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Connecting Food Staples and Input Markets in West Africa

A Regional Trade Agenda for ECOWAS Countries

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Jean-Christophe Maur and Ben Shepherd

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1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: http://www.worldbank.org
E-mail: feedback@worldbank.org

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Introduction

The report *Africa Can Help Feed Africa* (World Bank 2012) showed that increasing food staples[1] supply can be met by better connecting African markets to each other. That report called for a stronger focus on removing trade barriers and building on the forces of regional integration. This report builds on the lessons of *Africa Can Help Feed Africa* by looking into the specific circumstances met in West Africa, home to one-third of the continent's population and to some of its most vulnerable countries.

Staple foods are the main source of calories in Africa and in West Africa. In that region, rice, followed by maize and cassava, provides the main source of calories in coastal countries, with millet and sorghum being an important source of food in Sahelian countries (Haggblade et al. 2012).[2] The challenge of food supply is particularly acute in West Africa with some of the world's fastest growing populations, including urban populations. West Africa's 2011 population of 342 million is expected to increase to 516 million by 2030 and to 815 million by 2050 (United Nations Department of Economic and Social Affairs, Population Division 2013); in this time frame, the region's urban population will grow from 44 percent to 63 percent of the total population (United Nations Department of Economic and Social Affairs, Population Division 2014).

An increasing share of the food supply is imported. Despite its great agricultural potential, Africa is increasingly dependent on food imports from the rest of the world to satisfy its consumption needs. Africa currently spends around $30 billion to $50 billion on food imports annually, about 20 percent of its food requirements (UNECA 2012). Without an increase in per capita continental food supply, experts predict this amount will rise to $150 billion by 2030 (IFPRI 2012). The increase in import reflects the increasing purchasing power that several countries in the region have enjoyed following commodity booms. The increase also reflects consumption patterns that are changing as the share of rural to urban population decreases and nontraditional consumption of staples such as rice and meat among the

wealthier segments of the urban population increases. Of the almost 10 million tons of rice consumed in West Africa in 2006, 70 percent was imported (Elbehri 2013).

Food output has difficulty keeping pace with population growth. From 1980 to 2012, West Africa's cereal production growth rate averaged 4 percent per year,[3] barely greater than the annual population growth rate. Blein and others (2008) report that in a two-decade period up to 2005, a 229 percent expansion in farmland resulted only in a 70 percent increase in production. Of the production growth rate, only one-third was caused by increasing yields; most was due to increased area under cultivation (Bumb, Johnson, and Fuentes 2012). Clearly yields are not progressing as fast as they should: Africa food production remains constrained by poor access to key inputs, land tenure constraints, weak production technologies, fragmentation of small holder producers, and distance to markets. Average regional yields of all of West Africa's staple cereal crops (maize, rice, millet, and sorghum) are estimated to be less than 1.5 metric ton per hectare (Nin-Pratt et al. 2011).

Adding to the increasing pressure that population growth puts on the need to access food supplies, the food crisis of 2007–08 and the failure within the region to find the resources to mitigate the external shock of rising world food prices have put the spotlight on the need to increase the region's potential with respect to food staples. The 2007–08 crisis has put under a crude light not only the shortcomings of the region's production capacity, but also the very stark limits of intraregional trade, thus leaving individual countries of the Economic Community of West African States (ECOWAS) to face the consequences of food shortages and price increases without efficient coordination mechanisms.

A strong impetus behind regional integration is found among Union Économique et Monétaire Ouest Africaine (UEMOA) and ECOWAS countries. The food crisis reinvigorated the continental and regional agricultural agendas (Elbehri 2013) in West Africa to redefine regional and national agricultural development strategies and investment programs with a focus on the development of food staples supply. This new impetus has undeniably reinforced the regional dimension of food staples policy. Yet paradoxically, the regional trade integration agenda has been somewhat pushed aside in this agenda.

To this day, precious little is understood and acknowledged of the actual and potential role of regional trade in food staples market in West Africa. One reason for this gap is the lack of accurate information about food staples trade and policies. A second reason for this gap is the difficulty for national authorities to actively consider the concrete benefits of regional trade integration in improving their supply of food staples and its possible positive impact on the livelihood of the poorest. The benefits from regional integration are indeed more distant in the future and more diffuse than the more urgent needs facing governments to deal with short-term and highly visible food crises.

Yet with population changes and economic growth, consumption increasingly relies on commerce and trade and less and less on auto-consumption. Indeed, the share of production that is marketed is increasing by 5.5 percent each year (OECD 2013) as urban populations grow, the share of agricultural producers population diminishes, and consumption tastes change with increased consumption of rice and meats, for instance. The increase in marketed products is also likely pulled by the growing importance of regional markets. In this context, the model of national self-sufficiency seems doomed to failure.

As this report will show, strong reasons exist to bring a more strategic focus on promoting regional trade. The first compelling reason is that there is already a sizeable amount of trade in the region, revealing existing important complementarities between countries in the ECOWAS space. Because a large share of this trade is informal, this reality is not always well taken into account. A second reason is that developing these complementarities by facilitating trade and creating the regional soft and hard infrastructure to incite cross-border flows would further enable (a) the exploitation of comparative advantages and economies of scale in the region; (b) access to and diffusion of better production technologies; (c) competitive access to inputs, research, and extension services; and (d) improved security in the face of shocks that lead to food crises. Finally, a third reason is that existing national policies that affect trade are, by and large, inefficient and incoherent at the regional level; therefore a better use of policy making and institutions is needed to achieve food policy objectives.

By advocating a greater focus on trade in the region as a way to ensure efficiency gains in the agricultural sector and better food security, this report seeks to complement and pursue previous efforts from donors that work with ECOWAS countries such as the World Bank with *Africa Can Help Feed Africa* (World Bank 2012) and the United States Agency for International Development's programs such as Agribusiness and Trade Promotion and Expanded Agribusiness and Trade Promotion. A motivation behind this work is to bring new analysis to the food staples trade and policies in the region, in particular new work on regional dimensions of staples trade and on regional markets for inputs and staples value chains. Another intention of this report is to provide a focus on regional policies, which are multiple and developing, and on their implementation, notably from the perspective of regional institutions that have a major role to play.

This report focuses on the following policy messages:

1. ECOWAS members should see regional trade as an opportunity to achieve their food staples development objectives. This opportunity means embracing a comprehensive and coherent policy toward the promotion of openness to regional trade flows instead of keeping the current fragmented and often self-serving national attitudes. A comprehensive agenda would include

(a) establishing policies that take into account informal trade flows and markets, which form the majority of regional trade, and (b) acknowledging that food staple imports, including from neighbors, are an integral part of the landscape. A coherent set of policies would entail (a) the immediate respect of international commitments, (b) the minimization of distortions across sectors, and (c) the consistent design and enforcement of policy.

