Quality Assurance and Safety of Crops & Foods, 2019; 11 (7): 613-622
SPECIAL ISSUE*: Scientific trends of global food laws and regulations*

Harmonisation in Africa

H. Arthur

Netherlands Development Organization – SNV, Agriculture Department, 10 Maseru Street, East Legon, Accra, Greater Accra, Ghana; hansoni30@hotmail.com

Received: 4 October 2018 / Accepted: 14 August 2019

REVIEW ARTICLE

Abstract

Globalisation, regionalisation and increasing integration of trade are some major characteristics of the current world order. There is evidence to link enhanced economic growth to increased trade integration in advanced economies like the European Union. Africa has regionalised and is integrating its economies to take advantage of improved trade opportunities, both within and with the rest of the world. Just like the EU, this requires that Africa harmonises its standards and regulatory environments with international standards, not only to participate in international markets but also to direct trade into the continent. Several harmonisation efforts have therefore been initiated and carried out through the Regional Economic Communities (RECs) in Africa. These efforts require coordination to achieve scale and to surmount the challenges related to Africa's regulatory 'institutions', its joint 'interventions' with other bilateral development agencies, and their collective 'initiatives'. The challenges continue to stifle harmonisation efforts and need to be addressed. There is a need to strengthen regulatory institutions, develop infrastructure and technical capacity, and coordinate the several harmonisation initiatives, for uniformity and effectiveness. The prospects of harmonisation to bolster trade and improve food security, economic growth and development on the continent, are a much higher imperative to pursue, than to allow the historical challenges of the colonial era that stifle harmonisation to persist.

Keywords: regional economic communities, regulation, trade, food security, economic development

1. Introduction

Globalisation has brought in its wake the growing interdependence of countries, resulting from the increasing integration of trade, finance, investments, labour markets and ideas in one global marketplace (Frunža *et al.*, 2009). Various manifestations and ramifications of globalisation can therefore be observed in the world today. Emerging from globalisation has been the phenomenon of regionalisation (Leonova, 2016; Matveev *et al.,* 2016), which is evidenced by the formation of regional blocs. Regionalisation develops from an identifiable geographic region where member states share proximity to one another and have a common sense of identity and purpose including economic and political aspirations, among others (Kim, 2014). Among notable regional blocs such as the European Union (EU), the Association of South-East Asian Nations, and the African Union (AU), the EU is regarded as one of the most advanced, worldwide.

In spite of the persistent debate around the benefits of regionalisation (Qadri *et al.*, 2016), Mkandawire *et al.* (2014) had earlier pointed out the benefit Africa stood to gain from harnessing the opportunities of regionalisation. Kim (2014) argued that a globalised regionalisation, one that is opened to globalisation and not limited to its own internal integration alone, has a positive effect on economic development – development that is tied to favourable terms of trade for the member states.

With respect to trade, Bilas and Franc (2010) noted that globalisation may be characterised by regional trade agreements and the acceptance of international standards. Yet a major hurdle to trade both within and outside a regional bloc, is the challenge of technical barriers; the so-called technical barriers to trade (TBTs). In dealing with TBTs, the EU has shown that the main mechanism for removing them is through mutual recognition of existing standards, where a product produced and sold within a

member state is given free access to all other EU markets. However, where significant differences exist in the initial standards of member states, a process of harmonisation is initiated before mutual recognition processes are activated. Such mechanisms have boosted trade in the EU (De Frahan and Vancauteren, 2006) and it has become a market of choice for many would-be exporting nations.

Wilson (2013) reported that one additional international harmonised standard leads to an increase of $114 to $193 million in food exports for China. Also for Africa, Mkandawire *et al.* (2014) suggested that increased economic integration through harmonisation of agricultural and economic policies among African states could lead to improved overall agriculture production and intra-regional food trade. In Africa however, the absence of well-coordinated harmonisation of the regulatory environment, appears to deprive the continent of much needed economic growth and development that could be triggered by intra and inter regional trade (ACET, 2017). Therefore, supporting harmonisation initiatives, even at the regional level, would not only benefit the region, but also facilitate trade into the region (Sandahl, 2018).

This paper discusses the state of harmonisation in Africa from the regional bloc perspective. Efforts in the East African Community (EAC), Southern African Developed Community (SADC) and the Economic Community of West Africa States (ECOWAS) are discussed. A general summary of similar efforts are presented. The paper then throws some highlights on the complexities around African harmonisation initiatives along the lines of institutions, infrastructure and initiatives, and suggestions for the future proffered.

2. Harmonisation efforts in Africa

There are hotspots of harmonisation initiatives at various intensities across African states, which can be observed through the Regional Economic Communities (RECs). The RECs play very important roles in integration activities in Africa (WHO, 2014), consistent with the objectives of the Treaties that set them up. Therefore matters of integration and harmonisation on a variety of issues, are first initiated by, or channelled through the RECs. The RECs themselves recognise regional harmonisation as decisive to building competitiveness in intra and inter-regional trade (BMZ, 2012).

Towards an agenda of continental harmonisation, four RECs including EAC, Common Market for East and Southern Africa (COMESA), ECOWAS and SADC held a consultative meeting in April 2016, in Nairobi, Kenya, to contribute towards the establishment of a Continental Free Trade Area (CFTA). The meeting discussed matters related to standards and identified quality infrastructure to produce harmonised standards, as well as technical regulations and conformity assessment regimes as critical to the CFTA (WTO, 2016). Cooperation from the RECs and the African Organization of Standardization (ARSO) were also highlighted.

