and follows the ASARECA/ECAPAPA agreement on variety release and registration, allowing for a streamlined variety release process in a second EAC Member Country if a variety has been release and registered in another EAC country. Under this streamlined process, only one addition season of VCU or national performance trials are required (instead of several, as some countries' laws require) with appropriate data from the first country. [207]

Accepting third country data from countries with similar agro-ecological conditions is a critical part of streamlining the regional variety release process. While third country data sharing is embedded in many of the regional initiatives, this practice has mainly been applied in East Africa where more varieties have been registered regionally, although this too has happened to relatively limited degree compared with market need and demand. Table 1 below summarizes knowledge to date on regional variety release using third country data, with some of the gaps in information noted.

Table 1: Third Country Data Use in Variety Release

Country Accepting Variety Data	Crop/Variety	Country of Origin	Year Variety Release
Tanzania	Seed Potato (4 varieties from International Potato Center)	Kenya	2012
Rwanda	Maize (Pannar 618)	Kenya, Tanzania	2011
Uganda	Sunflower	Kenya	TBD
Kenya	Sweet Potato (4 varieties)	Uganda	TBD
Kenya	Rice	Tanzania	TBD

[205] Technical Agreements on Harmonization of Seed Regulations in the SADC Region, The SADC Secretariat (2008)14.; *see also* Gisselquist, David. Harmonization of seed legislation and regulation in CEEC, CIS and Other Countries in Transition, Food and Agriculture Organization (2001).
[206] *See e.g.,* Cortes, Joseph. *Overview of the Regulatory Framework in Seed Trade*. Food and Agriculture Organization of the United Nations. 2nd World Seed Conference, Rome. 8-10 September 2009.
[207] Waithaka, Michael., et. al. *Impacts of an improved seed policy environment in Eastern and Central Africa*. ASARECA. April 2008. http://www.asareca.org/resources/reports/Impactsofanimprovedseedpolicyenvironment.pdf.

Nigeria (reduced testing from two seasons to one)	Rice		TBD
SADC	Maize (12 varieties)	South Africa and Zambia	2015

Source: Authors' research and interviews; to be updated based on additional information.

Table 2 below summarizes regional variety release and registration initiatives, with key elements of national level implementation summarized in the column to the right.

Table 2: Summary of Regional Variety Release and Registration

Regional Economic Community (REC)	Current Regional Initiatives	National Level Implementation
ECOWAS Regional regulations are binding on member states and supersede national regulations, but countries must take further action at the national level to amend or enact laws.	• 2008 Regulation on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings approved (2008 ECOWAS Regulations also being adopted in UEMOA). • Regulations establish an ECOWAS Regional Seed Committee and the West African Catalogue of Plant Species and Varieties (WACPSV), which would allow new varieties to be entered into the regional catalogue when registered in one member country. (CORAF will operationalize). • ECOWAS Protocols and Procedures for release and registration of new varieties and DUS/VCU guidelines for maize, rice, and sorghum are being	• ECOWAS regulations are binding and supersede national seed laws, but in practice national laws and regulations will need to be changed to implement the 2008 Regulation, including with respect to establishing national seed catalogues. Countries are required to publish the ECOWAS regulation in their Official Gazette. • Most member states have national seed laws and regulations, decrees on national catalogues of plant species and varieties, and decrees on national seed committees, but often these laws and regulations are not in full compliance with the minimum requirements under the ECOWAS Regulation. Few countries have developed procedural manuals for variety release.[208]

[208] All ECOWAS member countries have seed laws except Cape Verde, Guinea Bissau, Togo, and Chad. Senghor, Paul. Status of Implementation of the ECOWAS Seed Regulation by Country. CORAF/WECARD, n.d. Web. Nov.