2. ECOWAS members should pursue the effort to build regional policies that complement national ones. However, in light of improving their effect and in addition to ensuring effective implementation at the national level, regional actions should not be substituted for national ones and should follow clear principles of subsidiarity, avoid dispersion into too many initiatives, and be tailored to clearly identified needs.
3. ECOWAS members should emphasize the role of regional access to inputs as central to creating productivity gains throughout the region and as a driver of regional integration. Fragmented input markets and policies are undermining yield growth and creating distortions that are transmitted along value chains, affecting staples and agroindustrial productions. The current significant policy efforts to create regional markets for inputs should bear important lessons for the development of future regional agricultural and trade policies.
4. Finally, ECOWAS members need to pay greater attention to the private sector and value chains. Private entrepreneurs are better equipped to identify trade opportunities and can help provide market-based solutions to create new opportunities for suppliers of food staples and afford consumers with access to cheaper and better quality products. Public authorities and regional arrangements have a role in creating the environment for these sectoral developments.

Notes

1. Throughout this report, "food staples" will refer to livestock and meat, cereals, pulses, roots, and tubers. These food sources represent the large majority of calories consumed in West Africa.

2. According to the Food and Agriculture Organization (FAO) of the United Nations, the main sources of calories for the period 2003–05 in the Economic Community of West African States were rice (19% of calories consumed) followed by cassava (11%), millet (11%), maize (9%), and sorghum (9%).

3. Source: FAOSTAT (FAO Statistics Division), http://faostat3.fao.org/home/E.

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Abbreviations and Acronyms

ABN	Niger Basin Authority
ABSSA	Agence Béninoise de Sécurité Sanitaire des Aliments
AGIR	Global Alliance for Resilience Initiative
AGRA	Alliance for a Green Revolutions in Africa
AMM	Autorisation de Mise sur le Marché (UEMOA Marketing Authorization)
AOAC	Association of Official Analytical Chemists
APEC	Asia-Pacific Economic Cooperation
ARIPO	African Regional Intellectual Property Organization
ASIWA	Alliance for Seeds in West Africa
ATP	Agribusiness and Trade Promotion (USAID)
BCEAO	Banque Centrale des États de L'Afrique de L'Ouest (Central Bank of West African States)
BUNASOL	Bureau National des Sols du Burkina Faso
CAADP	NEPAD's Comprehensive Africa Agriculture Development Programme
CARI	Liberia Central Agriculture Research Institute
C	Celsius
CCP	central counterparty clearinghouse
CE	commodity exchange
CET	common external tariff
CFAF	CFA franc
CHNSA	Comité de Haut Niveau pour la Sécurité Alimentaire (High-Level Committee for Food Security)
CILSS	Comité Permanent Inter-États de Lutte contre la Sécheresse dans le Sahel (Permanent Interstate Committee for Drought Control in the Sahel)

CIMMYT	International Maize and Wheat Improvement Center
COMESA	Common Market for Eastern and Southern Africa
Comtrade	Commodity Trade Statistics Database (United Nations)
CORAF	West and Central African Council for Agriculture Research and Development
CREVU	catalogue des espèces et variétés végétales commun aux etats membres de l'UEMOA
CRMNV	UEMOA Comité Régional du Médicament Vétérinaire
DUS	distinctiveness, uniformity, and stability
ECOAGRIS	ECOWAS Agricultural Information System
ECOWAFD	ECOWAS Agriculture Food and Development Fund
ECOWAP	ECOWAS Agricultural Policy
ECOWAS	Economic Community of West African States
EPA	economic partnership agreements
ETLS	ECOWAS Trade Liberalization Scheme
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	Food and Agriculture Organization Corporate Statistical Database
FEWSNET	Famine Early Warning System Network
FFD	Nigeria Federal Fertilizer Department
FRDA	UEMOA Fonds Régional de Développement Agricole
GES	Growth Enhancement Support Program
GIZ	German Society for International Cooperation
GMOs	genetically modified organisms
HQCF	high-quality cassava flour
IART	Nigeria Institute for Agriculture Research and Training Institute
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IER	Institut d'Economie Rurale
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
INERA	Burkina Faso Institut de l'Environnement et de Recherches Agricoles
INSH	Institut du Sahel
IPPC	International Plant Protection Convention
IPRs	intellectual property rights

ISO	International Organization for Standardization
ISTA	International Seed Testing Association
kg	kilogram
LABOSEM	Mali Laboratoire Central de Semences Végétales
LGA	Liptako-Gourma Authority
LPI	Logistics Performance Index
MOFA	Ministry of Food and Agriculture
MT	metric ton
NAFDAC	Nigeria National Agency for Food and Drug Administration
NAIP	National Agricultural Investment Plan
NARI	National Agricultural Research Institute
NASC	Nigeria National Agricultural Seed Council
NEPAD	New Partnership for Africa's Development
NPK	nitrogen, phosphorous, and potassium
NPPO	National Plant Protection Office
OAPI	African Intellectual Property Organization (Organisation Africaine de la Propriété Intellectuelle)
OECD	Organisation for Economic Cooperation and Development
OIE	World Organisation for Animal Health
OPVN	Office des Produits Vivriers du Niger
OPVs	open pollinated varieties
PAU	UEMOA Politique Agricole Commune (Common Agricultural Policy)
PRIA	ECOWAS Regional Agricultural Investment Plan
QDS	Quality Declared Seed (system FAO)
RACH	ECOWAS Regional Animal Health Center
RAFA	ECOWAS Regional Agency for Food and Agriculture
SADC	Southern Africa Development Community
SEEDAN	Seed Association of Nigeria
SIAR	UEMOA Regional Agricultural Information System
SON	Standards Organisation of Nigeria
SONAGESS	Société Nationale de Gestion du Stock de Sécurité Alimentaire du Burkina Faso
SPS	sanitary and phytosanitary
TCI	taxe conjoncturelle à l'importation

UEMOA	Union Économique et Monétaire Ouest Africaine (West African Economic and Monetary Union)
UN	United Nations
UNECA	UN Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
UNOPS	United Nations Office for Project Services
UPOV	International Union for the Protection of New Varieties of Plants
USAID	United States Agency for International Development
VAT	value added tax
VCU	value for cultivation and use
WAAPP	West Africa Agriculture Productivity Program
WACaSV	West Africa Seed Catalogue
WACFC	West African Committee for Fertilizer Quality Control
WACMIC	West Africa Capital Markets Integration Council
WACoFeC	West African Committee for Fertilizer Control
WAFP	West Africa Fertilizer Project
WAQP	West Africa Quality Program
WASC	West Africa Seed Committee
WASNET	West Africa Seed and Planting Material Network
WASP	West Africa Seed Project
WECARD	West and Central African Council for Agricultural Research and Development
WFP	World Food Program
WRS	warehousing receipt systems
WTO	World Trade Organization

All monetary values are in U.S. dollars unless otherwise indicated.