In the area of medicine regulation, the AU intended to establish a single African Medicine Agency (AMA) by the end of 2018, following the successful rollout of the African Medicine Regulation Harmonization (AMRH) initiative within certain regional blocs on the continent. The AMRH initiative has been particularly successful within EAC and SADC, with at least a framework for harmonisation of regulatory policies and activities initiated in ECOWAS. After a minor delay, the African Union Heads of State and Government adopted the treaty for the establishment of the AMA during their 32nd Ordinary Session of the Assembly on 11 February 2019 in Addis Ababa, Ethiopia (AU, 2019). The AMA is expected to contribute to an enabling environment for the development of the pharmaceutical industry and lead to better coordination between different partners and stakeholders undertaking medicines regulatory strengthening and harmonisation efforts in Africa (Luthuli and Robles, 2017). The session below now discusses some harmonisation efforts taken within three regional blocs (EAC, ECOWAS, and SADC), and provides a summary of similar activities but of less intensities in the other regional blocs. The three RECs occupy almost the entire Sub-Saharan Africa, and also have member states with overlapping memberships in other RECs.

3. East African Community

The EAC comprises of Burundi, Kenya, Rwanda, South Sudan, Uganda and United Republic of Tanzania. One of eight RECs recognised by the AU, the EAC aims to widen and deepen cooperation among its member countries, and it is the only REC with a vision of creating a political federation in East Africa (Tharani, 2017).

In the EAC, a lot of work has been done towards regulatory harmonisation, often facilitated by development cooperation efforts. United States Agency for International Development (USAID)'s East Africa Trade Hub worked with the East African Technical Standards Committee (EATSC), the Eastern Africa Grain Council, the private sector and national bureaus of standards in each of the member countries to outline a process for developing regional standards. This effort led to the harmonisation of standards for 22 staple foods products and their subsequent adoption by the bloc (USAID, 2014). The USAID mobilised both the public and private sectors in each country and held national-level meetings that agreed on priority commodities and positions for standardisation parameters. After resolving obvious challenges from certain member countries, through regional technical meetings, the standards were approved and adopted by the EATSC.

While critics have noted that the EAC standards for maize grains, for example, are more stringent than the Codex standards which is a source reference document (though this in itself is permitted by Codex under certain conditions) (Desta and Hirsch, 2012; Raustiala *et al.*, 2008), this REC has particularly been very active in promoting standards harmonisation with international standards, in an effort to facilitate trade between member states and to ensure global markets remain open to EAC exporters (Keyser, 2012).

Additionally, in the EAC, the WHO along with other consortium partners, initiated the AMRH Initiative that sought to promote harmonisation of medicine regulation in all of Africa. The EAC was the first REC to secure funding and the project was launched in March 2012. Specific objectives of the initiative were to maintain a common documentation package; build the capacity of evaluators; streamline management systems and processes; develop systems and processes to share information within the EAC; and conduct joint dossier assessments and inspections of manufacturing sites as prerequisite for national registration decision-making (WHO, 2014). Based on encouraging results, the AMRH initiative sought to replicate the successes within other RECs on the continent.

Again, mandated by the Treaty that established the EAC, the bloc has embarked on an initiative to harmonise the pesticide regulatory systems within the region. The goal is to create a common data package; have mutual recognition of efficacy and residue data, adopt common maximum residual levels consistent with Codex, and eventually move towards a single submission registration system. The process was further deepened when three expert working groups were established to work on efficacy, residue, and registration harmonisation. After holding three meetings between October 2016 and March 2018, these expert working groups have completed work on a harmonised application form for registration of conventional pesticides; a harmonised labelling requirements for pesticides products; and have agreed on guideline documents for efficacy, residue and registrations (Sandahl, 2018).

These intensive initiatives by the EAC appear to have a ripple effect and could make the EAC regional bloc, a significant node to spur harmonisation efforts across the continent. For example when the EAC developed a comprehensive harmonised standards (East African Standards compendium), COMESA decided to largely adopt it to avoid duplication (BMZ, 2012).

4. Southern African Developed Community

Member states of the SADC regional bloc include Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. Through extensive consultations among these member states and other stakeholders, the bloc developed a 'Regional Guidelines for the Regulation of Food Safety in SADC Member Sates'. The implementation of the guidelines was expected to help harmonise regulations related to compliance of Sanitary and Phytosanitary (SPS) measures, including food safety, across the region, and contribute towards increased regional food security and trade opportunities (SADC, 2011).

Again in the SADC region, one of the early triggers for a regional approach was how individual countries within the region regarded and treated imports of genetically modified crops. Before 2002, countries in the region accepted GM crops as food aid through the World Food Program. However after 2002, a number of the countries within SADC either placed restrictions on GM yellow maize or totally rejected it, creating policy incoherence within the region. The Regional Approach to Biotechnology and Biosafety Policy in Eastern and Southern Africa Initiative was, in part, a response to seek a common approach and move towards policy harmonisation in the region (Paarlberg, 2006). It has since become clear that the process of developing harmonised regulations for genetically modified organisms (GMOs) and the scope of such regulations pose weighty challenges for policy-developers and decision-makers. Difficulties emerged over where certain decisions or authorisations would take place, at the regional or national level. The consensus that emerged was then to develop a harmonised regulatory framework, guided in principle by a regional mechanism for risk assessment, while authorisations take place at the national level (SADC, 2011).