	rolled out. • ECOWAS Members must have a procedural manual for variety release.	• For example, Ghana's 2010 Plants and Fertilizers Act requires that all varieties undergo testing at research stations for one year followed by two additional years of VCU trials. This contradicts the ECOWAS regulation by requiring additional domestic testing for new seed varieties already approved by another member country. • In 2014, field trials, visits, and evaluations are underway under ECOWAS Protocols (SFSA Seeds2B effort in collaboration with CORAF/WASP); the first set in field in July 2014, with data results expected late 2014; registration and certification expected by 2015. • Nigeria has made variety registration automatic for vegetable seed.[209]
COMESA COMESA member states are bound by its regulations, but countries must domesticate the	• COMESA 2014 Seed Trade Harmonization Regulations shorten variety release to two seasons of DUS and VCU/NPT tests, and members are required to follow UPOV	• Regional seed catalogue not yet operational. • Given the recent passage of the COMESA Seed Trade Harmonization Regulations, most

3, 2014. http://pages.au.int/sites/default/files/static/caadp/agpolicy/Tuesday/APEL%20Country%20presentations%20-%20Tuesday%20May%2014/ECOWAS%20Seed%20Regulation%20Implementation%20Synoptic%20Table.pdf.

[209] Gisselquist, David *et al* An Obstacle to Africa's Green Revolution: Too Few New Varieties, SSRN Working Paper Series (2013) in John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 14-15.

agreements through their national instruments and mechanisms before they can take full effect.	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. • However, Member States can ban a variety for technical reasons, including unsuitability for cultivation or risk to other seed varieties, human or animal health, and the environment. • GM varieties may only be released at the national level and in compliance with national bio-safety regulations.	Member States have not yet harmonized their national seed laws with the new seed regulation. There may be inconsistencies between national seed laws that predate the COMESA regulations and the COMESA regulations. • ACTESA highlights that institutional capacities will have to be developed to implement the regional regulations, such as accreditation of seed laboratories to ISTA standards, and licensing and registration of seed inspectors, seed sampler, and seed analysts.[210] • COMESA notes three tiers of implementation readiness: (1) Countries with existing legal structures (10 total); (2) Countries with legal structures in draft form (5 total); and (3) Countries with no legal structures (5 total). • In September 2015, COMESA launched the regional Seed Committee in Lusaka, Zambia • Kenya is the only COMESA country that is a member of UPOV.

[210] *Status of the COMESA Seed Trade Harmonization Regulation and its Implementation,* Power Point presentation delivered at the 13th African Seed Trade Association (AFSTA) Congress, 3-6 March in Port Louis, Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA) of the Common Market for Eastern and Southern Africa (COMESA), Lusaka.

		• 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.
EAC EAC laws and regulations are automatically binding on its Members States at the national level. EAC Acts supersede national legislation.	• Under the ASARECA/EASCOM agreement (originally implemented among Kenya, Tanzania, and Uganda; with other countries coming on board), any variety registered in one country's variety catalogue could be registered in another following one round of domestic VCU testing if sufficient and appropriate test data is available (previous trials in similar agro-ecological zones). A full regional variety catalogue does not exist.	• Kenya, Uganda, and Tanzania have streamlined the regional variety release and registration process (under the ASARECA/ECAPAPA Agreement) and require one additional season of domestic VCU/NPT trials if a variety has been released in another country and adequate test data is provided. This has been implemented to an extent, albeit not consistently.[211] • ASARECA reports that Rwanda (and Ethiopia, which is part of COMESA but not the EAC) is in the process of joining the streamlined variety release agreement through changes in national legislation. • The ASARECA/ECAPAPA agreement has been incorporated into Tanzanian law and the

[211] *See* Waithaka, Michael., et.al. *Impacts of an Improved Seed Policy Environment in Eastern and Central Africa*, ASARECA, April 2011.