Overview: An Imperfect Regional Market

Continental and regional economic integration are policy priorities for the 15 countries that form the Economic Community of West African States (ECOWAS). Within this agenda, cooperation in food and agricultural policies has taken a prominent role, especially since the food crisis that hit the region in 2007–08. The sector is vital for the stability, poverty reduction, and growth prospects of African countries. The African Union declared 2014 the year of agriculture and food security and marked the 10-year anniversary of the New Partnership for Africa's Development's (NEPAD) Comprehensive Africa Agriculture Development Programme (CAADP). Thus, a review of the role of regional trade integration in achieving the objectives of agricultural development and food security in the ECOWAS space is particularly appropriate.

Since the launch of the continental comprehensive push to boost agriculture, regional policies in ECOWAS have witnessed significant developments. Food staples have been a main focus because of their central role for food security and poverty. This report seeks to present an assessment of the role that regional trade integration has played in those common efforts.

Despite this momentum forward, food staples markets in West Africa remain highly inefficient and well below achieving their full potential. For instance, access to adequate fertilizers and modern seeds could easily increase food staples crop yields by twofold or threefold in the region. Lack of access to regional markets for producers also translates into a food staples sector with low-quality levels and high exposure to shocks. Consumers—on their side—need access to cheap and reliable sources of calories for the poorest among them (often both producers and consumers) who are also highly vulnerable to shocks. For the more affluent consumers and growing urban populations, sources of food consumption are diversifying from traditional domestically produced crops. Reliance on import markets, especially from outside the region, is increasing despite the emphasis on national productions development.

The physical nature of West Africa's agroecological zones provides a powerful argument for regional collaboration. Soil types and rainfall patterns cut across countries mainly in east to west bands. Trade, and regional trade in particular, has an important role to play as a source of economies of scale in production, a supply of cheaper and efficient inputs, a reduction of exposure to shocks, and a source of marketing opportunities for producers.

Yet trade integration has not played the role that it should have in ECOWAS regional agricultural policies. This lack of trade integration is the general finding coming out of this analysis. Despite a strong regional consensus about the importance of food staples and the objective of regional integration, regional trade in food staples remains underdeveloped, undermined by trade distorting national policies (unpredictable and biased rules, lack of implementation of regional commitments, road blocks and high transport costs, lack of appropriate standards and quality policies, and so forth), and underrepresented among the policy priorities at the national level mostly, but also in some respects among regional policies.

Yet regional trade in staples is already an important economic reality for the region, even with the weak policy environment. Official statistics fail to account for the true extent of regional markets, recording only an estimated one-fourth to one-fifth of the actual trade volume. Trade that is not properly recorded fails to be suitably taken into account in policy making, meaning that economic agents, regions, and products cannot benefit from much needed policy improvements.

Thus, much of regional trade is unrecorded and informal, taking place for a large part in regions along borders. In the absence of good data on this type of border trade, only anecdotes and empirical simulations let us apprehend the reality of such trade. One fact they bring to light in this report is that of the importance of cross border economic spaces for food staples. Those spaces arise because of strong demand and supply complementarities among regions of bordering countries and relatively easier access, despite the costs of informality, border procedures, and diverging domestic policies. Another fact suggested by this analysis is that the most food insecure regions tend to depend on these cross-border market sheds.

Informality is the outcome of the necessity to avoid regulatory and transaction costs and of the deep fragmentation of supply chains. Smallholders and small traders are the main beneficiaries from this regional trade, but this trade faces high uncertainty and costs and therefore is not economically at its most efficient, preventing investment and economies of scale. Without access to inputs such as financing, transport, and warehousing logistics and without better integration into more efficient value chains, there is little scope (a) for small agricultural businesses to grow and to make productivity gains and (b) for regional trade to expand to the benefit, ultimately, of border regions and ECOWAS countries.

Yet the potential for regional trade could be considerably superior to what it is today if the right policies were put in place. This core question is addressed in this report. The fact is that many of the

essential building blocks to a better regional trade environment are not yet in place. Despite commitments to regional integration, national policies are essentially turning their backs to import trade of staples and solidarity with neighboring countries. In the name of independence, but also because they face strong pressures to guarantee immediate food security, countries pursue individual (rather than collective) agroindustrial policies and focus on food self-sufficiency (as opposed to food security) objectives. Political economy dynamics play an important role behind this stance. In the absence of effective and efficient social safety net programs, governments are under pressure to secure high prices for producers but low prices for consumers. This mismatch of objectives, combined with the difficulty of pursuing win-win options such as improvements in trade facilitation, transport, and logistics, leads countries to pursue policies like export and import bans, which undermine the ECOWAS regional market in food staples.

More broadly, the political economy of food production and consumption at the national level translates into (a) the widespread use of trade-restrictive measures on food staples, including export and import bans, (b) the use of protective tariffs and nontariff measures such as phytosanitary measures, and (c) the use of trade-distorting subsidies. Such trade interventions also create a deeply uncertain environment as those measures are not taken in transparency: their rationale, scope of application, and length are often completely discretionary. Trade policies are attractive because they seem easy to implement; but in some instances, as this report shows, they are difficult to undo. Trade policies are used at the expense of first-best policies that would directly target the development of efficient markets. At the regional level, nationalist policies create mutual negative externalities and countries denying themselves the potential benefits of regional markets; an immediate consequence of current policies is to increase the volatility in smaller (and nonintegrated) markets and lose scale efficiencies afforded by larger markets. Also, trade policies tend not to be well implemented, which seriously undermines their effectiveness; circumvention of trade measures is a concern throughout the region; and trade and subsidy measures lead to capture by special interests.

A consequence of the pursuit of nationally centered policies is the poor track record of implementation at national level of regional trade integration commitments. This report, like others before, finds many instances of trade and agricultural policies pursued by member states that are in direct contradiction of existing regional agreements and, in some instances, the World Trade Organization agreement (trade bans). Lack of willingness and capacity constraints translate into inadequate application of regional rules as well. For instance, in three areas—the ECOWAS Trade Liberalization Scheme and the rules harmonizing the quality control of seeds and of fertilizers—where strong and deep regional commitments exist, we still witness vast variations across member states in meeting community rules. Also, doubts exist about the capacity of some ECOWAS member states to implement ambitious commitments

that require strong administrative capacity. In addition, similar doubts arise about those states' desires to define a common ground for rules and procedures that facilitate regional trade, including through bilateral initiatives.

At the regional community level, a very active agenda exists, and regional institutions have demonstrated initiative and leadership. Those developments, which have occurred over the past 10 years, have taken some time to materialize in some instances. But a clear momentum is seen going forward, in particular for seed and fertilizer markets, with the adoption in 2008 and 2012, respectively, of harmonized trade and quality control rules.