Perhaps GMOs posed far weightier challenges than the generally non-GMO seed sector. Yet it took pressure from commercial seed companies and from development investors to stimulate collective action for seed trade harmonisation in the SADC region. The seed industry in the region had been seized with the challenge of meeting multiple standards and regulations, which was not cost-effective for their operations. This resultant joint action led to a more enabling policy and regulatory framework to improve the efficiency of the national seed systems. The seed systems now include the formal, public and private seed sectors, and innovative informal approaches that involve farmer groups, individual seed producers and NGOs operating in a particular country. Ultimately, the objective has been to facilitate the free flow of seeds across national borders in the region (Mgonja, 2011).

In 2008, SADC and two other RECs, agreed to develop a Tripartite Free Trade Area, aimed at harmonising the trade regimes of the three regional economic communities. However, the initiative, which was launched in 2015, was expected to take time to achieve tripartite harmonisation,

given the number of countries involved and the institutional heterogeneity among the three RECs (Kuhlmann, 2015).

5. Economic Community of West Africa States

Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo form the member states of ECOWAS. Article 25 of the revised ECOWAS Treaty provides for cooperation by member states to harmonise food security policies, leading to the adoption of a common agricultural policy by the Heads of State (Van Dijk, 2011).

Since then, governments in the region have been working through the regional body and other stakeholders for several years to develop harmonised trade rules and quality control measures meant to increase farmer choice, and generally improve the trade regime in the region. In 2008, ECOWAS through extensive consultations with other regional bodies, developed a set of harmonised trade rules for both the seed and fertilizer sectors in the region (Keyser *et al.*, 2015). This was based on Regulation C/REG.4/05/2008 on harmonisation of the rules governing quality control, certification and marketing of plant seeds and seedlings in the ECOWAS Region (ECOWAS Regulation). The Regulation covers eleven major crops that are important to food security and trade within the region: maize, pearl millet, rice, sorghum, cassava, Irish potato, yam, cowpea, groundnut, onion and tomato (Kuhlmann and Zhou, 2016).

Even though Regulation C/REG.4/05/2008 has been ratified at the regional level by member states, its synchronisation and harmonisation with national legislation and across borders are still far from being complete. For example, several seasons of on-station and on-farm trials are needed for varietal registration and release in Ghana, which does not completely align with the ECOWAS Regulation. Furthermore, in terms of how the ECOWAS harmonised seed sector resonates with similar regulations at the continental level, clear disparities emerge. The ECOWAS regulation accepts that varieties registered in one country can move across the region, while the SADC, and EAC regulations require such varieties to be registered in at least two countries (Kuhlmann and Zhou, 2016), demonstrating a clear need for harmonisation at the level of the AU.

The need for regional harmonisation of the regulatory framework is as important within the ECOWAS bloc as has been identified in other regions. Even major regional initiatives that require a standardised approach are often hindered by the lack of harmonisation across board. Access to the global market has been a struggle to not only West African exporters, but the rest of Africa, due to non-compliance with regulations in the importing countries. This creates the need for ECOWAS countries, and indeed all of Africa, to harmonise their standards based on the internationally accepted FAO / WHO and Codex guidelines (Traore, 2008).

Other factors that affect harmonisation efforts in the ECOWAS region, and therefore influence regional trade include currency, political history and language, which highlights the Anglophone-Francophone dichotomy. Understandably, the peculiar political history of the region, heightens the fear of the loss of national sovereignty, and creates a mind-set that seeks to protect sovereignty as a priceless treasure (Van Dijk, 2011). Therefore, in spite of the remarkable achievements especially at the policy level, Keyser *et al.* (2015), noted that a lot more hurdles remain before harmonised trade, for example, of seed or fertilizer can begin in the region.

Besides EAC, SADC and ECOWS, the rest of the 5 regional economic communities have also initiated some harmonisation activities. Table 1 below summarises these efforts in the other 5 regional blocs.

6. Complexity of harmonisation in Africa

The ongoing overview shows that African countries have made some progress at strengthening their food safety systems and infrastructure for better coordination and integration of services (Mwamakamba *et al.*, 2012). Today, many of these countries attend Codex meetings, thanks to the Codex Trust Fund. (Mensah *et al.*, 2012; Raustiala *et al.*, 2008). The heightened interest in Africa's in food safety issues coincides with current consumer demands and globalisation of the food system that are driving the world towards harmonised food safety standards (GFSP, 2018).

While the efforts in Africa (with support from global standards-setting and food safety regulatory bodies), show commitment at the highest levels, several individual states in Africa are still engulfed in a complex milieu of internal challenges that impede the rapid harmonisation of the regulatory environment across the continent. Major institutional deficiencies and infrastructure deficits affect a harmonised trading regime on the continent (Bilas and Franc, 2010). These deficiencies of the regulatory environment in Africa and the complexity of the context can be discussed broadly by looking at institutions, infrastructure and initiatives.

7. Institutions

Globally, standards for food products continue to differ between countries despite international coordination, development of multilateral regulations and common conformity assessments by international institutions (Foletti and Shingal, 2014). However, since the WTO was created and the subsequent coming into force of the SPS as well

Table 1. Harmonisation in other Regional Economic Communities (RECs) (UN Economic Commissions for Africa website: https://www.uneca.org/oria/pages/regional-economic-communities).