		process has been applied in practice; the same is true in Kenya. • Kenya and Uganda have made variety registration automatic for vegetable seed; Kenya and Uganda also has automatic registration for pasture seed.[212]
SADC Protocols are legally binding and must be domesticated through national law, but other SADC instruments are not, including MOUs, such as the MOU implementing the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC's fifteen members. Countries may choose to domesticate an MOU.	• The SADC Harmonized Seed Regulatory System (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 varieties approved for marketing throughout SADC. o 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.	• SADC Variety Catalogue established; seeds not listed in the SADC Variety Catalogue can still be traded among Members States. • Implementation of the HSRS began in June 2013 when all but five of SADC's fifteen countries signed the MOU to implement the SADC Regional Seed Rules.[213] • Differences in legal systems among member states present a challenge for alignment of national seed laws with the SADC rules. • SADC Seed Center established in Lusaka, Zambia. • The SADC Harmonized Seed Security Project (HaSSP) was launched in 2010, in partnership with FANRPAN, to advance implementation of the HSRS in four pilot nations: Malawi, Swaziland, Zambia, and Zimbabwe.

[212] Gisselquist, David *et al* An Obstacle to Africa's Green Revolution: Too Few New Varieties, SSRN Working Paper Series (2013) in John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 14-15.
[213] Angola, Madagascar, Mauritius, Seychelles, and Zimbabwe have not yet signed the MOU.

	○ An exception exists however, and a country may reject the approved variety if the agro-ecological conditions are deemed unsuitable. • 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. • The Project Management Unit (PMU), with technical support form the SADC Seed Committee (SSC) and national agencies governing seed, are expected to provide capacity building assistance through training sessions.	• South Africa's system is different than others: keeps list of registered varieties and requires one season of official DUS tests but no VCU tests, and registration is an automatic formality.[214] • Most SADC countries (for example, Swaziland under its Seeds and Plant Varieties Act of 2000 and the Seeds and Plants Varieties Regulations of 2002) require DUS and VCU testing for variety release.[215] • Several countries, including Malawi, are reviewing seed law,[216] and Zambia has introduced revisions to its Seed Law that are awaiting Parliamentary approval.[217] • SADC is the only REC that allows for registration and trade of local landraces.[218]

Seed Certification and Quality Assurance

Under a harmonized seed system, regional seed certification can allow for seed certified in one country to be available in other member countries. In ECOWAS, for example, regional regulations provide that seed certified in one member country can be accessed in the market of another member, eliminating the need for a second certification.[219] Capacity challenges can be significant, however. For example, the SADC Seed Certification and Quality Assurance System

[214] *See* John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 17.

[215] FANRPAN, Operational Report to the Swiss Development Co-operation (SDS), 2014.

[216] FANRPAN, Operational Report to the Swiss Development Co-operation (SDS), 2014.

[217] *See* John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2, World Bank (2013) 14-15.

[218] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2, World Bank (2013) 19.

[219] Harmonized Seed Legislation in West Africa, FAO, (2008).

requires that laboratories issue certifications, with a focus on ISTA accredited laboratories, but few Member States have this capability.[220] The COMESA seed certification system also requires certification methodology based on ISTA rules,[221] but only six of COMESA's fifteen members have ISTA-accredited laboratories.

Maintaining QDS standards alongside centralized seed certification requirements, which aim to address some of the same issues of quality with different degrees of government control over the process, can both open new opportunities for farmers and seed producers and create complexity in regional harmonization efforts, since not all countries recognize QDS, which is currently limited to relatively confined geographic areas.

While all regional harmonization efforts link to OECD Seed Schemes and ISTA accredited laboratories, few countries have this capacity. The highest concentration of countries following OECD and ISTA requirements are within Eastern and Southern Africa, which should bode well for implementation of regional measures within these regions. However, despite this convergence of standards within these regions, countries reportedly often do not mutually recognize laboratory test results, even among ISTA members.