Yet this regional activism is not without shortcomings, as the multiple regional initiatives lack visibility and transparency. The reporting and monitoring on the various activities undertaken by ECOWAS and the Union Économique et Monétaire Ouest Africaine (the West African Economic and Monetary Union, or UEMOA) is fragmentary; information on implementation is even harder to find. First, at the most basic level, regulations decided at the ECOWAS level are not easily accessible. Second, the selection of interventions as criteria for setting priorities is not always immediately clear—nor is the division of labor clear between regional- and state-level roles. Third, member countries are overly reliant on donor partners' capacity for implementation, which contrasts with the lack of capacity of those countries' regional and national institutions. This issue of overreliance may be transitory and in the process of being addressed. Finally, the ambitions for specific policies may be set too high for the capacity of member states to implement. Furthermore, new initiatives may be added to member states' agendas when, instead, the states' existing commitments need be adhered to.

For instance, while new ECOWAS regulations for seeds and fertilizer are already helping to guide quality improvements at the national level, many legal processes remain to be completed at the national and regional levels before all these rules can become fully operational. A great many capacity improvements and institutional upgrades are also needed. In particular, smaller countries in the region remain far from being able to benefit from this new setup.

Traditionally, the state has played a strong role in managing the agricultural trade sector. The initiatives from regional institutions tend to follow that tradition. Yet markets need to function without too much governmental and regulatory intervention so that the private sector can increase its role in meeting supply with demand. The role of the private sector as a partner or as a provider of market-based solutions to current deficiencies in food staples supply chains is not sufficiently taken into account in current initiatives in the ECOWAS region. In particular, examples throughout the region demonstrate the capacity of the private sector to help organize value chains, including through the following: (a) coordinating smallholders and small traders; (b) facilitating access to core inputs such

as extension services, financing, and production inputs; (c) enabling access to infrastructure such as storage and logistics; and (d) promoting quality assurance.

Some of these roles have been traditionally assumed by the public sector, and that route may be desirable to reconsider. That being said, an active and effective public sector is necessary for upgrading the value chain, but the ways in which that sector's activity is structured are fundamentally different from the historical approach of direct, operational involvement. Instead, the state must create a policy and business climate that is conducive to private investment in value chains, which in turn can support upgrading production throughout the system. Investors crave certainty, so developing the rule of law and implementing effective and efficient regulations in areas such as foreign investment, finance, contractual law, and general commercial law is important.

Beyond the food staples market strictly defined, the transformation and value addition of food staples into agroindustrial food products is generally lacking in the region. This report finds that (a) fragmentation of small-scale transformers, (b) lack of quality control, (c) weakness of the logistics chain, and (d) issues with the cost-effective and reliable supply of raw material for transformation explain the lack of downstream transformation industry in most value chains.

The underdevelopment of the food-processing sector also links at least two facts that have been mentioned earlier. First, protectionist and subsidy policies pursued by ECOWAS countries create costs to consumers and take away opportunities from producers; those policies do not necessarily achieve the stated objectives of nurturing a strong food-processing sector. Second, this lack of development calls into question whether the environment for private sector initiative is conducive to developing a transformation industry, especially when the temptation is often for government to substitute private sector participation with public intervention.

The combination of those observed factors partially explains why regional trade has not played a more positive role in the ECOWAS region. It also explains why today the area faces the paradox of having strong regional commitments and a common agenda centered on food staples markets and, at the same time, having the persistence of a dysfunctional regional market. The regional market dimension, despite policy declarations affirming its necessity, has yet to become a priority. This report suggests a refocus on this priority, thereby reviewing in four chapters (a) regional trade flows, (b) trade policies in ECOWAS, (c) developments of regional markets for inputs, and (d) examination of staples value chains. From the review, this report shows the current reality of ECOWAS regional trade integration in food staples. This report concludes by offering a series of recommendations that would help put regional trade in food staples back where it belongs, at the heart of the ECOWAS agenda on agriculture.

Regional trade needs to be addressed as a policy issue at two levels: regionally and nationally. To some extent, this approach has already been happening. But implementation has been a serious issue, and a real need exists to bring the two parts of the agenda closer together. Little is to be gained by agreeing on an ambitious regional framework if member states continue to apply policies that (a) appear to be in their short-term self-interest and (b) can have negative externalities for other member states that lead to a spiral of policies effectively inhibiting the growth of regional markets. Therefore, we present the conclusions and recommendations of this report in two sections: those that are relevant at the regional level and those directed to the attention of national governments.

The Regional Agenda

To date, regional work on trade policy and agricultural development has proceeded largely independently. As a result, a large gap looms between the vision of an integrated regional market, including for food staples, and the reality of disjointed national markets that are often concerned with food self-sufficiency rather than trade integration. Considerable scope exists for agricultural development policies and trade policy to complement each other in the creation of a regional market for agricultural products, which would benefit both producers and consumers.

The ECOWAS Agricultural Policy and the development of both regional and national agricultural investment plans are a step in this direction, together with the recognition that a regional approach must complement national ones. The ECOWAS Commission should continue this work with member states to develop an integrated set of policies promoting the development of a regional food staples market.

In West Africa, food security is a paramount consideration, particularly because social safety net structures are underdeveloped. Although food security does not have to mean self-sufficiency, an obvious need exists to maintain a significant level of national production in countries that not only are economically distant from world and regional markets but also have constraints in financial resources and foreign exchange that may make access to global supplies in times of local shortage difficult.

Measures such as export bans are purely nationalist in intent and effect, even though they may have important national political economy calculations behind them: they export instability to trading partners. Those measures are only partly effective in achieving national objectives. Arguably, this approach may be the only option available to governments with low capacity to attempt to ensure food security within their borders. Likewise, policies to foster national food production are constrained by the capacity of governments to access and distribute the necessary inputs to farmers, which also translate to suboptimal trade policies, such as import subsidies and exemptions, or the lack of an adequate framework for phytosanitary measures.

Therefore, countries need to move beyond a purely national vision of food security enforced through trade restrictions, which appears to be the dominant force in the region now. A more regional approach toward agricultural trade policy and aspects of food security, combined with a push to help countries develop national social safety nets, could help achieve the twin objectives of food security for West Africa and an integrated regional market for producers and consumers.

A better approach is to shift to a regional vision of food security in which a vigorous trade sector and solidarity mechanisms among countries mean that excess supply in one part of the region can easily connect with excess demand in another part. Self-sufficiency in all food staples for all countries in the region, particularly the smallest and those with serious problems of climate and environment, is neither necessary nor desirable. Reliance on neighbors has the potential to be mutually beneficial, and help-thy-neighbor approaches would certainly be preferable to the spate of beggar-thy-neighbor policies that are typically implemented in times of shortage as a response to domestic political economy considerations, such as the need to keep prices low for urban consumers.