REC	States	Efforts towards harmonisation
AMU – Arab Maghreb Union	Algeria, Libya, Mauritania, Morocco, and Tunisia	Agreed on: • The establishment of a free trade area with the dismantling of all tariff and non-tariff barriers to trade • The creation of a customs union with a common external tariff • The formation of a common market Practical steps towards implementation have been slow
CEN-SAD – Community of Sahel Saharan States	Benin, Burkina Faso, Central African Republic, Chad, the Comoros, Côte d'Ivoire, Djibouti, Egypt, Eritrea, the Gambia, Ghana, Guinea-Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, the Sudan, Togo and Tunisia	Stagnant with Abuja Treaty Not eliminated Tarrif and Non-Tarrif Barriers Overlapping membership Weak institutions
COMESA – Common Market for East and Southern Africa	Burundi, the Comoros, the Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Sudan, Swaziland, Seychelles, Uganda, Zambia and Zimbabwe	$ USD 1 billion infrastructure fund Program in place for harmonised policies and regulatory environments Development of aid for trade programs along the major regional corridors including the establishment of One Stop Border Posts (OSBPs) Regional associations of regulatory authorities have been established to facilitate policy and regulatory harmonisation as well as fostering capacity building and information sharing.
ECCAS – Economic Community of Central African States	Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe.	Initiatives started to harmonise policies in several areas including industry, transport, agriculture, trade, currency science and technology, among others Implementing a Common Agriculture Policy that serve as the basis for the development of Regional Agricultural Investment and Food Security Programme in the region Established a Steering Committee for the Rationalization of Regional Economic Communities in Central Africa. The Steering Committee has met three times to deliberate priority areas of action for further harmonisation
IGAD – Inter-Governmental Authority on Development	Djibouti, Ethiopia, Eritrea, Kenya, Somalia, The Sudan, South Sudan Uganda.	Agreement Establishing IGAD. Article 7 provisions for the harmonisation of policies with regard to trade, customs, transport, agriculture, among others. In February 2016, the IGAD Secretariat and its member States held a two-day workshop on the topic of IGAD Sectoral Strategies and Implementation Plans 2016-2020. The workshop focused on the six priority sectors: agriculture, natural resources and environment; regional cooperation and integration; peace and security; and social development and gender. The workshop validated and reaffirmed member States commitment to the implementation of the IGAD Strategy for the coming five years

as the TBTs Agreements, a lot of progress has been made towards global harmonisation of standards and regulations (Motarjemi *et al.*, 2001). Yet in Africa, both within countries and across the continent, persistent institutional multiplicity and overlapping mandates complicate the existing regulatory asymmetries.

For example, three agencies in Nigeria including the Federal Fertilizer Department, the National Agency for Food and Drug Administration, and Standards Organisation of Nigeria each claim responsibility for different and sometimes overlapping aspects of fertilizer control (Keyser *et al.*, 2015). Until recently in Ghana, the Ghana Standards Authority and the Food and Drugs Authority, also had overlapping responsibilities in the supervision of the sale and consumption of safe food on the Ghanaian market. Clarity at the national front, undoubtedly is needed to promote harmonisation with international standards. It must be noted that harmonisation is made possible by the existence of both domestic and international standards-

setting institutions that work together to achieve uniformity in the global marketplace (Muir, 2016). The plethora of too many such institutions, rather than being a strength, are a major sign of institutional weakness (Bilas and Franc, 2010).

Additionally, there are fundamental capacity gaps that include the absence of effective public policies and institutions to provide regulatory oversight (GFSP, 2018). In most African countries, institutions lack the financial and technical resources for mandatory risk assessment and compliance monitoring (Timpo, 2011). Also, with respect to technical resources and opportunities for technical upgrades, African countries have had at least, three long-standing challenges in their: (1) participation in WTO and related activities; (2) ability to establish and effectively operate institutions defined by the WTO SPS Agreement; and (3) low institutional capacity on the continent to implement effective SPS controls and to comply with commitments under the SPS Agreement (Henson and Loader, 2001). While there have been some easing of these challenges in recent times, particularly following the setting up of the WTO Trust Fund that enables several African countries to attend meetings and make contributions (Mensah *et al.*, 2012), significant institutional difficulties persist on the continent that continue to stifle the rollout of harmonisation programs.

Currently, harmonisation decisions taken by African governments at the regional level, are quite slow to see implementation at the national level, creating discrepancies between regional regulation and national legislation, even though the former must supersede the latter, if harmonisation goals are to be realised. In practice, harmonisation decisions agreed at the regional level are first subjected to national legislation before they're implemented, if ever, by frontline border staff. For example within ECOWAS, Ghana requires seed importers to submit physical samples to the local seed authority for testing, which is an apparent contradiction of the ECOWAS provisions that require the recognition of regional seed certificates. Similarly, in Mali, clear differences exist in the national fertilizer law on the maximum variations in nutrient content and in heavy metals, from those of ECOWAS (Keyser, 2015).

So within a single regional bloc, divergent trajectories are taken when implementing key decisions. For example, ECOWAS regulations give responsibility to member states to decide how fees are collected when issuing licenses and charging for seed certification, whereas the UEMOA (which is largely the Francophone bloc within ECOWAS) regulations gives this responsibility to the Commission. Another discrepancy is that the ECOWAS regulations define special procedures for inclusion of GMOs in the regional variety catalogue by giving member countries final say on admittance according to the biosafety/biosecurity legislation in force in each country whereas the UEMOA regulations exclude GMOs completely (Keyser *et al.*, 2015).