Table 3: Summary of Seed Certification and Quality Assurance Harmonization Efforts

Regional Economic Community (REC)	**Current Regional Initiatives**	**National Level Implementation**
ECOWAS Regulations are binding on member states and supersede national regulations, but in practice countries must also take further action to amend or enact national laws.	• 2008 Regulation on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings. • ECOWAS recognizes four Seed Classes: Parent Material, Pre-basic Seed (three generations), Basic Seed, and Certified Seed (three generations and hybrid). • Harmonized labeling to be established based on ISTA standards.	• CORAF coordinating implementation support until 2018. • Most countries regulations related to seed production, quality control, and certification. • Few countries have developed procedural manuals for seed quality control & certification to comply with ECOWAS standards. • Regulations relating to seed certification and quality control under

[220] Zulu, Edward D. and Goldschagg, Eddie. *Harmonization of Seed Regulations to Promote Seed Trade in the SADC Region: Promote Seed Trade in the SADC Region*. Power Point Presentation, slide 8. Web. Nov. 2, 2014. http://fsg.afre.msu.edu/zambia/FANRPAN_workshop/pdf/session_02/E_Zulu_Harminisation.pdf.
[221] COMESA Seed Trade Harmonization Regulations, (2014) Article 13(d).

	• Seed certified in one member country can be freely accessed in the market of another member, eliminating the need for a second certification. • Countries are required to develop procedural manuals for seed quality control & certification.	review at the national level. • Certification following ISTA procedures, but not no countries within ECOWAS have an ISTA –accredited lab.[222]
COMESA COMESA member states are bound by regulations, but countries must domesticate the agreements through their national instruments and mechanisms.	• COMESA Seed Trade Harmonization Regulations 2014 requires members to adopt common Seed Certification Rules. • 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).	• Regulations very new, so much remains to be done towards implementation. • Kenya and Zimbabwe participate in OECD seed certification schemes, and Tanzania is very close to full participation. • Egypt, Kenya, Malawi, Uganda, Zambia, and Zimbabwe have ISTA-accredited laboratories; Tanzania is an ISTA member and will soon have an ISTA-accredited laboratory. • Certification following ISTA procedures.[223] • Some member countries, e.g. Zimbabwe, have seed classes that differ from COMESA classes.
EAC EAC laws and	• Through the efforts of ASARECA and EASCOM,	• Burundi, Tanzania, and Uganda have developed

[222] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 18.
[223] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 18.

regulations are automatically binding on Members States at the national level. EAC Acts supersede national legislation, but national laws must still be brought into conformity.	the EAC has agreed to harmonize certification standards covering at least 42 staple foods, including grains, pulses, edible oil, and tubers.[224] Of these standards, 29 are already in place while 13 new standards were in the final draft stage and awaiting comment.[225] • EAC recognizes ISTA rules, OECD guidelines, and UPOV.	shared seed certification standards for ten crops, but none has recognized other countries' seed certification tests. • The Centre for Biosciences International (CABI) formulated and implemented three farmer-led seed enterprise (FLSE) models from 2009-2012, including QDS. This work is being scaled up throughout East Africa. • Kenya and Uganda participate in OECD seed certification schemes.[226] Tanzania is in the process of participating in OECD seed certification schemes as well. • Kenya and Uganda have ISTA-accredited laboratories, and Tanzania will soon have an ISTA-accredited laboratory. Uganda in particular still has capacity challenges meeting national and regional demand.[227]
SADC Protocols are legally binding and must be	• SADC Seed Certification and Quality Assurance System ensures quality of seeds listed in the SADC	• Note that GM varieties are not accepted in the SADC Variety Catalog. In part, this is because some

[224] John Keyser, "Regional Quality Standards for Food Staples in Africa: Harmonization Not Always Appropriate," Africa Trade Policy Note 33 (2012): 5.
[225] John Keyser, "Regional Quality Standards for Food Staples in Africa: Harmonization Not Always Appropriate," Africa Trade Policy Note 33 (2012): 5.
[226] *See, e.g.,* Joughin, James. *The Political Economy of Seed Reform in Uganda: Promoting a Regional Seed Trade Market*. World Bank, 2014: 21.
[227] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 18.

domesticated through national law, but other SADC instruments are not, including MOUs, such as the MOU implementing the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC's fifteen members. Countries may choose to domesticate an MOU.	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. • 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). • Harmonized labeling to be established based on ISTA standards and appropriate laboratory analysis. • The Project Management Unit (PMU), with technical support form the SADC Seed Committee (SSC) and national agencies governing seeds, will coordinate the SADC Seed Certification and Quality Assurance System.	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.[228] • South Africa, Malawi, Zambia, and Zimbabwe have ISTA-accredited laboratories. • South Africa formally participates in OECD seed certification schemes; Zimbabwe also participates but informally.