Integration of trade policy issues into the agricultural development agenda could help build a truly regional vision of the food staples market. All steps in the value chain could be considered, from input provision to value added transformation. Effectively—and verifiably—eliminating de jure and de facto barriers to intraregional trade could help develop the agricultural sector through the realization of economies of scale. At the same time, developing regional agriculture could bring countries the familiar gains from trade: lower prices and increased variety for consumers and, in many cases, higher prices for producers. The instruments of trade liberalization—including issues such as logistics and trade facilitation—can be leveraged to support the development of regional food staples markets without losing sight of the crucial objective of ensuring food security.

Recommendation 1: Maintain Long-Term Vision, but Increase Focus on Achievable Short- and Medium-Term Measures

In a number of areas related to agricultural development, ECOWAS has proven its ability to develop a long-term vision for the region. For example, fertilizer and seed varieties are the subject of ongoing work, with a highly ambitious framework envisioned that includes adherence to sophisticated and regionwide compatible quality control standards. Similarly, regional initiatives around animal health and veterinary standards, the creation of market information systems, the establishment of regional funds to support solidarity mechanisms such as regional buffer stocks and financial aid in case of crisis, and the consideration of a common approach to warehousing are agenda items that must continue to move forward.

Although this kind of vision is necessary and useful for the development of food staples trade in the region, it needs to be accompanied by increased attention to measures that member states can commit to implement over the short to medium term.

This report shows that many pressing issues exist in developing a food staples trade in the region. Access to inputs is one of them, particularly when seen through the broader framework of value chain development. Elimination of formal and informal barriers to intraregional trade is another. Trade facilitation and logistics also loom large as key policy issues that link agricultural development and trade. In all of these areas, an urgent need exists for member states to act. In most cases, the regional framework already exists, but implementation has not occurred. The energy of the ECOWAS Commission, as well as that of member state governments, could therefore be usefully directed toward the identification of concrete steps (for instance, by agreeing to issue-specific and actionable roadmaps). Those steps could be taken in the short to medium term to bring about the basic outcomes of both freeing up food staples trade in the region and giving the agricultural sector room to grow into a genuinely regional entity. The idea of roadmaps is in itself not new in the region and has not always succeeded to deliver any progress (such as roadmaps to liberalize regional transit). Therefore, ensuring that such initiatives are not just policy declarations but instead time-bound work plans with detailed and realistic implementation measures and monitoring mechanisms is important. Ideally and where feasible, some degree of binding mechanism should be associated with roadmaps. Achievement of such roadmaps could also be designed as a necessary condition before future initiatives are taken in the region.

Recommendation 2: Reinforce Variable Geometry in Regional Initiatives

In addition to clear issues of political will and capacity, part of the reason for the gap between regional ambition and national implementation lies in the relatively standardized nature of regional obligations. ECOWAS member states are vastly different in size, geography, and internal food staples markets. A regional approach that more explicitly allows for these differences may be more likely to be implemented at the national level.

As an accommodation to the heterogeneous membership of ECOWAS and in recognition that all 15 ECOWAS member states do not need all regional public goods, emphasis could be put on selected regional initiatives that incorporate some level of variable geometry. This approach would allow for the piloting of innovative initiatives while simplifying implementation and thus increasing the chances of national take-up. Examples of variable geometry include existing initiatives such as the Office du Ni-

ger or the implementation of the 1998 ECOWAS decision on the regional cross-border framework for transhumance, for which several ECOWAS countries have signed bilateral or plurilateral agreements (such as the 2003 agreement between Burkina Faso and Niger).

One must note that variable geometry does not mean an opt-out provision for member states that lack the political will to implement important regional commitments. Instead, it is designed to allow for a margin of appreciation in the way in which regional objectives are achieved by coordinated action among national governments. In some cases, all member states do not need to adopt exactly the same approach, provided that the measures promote the same objectives to the same extent over similar time frames.

A second dimension of the variable geometry approach is to identify agendas for which only a subset of the ECOWAS membership would subscribe initially. Other countries could then opt in when they become ready. First, in light of the importance of trade in border and, in many instances, peripheral regions, a focus on border hotspots of regional trade would be desirable. This focus links with the information highlighting informal trade flows and the recognition that the natural economic market for some regions is a cross-border one. More specifically, border regions could become the focus of increased attention, given the important economic links that tie together border populations in the region. An important part of regional trade in food staples occurs around border areas and, of course, links up with other border-related issues that are central to agriculture such as the management of common natural resources (for example, water), regional diseases, infrastructure, and security. These dimensions are not well captured by existing policy initiatives and would benefit from further and more comprehensive policy interventions, notably in the context of the 2006 ECOWAS Convention on Cross-Border Cooperation.

Second, some ECOWAS member states may be ready and willing to move forward on specific agendas and able to go deeper than the rest of the membership in trade and policy integration. Common issues on which these members may form an alliance can be defined by commonalities on the production side. To some extent, for example, this alliance is already the case for countries that are strong producers of cattle or for countries around the Niger basin that produce cereals. Interest in specific policy options may be another way in which a small group of countries could take the lead on behalf of the ECOWAS membership, as in the case of countries currently exploring warehousing receipt systems and commodity exchange solutions.

Related to the idea of variable geometry is the need for capacity building. The ECOWAS Commission, backed by the donor community, can play an important role in this area. In some cases, nonimplementation of regional commitments is caused by a lack of understanding or of technical or financial capacity at the level of line ministries and implementing agencies. Building capacity in an environment where the necessary will exists can help promote implementation. Of course, capacity building

programs need to be based on needs identified by partner countries themselves and should be tailored to meet those needs in order to yield the best results. Although capacity building in many cases will be a costly and complex exercise, other cases exist in which the issue may simply be a lack of knowledge of regional obligations. In such cases, the ECOWAS Commission is well placed to build capacity by spreading knowledge and facilitating appropriate training for national officials in areas such as agricultural development and trade policy.

Recommendation 3: Improve Transparency around ECOWAS Legal Texts and Projects

The dynamism in the push for regional initiatives led by regional economic communities has not been reflected in commensurate transparency of information and accessibility to the regional initiatives. This information gap is a source of inefficiencies because member states are not always aware of their exact obligations and economic agents are not always informed of their rights, thereby leading to the misapplication of agreed-upon regional rules and avoidable transaction costs. Another consequence of the lack of information is the risk of partners who support regional initiatives duplicating efforts.

The first step for ECOWAS should be online provision of the existing community instruments that have been agreed on, together with any information needed about interpretation and implementation of the text. This approach also includes providing a point of contact for submission of any issues regarding implementation of community rules. A second step should be reporting community project activities and using community resources for agricultural policies. Eventually, such reporting should include a monitoring and on evaluating component that assesses whether the activities contribute to meeting the ECOWAS treaty objectives (see Recommendation 4, that follows). A third step, which links to Recommendation 1 about national policies, below, would be the obligation for ECOWAS members to notify other member countries of their policies. Notification increases transparency, thus offering predictability to traders, and naturally invites member states to justify why policies are in place, thus making the upholding of measures that benefit a few at the expense of the majority more difficult. Although the type of policies that would have to be reported needs to be examined, obvious candidates include the notification of trade bans and subsidy policies. In some instances, this notification would require minimal effort because governments already publish such information nationally. This effort could be conducted in parallel to implementing portals for national trade information.