Apparently, institutional capacities differ in each country and that while some countries in the region have made progress in bringing their national legal regimes in line with ECOWAS rules, a number of the countries are yet to establish the structures that allow for compliance with ECOWAS rules. Structural differences in the legal regimes in the region – Common Law versus Civil Code systems, continue to pose significant challenges towards harmonisation (Kuhlmann and Zhou, 2016), even though such differing legal systems are still amenable to harmonisation, if well addressed (Fombad, 2013).

8. Infrastructure

The lack of financial and technical resources in most African institutions clothed with regulatory responsibilities has been highlighted (Timpo, 2011). There are limited internationally-accredited laboratories on the continent. Where they exist, laboratories would often lack reagents and reference standards that are critical for analytical work, when there has been the establishment of a plethora of food safety legislations across the continent. However, protecting consumers from food hazards is as much a matter of establishing food safety legislations as it is about strengthening infrastructure and educating consumers adequately to control food borne hazards themselves (Motarjemi *et al.*, 2001).

The paucity of infrastructure goes beyond inadequate laboratories and their accessories. The Global Food Safety Partnership (GFSP) notes (GFSP, 2018) the lack of cold chain facilities, food and other physical infrastructure as clear gaps that affect the overall food safety system in Africa. Where they are available, infrastructural capacities and resources are at varying stages of development within African countries, which limits harmonisation from the onset. For example Liberia is still a long way to go in achieving ECOWAS standards in the seed sector (Keyser *et al.*, 2015), largely due to poor infrastructural resources.

Yet both FAO and WHO identify the key building blocks of a robust national food safety architecture to include, modern food laws and regulations consistent with international standards; food control management to provide overall coordination of the system; inspection services managed by competent staff to lead enforcement and ensure compliance; reliable and efficient laboratory services that provide quick reports on whether or not food meet compliance parameters and to provide formal certification thereupon; and information, education, communication and training services to ensure various actors within the food safety environment stay informed and adequately capacitated (Mutukumira and Jukes, 2007).

Laboratory services in particular, in most African countries however remain a key challenge. For example, while Nigeria's National Fertilizer Development Centre in Kaduna serves as a reference laboratory for checking that products comply with standards set by the Standards Organization of Nigeria, it has had challenges just to be in operation (Keyser *et al.*, 2015). Similarly, the Food and Drugs Authority in Ghana, which is required by law to test and ensure products comply with standards set by the Ghana Standards Authority, is often handicapped when there is the need to procure reference standards for analytical work.

African Governments appear to have recognised the infrastructure gap and are taking remedial measures. Drawing upon the 2014 Malabo Declaration, the AU Commission of the AU is embarking on an ambitious project to build a continent-wide reference laboratory, built to high global standards that will use internationally-accredited testing methods. The laboratory will be managed by trained African staff with the required analytical competence to provide services as part of a broader food safety architecture. The laboratory is expected to serve all African food safety authorities and professionals, accelerate the alignment of analytical methods across Africa and create the scientific basis for harmonisation of food safety standards on the continent. This should see increased intracontinental trade, exports and competitiveness of African agricultural and food products (AU Commission, 2017).

The Africa-wide reference laboratory has the support of some industry experts and academics on the continent. Akullo and Bee (2017), endorse the idea of a 'model food safety laboratory for Africa'. In a presentation to the WTO Standards and Trade Development Facility (STDF) Working Group on October 30, 2017, they argued that the UN Sustainable Development Goal (SDG) goal 3, target 1; the aspirations of the African Union Agenda 2063; and the ambitious AU Malabo Business Plan that prioritises an 'enhanced sanitary and phytosanitary standards and compliance' all call for the establishment of the reference laboratory so African countries would have the capacity to implement international SPS standards. An estimated development cost of US$ 21.9 million and an annual operational cost of US$ 8.6 million are envisaged.

While a continental reference laboratory, for a start, remains cardinal to harmonisation efforts in Africa, lessons from other international regional blocs could be helpful to guide the process. For example, the EU established a series of European Union Reference Laboratories (EURLs) for food and feed within the legislative framework on food safety. The EURLs coordinate a network of National Reference Laboratories to obtain high quality results by providing reference methods, reference materials, proficiency testing schemes, and training to laboratory staff. The EURLs also support the creation of a well-performing network of laboratories in the EU, leading to better implementation of EU legislation. As a result, the functioning of the EU internal market is strengthened and consumers benefit from safe food and products in the market (European Commission, 2019). Therefore, rather than a single, centralised continental reference laboratory, the long term goal should aim at a decentralised system of highly-resourced national reference laboratories, coordinated by a couple of continental reference laboratories to provide supervision and ensure homogeneity in methods, materials, proficiency testing and staff capacity across the continent. Yet, one can appreciate why this long term ideal should perhaps begin with the establishment of the intended continental reference laboratory, while keeping the broader goal in mind.

9. Initiatives

Several agencies, particularly donor and or development-oriented agencies, work with a number of African organisations, private sector actors in the food industry, and civil society to champion harmonisation initiatives on the continent. Among others, these include the GFSP, the World Bank, UN agencies (FAO, WHO and UNIDO), the STDF at the World Trade Organization, and the CGIAR centres in Africa (ILRI and IITA). It also includes major bilateral donor agencies in the US, Europe, and Japan and key African institutions, such as the AU, the African Development Bank, and the African regional economic communities (Taylor, 2018).