Cross-Border Trade and SPS Measures

Cross-border trade is a fundamental aspect of all regional harmonization efforts, with general rules on cross-border trade existing outside of the regional seed harmonization efforts that are the

[228] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 18.

focus of this work. Regional harmonization of one particular aspect of cross-border trade in seeds, SPS measures, are covered by both more general trade mechanisms and seed harmonization initiatives. Harmonization of SPS measures has moved forward relatively more slowly than other aspects of regional harmonization (such as regional variety release and registration), but harmonization on SPS measures is nonetheless moving forward in all of the RECs studied.

Often regional SPS initiatives will refer to international standards, such as the EAC's SPS protocol, which calls for SPS measures, including on seed, to be consistent with international standards, guidelines, and recommendations.[229] This will include instruments like the WTO SPS Agreement and IPPC.

ECOWAS national agencies responsible for plant protection will issue phytosanitary certificates as required under the ECOWAS seed regulation to import or export seed from or to member states,[230] but there is variance among the policies of different ECOWAS member states. The COMESA Seed Regulations on quarantine and phytosanitary measures allow an importing member state to issue a plant import permit to a seed importer based on the existing phytosanitary regulations in the Member State.[231]

Common pest lists are a central aspect of regional SPS harmonization. The SADC system, for example, rationalizes pest list based on science and authorizes the Project Management Unit of the SADC Seed Security Network, the SADC Secretariat and the Plant Protection Sub-committee to facilitate quarantine and phytosanitary measures for seeds.[232] The SADC harmonized seed regulation requires the introduction of rationalized SADC pest lists for the movement of seeds between Member States and under a separate list between SADC and outside countries.[233] Universal pest lists are under development across RECs but do not yet exist in any of the RECs studied, however.

Table 4: Summary of Food Safety Standards and SPS Harmonization Efforts

Regional Economic Community (REC)	Current Regional Initiatives	National Level Implementation
ECOWAS Regulations are binding on member states and supersede	• ECOWAS requires seeds imported to and exported from the region to be accompanied by a phytosanitary certificate	• National agencies responsible for plant protection issue phytosanitary certificates for import and export, but national regimes vary considerably.

[229] The EAC Protocol on Sanitary and Phytosanitary Measures, (2011) Article 6.
[230] Regulation C/REG 4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (2008) Article 78.
[231] COMESA Seed Trade Harmonization Regulations, Kinshasa, DRC, (2014) Article 33.
[232] Technical Agreements on Harmonization of Seed Regulations in the SADC Region, Seed Variety Release Seed Certification and Quality Assurance Quarantine and Phytosanitary Measures for Seed, SADC Secretariat, Gaborone, (2008) 36.
[233] Technical Agreements on Harmonization of Seed Regulations in the SADC Region, Seed Variety Release Seed Certification and Quality Assurance Quarantine and Phytosanitary Measures for Seed, SADC Secretariat, Gaborone, (2008) 38.

national regulations, but in practice countries must also take further action nationally would be needed to amend or enact national laws	issued by the Member State. • Countries are required to periodically review pest lists and exchange information on pests, but no universal pest quarantine list exists.	
COMESA COMESA member states are bound by regulations, but countries must domesticate the agreements in their national instruments and mechanisms	• SPS covered in 2014 COMESA Seed Trade Harmonization Regulations (Chapter 5). • Universal pest list being developed for each seed crop.[234] • Common standards for pest inspections are being developed.	• COMESA has prepared one set of draft lists for all types of seed trade; countries have yet to implement.[235] • National Plant Protection Organization (NPPO) is involved in development of a pest list in Kenya.
EAC • EAC laws and regulations are automatically binding on its members at the national level. • EAC Acts supersede national legislation.	• An SPS Protocol for some goods, including seeds (but excluding food safety measures) was approved by the EAC Summit, in July 2015. • East African Standards (EAS) provides unified SPS standards for a number of staple foods, including seed potato and other tubers, grains and pulses. For example, phytosanitary provisions for seed potato must follow the International Plant Protection Convention (IPPC). • Countries are encouraged	• The EAC SPS Protocol is automatically binding on all members, but full implementation may take time. • NPPO in Kenya works on SPS standards, and is also developing a pest list.