Although some elements of transparency already exist, access to information and monitoring of ECOWAS activities remains imperfect. An important aspect of the credibility and effectiveness of the ECOWAS process resides in the urgent step-up of these efforts.

Recommendation 4: Develop Regional Monitoring Capacity

A crucial issue that has emerged at numerous points in the report is the gap between regional ambition and national reality with regard to food staples trade. The gap must be closed if food staples markets are to take on a truly regionalized character beyond the largely local, informal exchanges that currently occur. Even more fundamental is obtaining up-to-date information on national policies that could be used to assess their conformity with regional objectives and obligations. Therefore, as a priority, ECOWAS should develop regional monitoring capacity to increase transparency and should contribute to reducing the gap between vision and implementation.

Regional monitoring could take many forms and needs to be adapted to the specific conditions of ECOWAS and its member states. At a minimum, it needs to incorporate two elements: (a) collection of information on national policies and their conformity with regional obligations and (b) publication of that information in the public domain, preferably through a free access website. An important condition is that stakeholders in the region and elsewhere have access to this information for use in building momentum behind reform efforts nationally and regionally. Experience in other regions suggests that writing reports with reference to appropriate information sources is one possible approach, perhaps supported by a simple, easy-to-read scorecard.

Respect for community obligations—whether legally and institutionally feasible—could be used as criteria to allocate regional funds. Allocation would be subject to the recognition of capacity constraints as well, with the understanding that countries that are moving toward helping regional integration should become the champions of projects of regional importance.

Recommendation 5: Build Capacity in the Area of Trade-Related Statistics

Reducing the gap between regional ambition and national implementation through enhanced monitoring is an important aspect of the broader regional transparency agenda. At an even more fundamental level, however, this report shows that significant problems exist in determining the nature, direction, and extent of intraregional trade flows in food staples sectors. Official sources, such as Comtrade

(United Nations Commodity Trade Statistics Database) and FAOSTAT (Food and Agriculture Organization Corporate Statistical Database), often disagree by a very wide margin on basic information such as import and export volumes. The problem is compounded by the extent of informal trade that occurs, perhaps 75 percent—or even 90 percent—of total trade.

In the absence of good statistics, implementing sound and predictable policies is a serious challenge. Imperfect information leads to absent—or inadequate at the least—policy responses and, in worse instances, even unsound policy responses, thereby adding another potential source of costs borne by actors in food markets.

Therefore, an important goal for the ECOWAS Commission, supported by the donor community, is to develop capacity in the area of trade statistics for regional food staples. The ECOWAS Agricultural Information System project and, in particular, its market information component will spearhead these efforts, we hope. A review of the first outcomes will help assess the efforts needed to ensure that the reality of regional trade is indeed captured. Initiatives such as the monitoring of markets by FEWSNET (Famine Early Warning System Network) and reports on road harassment and trade flows by CILSS (Comité Permanent Inter-États de Lutte contre la Sécheresse dans le Sahel, or Permanent Interstate Committee for Drought Control in the Sahel) should be expanded to countries not currently covered and integrated in the regional information systems.

On the one hand, official agencies' figures should generally accord closely, although differences in basis and time period always lead to some level of discrepancy. Without doubt, agencies such as customs need to record accurate data on official exports and imports. The fact that this record keeping appears not to be happening suggests not only that problems of informality exist at the border but also that officers are not properly trained and equipped with appropriate tools to ensure they can perform this task adequately. Therefore, capacity building as part of a broader transparency agenda is an important priority.

On the other hand, increased attention also needs to be given to the issue of informal trade. By its nature, it is hard to measure. An important long-term objective should be to leverage this trade by formalizing as much of it as possible to develop regional agricultural markets. Elimination of intraregional trade barriers, together with trade facilitation, improved logistics, and trade finance services, can be expected to create incentives to *professionalize* trade, as will the provision of quality public services such as an efficient, quality, and sanitary infrastructure. However, the process will take time, and given issues of capacity and governance, it may well not be completely successful. Therefore, a necessary step is to build on useful efforts by regional institutions, such as the Central Bank of West African States, to measure informal trade, focusing in particular on trade in food staples. Some institutions, such as the National Institute of Statistics and Economic Studies in Benin

and CILSS, have also used survey methodologies to examine informal trade. Regional structures can facilitate information and experience sharing among such agencies, as well as promote an intensification of regional efforts to better understand this phenomenon. Measuring the extent of informal trade and then understanding its driving forces are key ingredients in developing a durable strategy to move trade into the formal sector.

Recommendation 6: Develop Regional Policies Inclusive of Private Sector–Led Value Chains in Food Staples

Traditionally, national governments in West Africa played a strong, direct role in shaping food staples markets, from input provision and extension services to value added transformation. That role has retreated in recent times in part because of budgetary considerations. However, the problem that state intervention was supposed to correct—the absence or dysfunction of private markets—remains a serious concern in relation to food staples. Private actors have been slow to develop at an efficient scale and take over the important functions once played by the state. Regional attention needs to be given to the promotion of private sector–led value chains, which efficiently perform the main functions of food staples markets, from input provision to value added transformation.

Although the private sector development agenda in food staples has many national aspects, it also takes on a regional character in development of an integrated market for food staples. This integrated market is another area in which agricultural development and trade policy intersect, and both aspects of the issue need to be considered. On the one hand, development of value chains can potentially help move food staples production to a high input–high yield equilibrium. On the other hand, certain parts of the value chain, such as production of processed products with relatively high value added, have strong economies of scale and would thus benefit from being able to access a regional market.

Therefore, development of a regional market for food staples in both their raw and their transformed states should be an important policy goal. To achieve it, member states need to coordinate private sector development policies and leverage existing regional structures that could help promote the emergence of regional value chains. For example, quality policies are very important incentives for private investment, and access to finance is a crucial constraint at various points in the value chain. Lack of access to financing affects smallholders who cannot purchase inputs. It also affects processors who cannot expand capacity or upgrade production to satisfy changing consumer demands for quality. In the West African Economic and Monetary Union countries, considerable coordination already exists in the area of monetary policy and finance, and it could possibly be built upon to develop a coordi-

nated regional approach to improving access to finance for participants in food staples value chains. The West African Capital Markets Integration Council, which is another example of a variable geometry approach, could also play a key role in developing a regional regulatory framework for warehousing systems, which in turn could help unleash private sector involvement.