The Bill & Melinda Gates Foundation has invested in African food safety, as have global and regional food manufacturers and retailers through their internal supply management work and collaborative initiatives by the Global Food Safety Initiative, Partners in Food Solutions, and company foundations (Taylor, 2018).

Within the ECOWAS region, Traore (2008) listed several regional initiatives, meetings and workshops that have been organised to move forward the harmonisation effort (only on food fortification alone) in the region. These include:

- ECOWAS resolution on salt iodisation (1994).
- Public- Private- Sector Dialogue on Food Fortification held in Accra, Ghana October 15-17, 2002.
- Second Public-Private Sector Dialogue Planning Meeting, Bamako Mali November 11-16, 2006.
- Adoption of a Resolution on Food Fortification by the Assembly of Health Ministers of ECOWAS Abuja 2006.
- HKI and partners launched the first regional initiative on Vitamin A fortification of cooking oil in the UEMOA countries (June 2007).
- Second private public sector dialogue on food fortification (June 2007).

- HKI and Partners declared 'Fortify West Africa' initiative at Clinton Global Initiative (September 2007).
- Adoption of 10-regional standards on vitamin A fortification of vegetable oil in UEMOA in Dakar (November 2007).
- AHM recommended to ECOWAS Commission to accelerate mandatory fortification (2008).
- UEMOA plus Guinea Flour millers Workshop (September 2008) and creation of AIMUEMOA; Professional Association of Milling Industries in UEMOA.
- First Africa Regional Workshop on Cereal Flour Fortification in Arusha, Tanzania.
- UEMOA Regional meeting to adopt standards on micronutrient fortification of wheat flour (February 2009).

Again, since 2008, ECOWAS Ministers, and the West and Central African Council for Agricultural Research (CORAF/WECARD) have been major partners in regional harmonisation initiatives. They were tasked with the implementation of the ECOWAS Regulation, which largely focused on the West African Seed Program funded by the USAID (Bachabi *et al.*, 2017).

Also in the SADC region, Rohrbach and Howard (2003) outlined the number of seed harmonisation initiatives, policy conferences and workshops that took place in the region from 1987 to 2002 as follows.

- SADCC commissions DANAGRO study of national seed systems in member countries; regional seed project for harmonisation of seed laws recommended (1987).
- SADCC technical experts meeting on regional seed production and supply (Harare, Zimbabwe) proposes 11 regional seed projects including one titled Harmonization of seed laws in the SADCC region (1988).
- Regional workshop on improved on-farm seed production for SADC countries (22-26 Nov 1993, Mbabane, Swaziland) – recommends harmonisation of seed laws and extension of regulations to support on-farm seed production (1993).
- Regional workshop to discuss a study on harmonisation of seed laws (4-6 Oct 1994, Harare) – 17 recommendations for seed sector development made (1994).
- 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 September 1997, Maseru, Lesotho) – recommends establishment of SADC Seed Security Network.
- 1999 Planning workshop for the seed sub-committee (22-24 Nov 1999, Kadoma, Zimbabwe).
- 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 laws on sui generis protection.
- Sub-Saharan Africa seed initiative stakeholders' workshop (10-11 Feb 2000, Lusaka, Zambia).
- Sub-Saharan Africa seed initiative stakeholders' workshop (26-28 Sep 2001, Kadoma).
- Strategic planning workshop for the seed sub-committee (28-30 Jan 2002, Nyanga, Zimbabwe).

These initiatives demonstrate a long-standing interest and commitment at the continental level to work towards harmonisation. Both past and present initiatives have however not been coordinated from the centre. They have been peripheral, fragmented and piecemeal, in the light of the overall continental goal recently espoused by the AU Commission in the establishment of the CFTA. Many of the institutional and infrastructural challenges have worked together to limit the effectiveness of these initiatives. At the same time, regulatory reform and regulatory harmonisation can be exceptionally complex. Therefore, partners working to address these issues are encouraged to understand that this requires a long timeframe and be ready to accommodate inevitable delays in effecting legal and regulatory change (Keyser *et al.*, 2015; Minde and Waithaka, 2006).

10. Conclusions and looking ahead

There is enough interest in Africa to pursue harmonisation, even if forced by the exigencies of globalisation and the demands of international trade. There have as well been political leadership through the regional blocs to advance the harmonisation agenda, particularly from the angle of economic integration. Bilateral support from development actors from the Developed West have also tended to champion this cause.

What has been lacking is a coordination of the harmonisation initiatives. Sandahl (2018) calls for 'harmonising the harmonisation', a call re-echoed by the recent Brussels Development Briefing (no. 52) which was held on Wednesday 19th September 2018 in Brussels. Reflecting on a recent report commissioned by the GFSP, titled *'Food Safety in Africa: Past Endeavours and Future Directions'*, the policy briefing emphasised the need for South Saharan African Governments to take ownership in building food safety systems; commit to improving institutions and tackling corruption; create 'donor harmonisation and alignment' with national priorities; and manage for results and mutual accountability.