[234] COMESA Seed Trade Harmonization Regulations, Kinshasa, DRC, (2014).
[235] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 13.

	to review pest lists, but no universal pest quarantine list yet exists.	
SADC Protocols are legally binding and must be domesticated through national law, but other SADC instruments are not, including MOUs, such as the MOU implementing the SADC Harmonized Seed Regulatory System (HSRS) signed in June 2013 by ten of SADC's fifteen members. Countries may choose to domesticate an MOU.	• 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. • The SADC Plant Protection Sub-committee provides technical support.	• SADC has prepared two sets of pest lists, one for pests that require control when seed is traded among SADC members and another for seed coming from outside the region.[236] • NPPO in South Africa works on pest control issues. • Pest Risk Analysis training workshops have taken place under HaSSP. • In Zimbabwe quarantine and phytosanitary measures for seed have been aligned to the SADC HSRS in draft legislation. • In Swaziland the Plant Health Protection Act, 2013 aligns with the HSRS. • In Zambia the two SADC pest lists were added as the 10th order in the Plant Pest and Diseases CAP 233.[237]

Conclusion

The four RECs covered by this analysis (ECOWAS, COMESA, the EAC, and SADC) are in varying stages of harmonizing seed variety release and registration, certification, and SPS

[236] John C. Keyser, Opening Up the Markets for Seed Trade in Africa, Africa Trade Practice Working Paper Series Number 2 (World Bank), (2013) 8.

[237] FANRPAN, Operational Report to the Swiss Development Co-operation (SDS), 2014.

measures. While each REC has notable efforts underway, the degree of regional harmonization differs across RECs and within substantive areas. Although the frameworks for regional integration are falling into place, implementation of harmonized seed measures will likely still take considerable time. Perhaps the most significant factor affecting implementation is the element of domestication; legally measures agreed to at the REC level nearly always require changes in national level legislation or regulation in order to take full effect. Changes on the books must also be implemented, and institutions will need to be more fully developed at both the regional and national levels in order to carry out regional harmonization efforts in practice. At present, different countries regulate seeds quite differently, even within smaller RECs like the EAC. Despite regional agreements requiring regulatory collaboration, true collaboration is rare in practice but is beginning to emerge.

In addition to the hurdle that national level implementation presents, important institutional differences exist among the RECs. This aspect of regional harmonization is often overlooked, but the RECs are legal entities with complex institutional structures. These institutional differences will impact both the pace of current regional harmonization efforts and any future plans to further harmonize measures in seed trade, including under the Tripartite Agreement among the EAC, COMESA, and SADC. In addition to variance in institutional structure and capacity among the RECs, the RECs also overlap to a significant degree, which will make implementation increasingly difficult over time. For example, Kenya and Uganda are members of both COMESA and the EAC, and Tanzania is a member of both the EAC and SADC. Although there are similarities in the regional seed harmonization efforts of the EAC, COMESA, and SADC, there are notable differences as well. Institutionally, the EAC's legal instruments are automatically binding upon member states, while SADC's measures are largely voluntary and do not bind members absent domestic action.

This study also highlighted areas of further change in law and regulation that will be needed in order to implement regional seed harmonization efforts. Much deeper analysis of national level legal and regulatory systems and structures will be required in order to fully assess regional harmonization efforts, and partnership among the different organizations working in this area will be of increasing importance moving forward. Regional harmonization in seeds is clearly underway, but these processes are still at quite an early stage in their implementation, and time will show the full impact of regional harmonization.

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