Improvement of the business and investment climate is also an important priority, albeit one that primarily relies on action at the national level (see below). Nonetheless, ECOWAS can provide a framework for coordinating national actions aimed at reducing the costs of doing business; improving the rule of law and contract enforcement; and, as appropriate, gradually freeing up restrictions on foreign direct investment. Other regional groupings, such as the Asia-Pacific Economic Cooperation, have found use in coordinating targets to improve the ease of doing business while leaving members free to choose their own set of policy reforms consistent with the overall objective. A clear scope exists for a regional framework to encourage coordinated unilateral reforms by ECOWAS member states with the objective of encouraging private sector development generally and in the food staples sector specifically. Given the number of people involved in food staples markets as producers and the potential benefits that high-functioning value chains can bring in increased incomes, private sector development in this area should be an important regional priority.

The National Agenda

Recommendation 1: Work to Formalize Intraregional Trade in Food Staples by Eliminating Formal and Informal Trade Barriers

Informal trade in food staples accounts for the majority of all intraregional trade in this sector. Available evidence shows that the driving forces are the existence of areas of excess supply and excess demand that cross national borders facilitated by porous borders—linked with weak governance. In such circumstances, traders have a strong incentive to bring producers and consumers into contact, and they are doing exactly that, albeit informally.

Neighboring countries that are part of the same food basin should coordinate with the aim of fostering and, preferably, formalizing trade.

In the face of wide-scale informal trade, one might be tempted to argue that border procedures should be tightened, policing upgraded, and enforcement capacity enhanced with a view to eradicating such trade. In this case, however, a more nuanced approach is required. Informal trade connects producers and consumers across borders and can be seen as the embryo of a regional market in food staples. The priority should be on working toward the formalization of that trade by easing the formal

movement of goods between neighboring member states, including reducing the costs of formality. Improved trade facilitation and logistics and less bureaucracy at the border, in particular, decrease traders' incentive to act informally. Such measures can both boost trade—which is the objective of a single market—and help bring it into the light.

One of the reasons that informal trade is so prevalent in the region is that the ECOWAS single market is far from being a reality. Member states continue to apply nonconforming, or gray-area, measures on a wide basis, including in food staples markets. In addition to formal (de jure) barriers to intraregional trade, a variety of informal barriers also exist. The problems of roadblocks and informal payments are particularly salient, and they add considerably to the time, cost, and uncertainty associated with moving food staples from one market to another. Realization of a truly integrated, regionwide production and consumption platform requires member states to eliminate formal and informal barriers to intraregional trade in food staples, as required by regional instruments.

The implementation gap between regional ambition and national reality has already been noted. However, additional regional initiatives can go only so far in closing it. Ultimately, action by all individual member states is required. In some cases, legislative or formal administrative measures are needed (for example, when existing measures are not in line with regional engagements). Sometimes, however, the laws accurately reflect regional obligations, but implementation by line ministries and government agencies is not in strict accordance with the details of the law. This report has noted the example of border agencies that require a certificate of origin for ECOWAS products, even though no such requirement exists. Therefore, the reality is that a significant amount of food staples trade inside the region is subject to the same tariffs as external trade—a far cry from the vision of an integrated single market.

A particular area of attention for member states is the use of export and import bans. The former are designed to protect domestic consumers from high prices, and the latter are meant to insulate domestic producers from low prices. Both are substitutes for more effective and efficient social safety net policies and are, at most, costly second-best policies. Moreover, in both cases, they are at best partially successful in achieving their aims, particularly in light of the fact that borders in the region are highly porous, governance is sometimes weak, and goods therefore flow informally anyway.

Most important, though, both policies are beggar-thy-neighbor policies: they protect a domestic group at the expense of another group within the region. They are fundamentally incompatible with the idea of a regional single market, especially because their use by one country, particularly a large one, tends to induce a cascading response from other countries as each tries to export instability to the others. As an urgent priority, member states need to agree to a clearer framework around the use of trade

bans and, in practice, actually refrain from the use of export and import bans as examples of trade policy measures that are harmful for developing a regional market for food staples.

Recommendation 2: Identify Capacity Building Needs for the Implementation of Regional Commitments

In some cases, the gap between regional aspirations and national reality does not stem from a lack of political will, but from genuine deficiencies in human, technical, administrative, and financial capacity. As noted earlier in the regional recommendations section, capacity building for the implementation of regional obligations needs to be an important part of the agenda going forward. With the aim of facilitating action by the ECOWAS Commission and donor agencies, member states should conduct a comprehensive needs assessment to determine what the capacity building requirements are to implement regional obligations for the single market for food staples.

Capacity building should always be tailored to suit the individual needs of particular countries. Although countries that have similar needs can envisage coordinating activities, the first step must be a comprehensive needs assessment. In addition to traditional capacity building activities, which tend to focus on technical issues, at least some member states likely would need assistance with administrative issues, specifically ensuring the application within their borders of their own laws and decrees. Therefore, inclusion in capacity building efforts of aspects of governance and public sector management, on the basis of the needs identified by individual member states, may prove important. Of course, the need to build human and technical capacity is a broad one in West Africa; but given the importance of food staples as a source of income for much of the population and food security for all of it, building capacity in this area should be a particular priority.

Recommendation 3: Develop Private Sector–Led Value Chains in the Food Staples Sector

As discussed above in the context of regional recommendations, a crucial factor is that the private sector takes over as much as possible the role previously played by activist states in food staples markets. The development of private markets for inputs, the increased efficiency in the transport and distribution sectors, and the promotion of value added processing activities are all part of the agenda. Member states should take concrete steps to improve the business and investment climate so as to favor the emergence of private sector–led value chains in food staples sectors. The typical food staples value chain in West

Africa is relatively unstructured and subject to numerous market failures. The state still intervenes at some important points, such as through the use of fertilizer subsidies.

Developing private markets is a more efficient and more fiscally sustainable path. Of course, this approach is far from a quick or simple task. Shock treatment is not the answer. Instead, a gradual and nuanced approach, in which the private sector is encouraged to grow organically by fostering sustainable competitiveness, is needed. Regulatory reform focused on the provision of public goods to value chains (such as quality, veterinary, and phytosanitary measures; the framework for professional organization; and information systems) will be an important way for member states to support this objective. Transport is another crucial example: improving the functioning of private transport markets, particularly cross-border ones, has real potential to reduce prices of food staples for consumers while increasing farm gate prices.

More generally, member states need to focus on issues such as the ease of doing business and the investment climate, both of which affect the ability of the private sector (or at least the formal private sector) to grow sustainably. Improving the rule of law and contract enforceability is an important step, as is formalizing and guaranteeing land tenure on a broad basis, so that any consolidation of parcels is not done at the expense of smallholders. Those kinds of steps create an environment that is more certain for investors and make countries more attractive to foreign companies seeking to gain a foothold in the region. An appropriate stance on foreign direct investment at various points in food staples value chains can be part of the answer for developing private sector capacity. The Ghana Grains Partnership is a good example of cooperation between an international firm and local partners. It has helped structure the value chain and secure both regular supply for industries downstream and easier access to inputs for farmers upstream. Considerable potential exists to learn from this kind of model.