Again, alongside the building of an African reference laboratory, national governments should invest in strengthening standards-setting and regulatory institutions, and build capacity to develop the needed manpower for analytical work. In the end, an enhanced continental laboratory will need strong national food systems to

thrive. The Kenya horticulture sector is a good example of how consistent investments in food safety systems can enhance a sector's ability to meet external market requirements, as it continues to reap the benefits of past investments (Mwamakamba *et al.*, 2012). In the end, this goal should include building a couple of continental reference laboratories supported and underpinned by highly-resourced national reference laboratories.

Yet self-sustaining models are required (Ndomondo-Sigonda, 2013). Building infrastructure and training manpower without a clear pathway towards sustainable financing from within Africa, weakens the capacity of the continent to take control and responsibility in shaping the trajectory of harmonisation.

There is also the need to harmonise regulatory legislation on the continent, since the differing legal regimes remain one of the last frontiers that needs crossing, to achieve harmonisation goals. National histories should not stand in the way of a continent where legislations are harmonised to facilitate both intra-Africa trade and international exports to other lucrative markets. The aspirations of the CFTA, makes this an utmost necessity. The prospects of harmonisation to bolster trade and improve food security, economic growth and development on the continent, are a much higher imperative to pursue, than to allow the historical challenges of the colonial era that stifle harmonisation to persist.

References

African Centre for Economic Transformation (ACET), 2017. Agriculture powering Africa's economic transformation. African transformation report 2017. ACET, Accra, Ghana.

African Union (AU), 2019. African Union leaders adopt the treaty for the establishment of the African Medicine Agency (AMA). AU Summit No. 10/32. Africa Union, Addis Ababa, Ethiopia.

African Union Commission (AU Commission). 2017. Prioritizing food safety in Africa. Socio-economics policy brief No. 2. Africa Union, Addis Ababa, Ethiopia.

Akullo, D. and Bee, J., 2017. A food safety reference laboratory for Africa. Presentation to the WTO STDF Working Group, 30 October 2017. WTO STDF, Geneva, Switzerland.

Bachabi, F., Gumedzoe, Y.M.D., Maroya, N.G., Ayenan M.A.T., Saidou, A. and Sere, Y., 2017. Regulation status of quarantine pests of rice seeds in the Economic Community of West African States (ECOWAS). African Journal of Food, Agriculture, Nutrition and Development 17(3): 12142-12156.

Bilas, V. and Franc, S., 2010. Globalization, regulation and information-communication convergence of Africa. Interdisciplinary Description of Complex Systems 8(2): 104-118.

Bundesministeriums für Wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), 2012. Harmonization and mutual recognition of regulations and standards for food safety and quality in regional economic communities: the case of the East African Community (EAC) and the common market for eastern and southern Africa (COMESA). Federal Ministry of Economic Cooperation and Development (BMZ), Bonn, Germany.

De Frahan, B.H. and Vancauteren, M., 2006. Harmonisation of food regulations and trade in the single market: evidence from disaggregated data. European Review of Agricultural Economics 33(3): 337-360.

Desta, M.G. and Hirsch, M., 2012. African countries in the world trading system: international trade, domestic institutions and the role of international law. The International and Comparative Law Quarterly 61(1): 127-170.

European Commission, 2019. European Union reference laboratories. Available at: https://ec.europa.eu/jrc/en/eurls

Foletti, L. and Shingal, A., 2014. Trade effects of MRL harmonization in the EU. Working Paper No. 2014/5. World Trade Institute, Bern, Switzerland.

Fombad, C.M., 2013. Some reflections on the prospects for the harmonization of international business laws in Africa: OHADA and beyond. Africa Today 59(3): 51-80.

Frunză, R., Maha, L.G. and Mursa, C.G., 2009. Globalization and regionalization in international trade. Centre for European Studies. CES Working Papers 1(2): 1-19.

Henson, S. and Loader, R., 2001. Barriers to agricultural exports from developing countries: the role of sanitary and phytosanitary requirements. World Development 29(1): 85-102.

Keyser, J., 2012. Regional quality standards for food staples in Africa: harmonization not always appropriate. Africa Trade Policy Notes 33. The World Bank, Washington, DC, USA.

Keyser, J.C., Eilittä, M, Dimithe, G., Ayoola, G. and Sène, L., 2015. Towards an integrated market for seeds and fertilizers in West Africa. The World Bank, Washington, DC, USA.

Kim, H., 2014. Regionalism, globalization and economic development in the world. In: Bojnec, Š., Brada, J.C. and Kuboniwa, M. (eds.) Overcoming the crisis: economic and financial developments in Asia and Europe. University of Primorska Press, Koper, Slovenia.

Kuhlmann, K. and Zhou, Y., 2016. Seed policy harmonization in ECOWAS: the case of Ghana. Working Paper. Syngenta Foundation for Sustainable Agriculture, Basel, Switzerland.

Kuhlmann, K., 2015. Harmonizing regional seed regulations in sub-Saharan Africa: a comparative assessment. A paper for Seeds2BAfrica. Syngenta Foundation for Sustainable Agriculture, Basel, Switzerland.

Leonova, O., 2016. Global regionalization as a phenomenon of globalization. Globalistics and Globalization Studies, Lomonosov Moscow State University, Moscow, Russia, pp. 271-276.

Luthuli, N. and Robles, W., 2017. Africa medicines regulatory harmonization initiatives. WCG, Carlsbad, CA, USA.

Matveev, Y.V., Valieva, E.N., Trubetskaya, O.V. and Kislov, A.G., 2016. Globalization and regionalization: institution aspect. IEJME – Mathematics Education 11(8): 3114-3126.

Mensah, P., Mwamakamba, L., Mohamed, C. and Nsue-Milang, D., 2012. Public health and food safety in the WHO African Region. African Journal of Food, Agriculture, Nutrition and Development 12(4): 6317-6375.

Mgonja, M., 2011. Seeds without borders. FANRPAN Policy Brief Series 11(1): 1-9.

Minde, I. and Waithaka, M., 2006. Rationalization and harmonization of seed policies and regulations in Eastern and Central Africa: effecting policy change through private public partnerships. Poster paper prepared for presentation at the International Association of Agricultural Economists Conference. August 12-18, 2006. Gold Coast, Australia.

Mkandawire, P., Nyantakyi-Frimpong, H., Armah, F. and Arku, G., 2014. Regionalism, food security and economic development. Occasional Paper No. 23. Available at: http://opendocs.ids.ac.uk/opendocs/handle/123456789/5381

Motarjemi. Y., Van Schothorst, M. and Käferstein, F., 2001. Future challenges in global harmonization of food safety legislation. Food Control 12: 339-346.

Muir, A., 2016. The race to safety: how private lawmaking and voluntary-standard adoption can inspire a global regime that strengthens and harmonizes product safety standards. Indiana Journal of Global Legal Studies 23(1): 323-347.

Mutukumira, A.N. and Jukes, D.J., 2007. The development of national food safety control systems in sub-Saharan Africa – issues and opportunities. University of Swaziland, Swaziland.

Mwamakamba, L., Mensah, P., Kwakye, T.A., Darkwah-Odame, J., Jallow, A. and Maiga, F., 2012. Developing and maintaining national food safety control systems: experiences from the WHO African Region. African Journal of Food, Agriculture, Nutrition and Development 12(4): 6291-6204.

Ndomondo-Sigonda, M., 2013. Towards standards for harmonization. The road to regulatory harmonization for Africa: accelerating access to essential medicines and vaccines. DNDi Meeting Report, Nairobi, Kenya.

Paarlberg, R., 2006. Toward a regional policy on GMO crops among COMESA/ASARECA countries. Rabesa Regional Workshop Policy Options Paper, African Centre for Technology Studies, Nairobi, Kenya.

Qadri, M.M., Ayub, U. and Mir, U.R., 2016. Globalization and regionalization: at a glance on debate in pursuit of guiding principles leading policy implications. Journal of Management and Research 3(2): 1-36.

Raustiala, K., Drezner, D., Scott, J. and Echols, M., 2008. The new politics of regulatory cooperation: the case of food safety. Proceedings of the Annual Meeting of the American Society of International Law 102: 259-268.

Rohrbach, D. and Howard, J., 2003. Seed trade liberalization and agro-biodiversity in sub-Saharan Africa. Proceedings of a workshop on Impacts of Seed Trade Liberalization on Access to and Exchange of Agro-Biodiversity. International Crops Research Institute for the Semi-Arid Tropics, Bulawayo, Zimbabwe.

SADC, 2011. Regional guidelines for the regulation of food safety in SADC member states. Food Safety-Capacity Building on Residue Control Project, FANR. SADC Secretariat, SADC House, Gaborone, Botswana. Available at: https://tinyurl.com/y47uxkdr.

Sandahl, J., 2018. East African community efforts to harmonization pesticide regulatory systems: a model approach for regional solutions. World Bank/International Consortium on Applied Bioeconomy Research (ICABR) Conference on 'Disruptive Innovations and Rural Development'. June 13-14, 2018. World Bank, Washington, DC, USA.

Taylor, M.R., 2018. Food safety capacity building and Africa's food system: building the foundation for success. Global Food Safety Partnership. Available at: https://www.gfsp.org/food-safety-capacity-building-and-africas-food-system-building-foundation-success

Tharani, A., 2017. Harmonization in the EAC. In: Ugirashebuja, E., Ruhangisa, J.E., Ottervanger, T. and Cuyvers, A. (eds.) East African Community Law. institutional, substantive and comparative EU aspects. Brill | Nijhoff, Leiden, the Netherlands.

Timpo, S.E., 2011. Harmonizing biosafety regulations in Africa: surmounting the hurdles. Socio-Economics Policy Brief No. 2. AU-NEPAD African Biosafety Network of Expertise, Ouagadougou, Burkina Faso.

Traore, T., 2008. Regional harmonization for sustainable food fortification program (ECOWAS regional feasibility study). West African Health Organization, Bobo-Dioulasso, Burkina Faso.

United States Agency for International Development (USAID), 2014. Harmonized staple foods quality standards. EA Trade Hub Knowledge Management Technical Brief. Available at: https://tinyurl.com/yy9nbnq8

Van Dijk, M., 2011. African regional integration: implications for food security. LEI Wageningen UR, Wageningen, the Netherlands.

Wilson, J.S., 2013. A win-win proposition: the role of food standards in promoting export growth and consumer safety in China. The World Bank, Washington, DC, USA.

World Health Organisation (WHO), 2014. WHO support for medicines regulatory harmonization in Africa: focus on East African Community. WHO Drug Information 28(1): 11-15.

World Trade Organisation (WTO), 2016. SADC report to the World Trade Organisation Sanitary and Phytosanitary Committee meeting on SPS activities. WTO, Geneva, Switzerland.