At the same time, however, caution must be exercised with regard to the risks that can come with large firms, namely anticompetitive effects. Competition policies are, at best, in their infancy in the region and cannot be relied on to ensure that big firms enjoying a monopoly or monopsony position do not abuse it. Sequencing the reforms is therefore crucial. Taking a state monopoly and opening it to foreign investment typically results in only limited efficiency gains, while the monopoly rents leave the country: the net effect can often be a welfare loss. The most important reform is to introduce competition—just a few firms of similar size can be enough to ensure a relatively competitive environment—and only then substantially liberalize restrictions on foreign direct investment. To be clear, the regional food staples market can gain much from such investment, but it has to occur under the proper circumstances to ensure that those gains are realized in practice.

1 Regional Trade Flows in Food Staples in the Economic Community of West African States Space

KEY POINTS

- Regional trade in food staples already takes place in the Economic Community of West African States (ECOWAS), largely on an informal basis.
- Borders in the region are porous, and thus areas of surplus and deficit tend to connect across borders through informal trade mechanisms.
- The evidence suggests that intraregional trade has considerable room to grow further and be formalized, although the effect of formalization needs to be considered carefully from an overall welfare standpoint. In particular, trade procedures need to be drastically improved so that the costs of formal trade are kept down.
- Despite the presence of, and potential for, intraregional trade, ECOWAS also relies heavily on extraregional imports, such as cereals, in key sectors.
- In light of the region's trade and production dynamics, the key concern for policy makers in relation to food staples should be food security as broadly understood, rather than just as self-sufficiency. Open markets can play a key role in supporting food security, especially in times of shortage. However, and as shown in more detail in chapter 2 of this report, national policies are not always in line with regional objectives and sometimes impose costs on producers and consumers in other ECOWAS countries.

The potential for regional food staples trade in the Economic Community of West African States (ECOWAS) is enormous, but it is as yet untapped, at least formally. The trade between production surplus regions and deficit regions is often informal, in part because of restrictive regulations in some countries that prevent trade from flowing freely. Market sheds in ECOWAS frequently have little regard for borders. But high (formal) trade costs and the failure to ensure the free movement of goods on the ground within the region mean that producers and traders are often forced to operate under the radar. As a result, activity is constrained, and government revenue probably suffers. Formal and informal trade also face corruption and highly imperfect markets, which severely add to the limitations faced by ECOWAS food producers and traders.

In many ways, however, production in ECOWAS is struggling to keep pace with changing demand that reflects increased urbanization and steadily rising incomes among some sectors of the population. Urban consumers are increasingly demanding products that are new, have higher and consistent quality, and provide greater convenience (that is, more processed products), and local producers have had difficulty competing with imports on this basis. Many urban consumers now have a distinct preference for imported food staples rather than locally produced ones because of these characteristics (see, for

instance, Hollinger and Staatz 2015, and Elbehri 2013). As later chapters show, national and regional value chains must receive significant attention if these problems are to be addressed and if ECOWAS production is to become more competitive.

Moreover, potential challenges brought about by climate change are susceptible to altering the geography of production in the region and introducing additional risks to production, including more variability of crops. The effect of climate change is expected to be particularly high in Africa with a temperature increase of 3° Celsius (C) in the coastal and equatorial areas and 4°C in the Sahel and a reduction of average rainfall of 10 to 20 percent (Hollinger and Staatz 2015).[1]

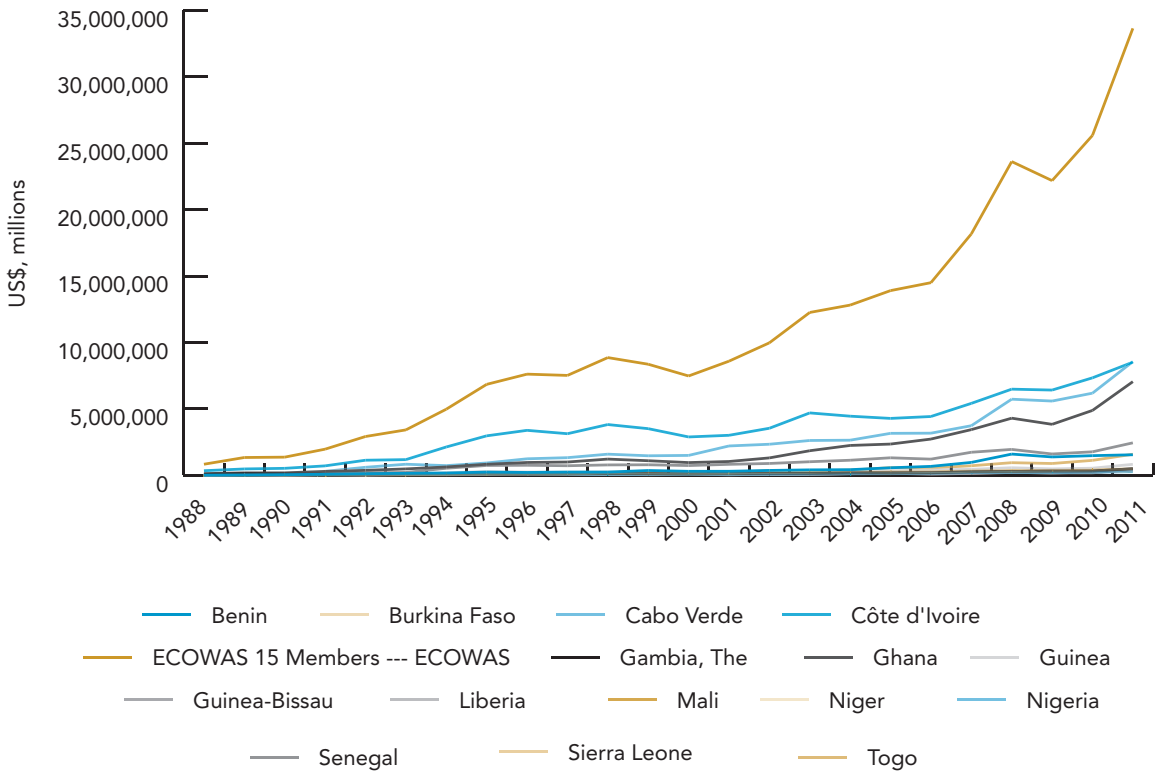
The most obvious result of those trends is that ECOWAS has become steadily more dependent on imports of food staples, particularly grains. This shift has potentially significant implications for policy makers. Policies of self-sufficiency are proving inadequate, at least in the short term. Thus, the primary focus needs to return to the broader issue of food security: What set of policies is necessary to ensure that national populations have guaranteed access to food that satisfies their nutritional requirements? Currently and going forward, the region is likely to rely on both domestic and imported products to achieve food security, with the result that trade policy, as well as sectoral production policies, needs to be center stage.

ECOWAS Is Increasingly Dependent on External Markets for Its Staples Needs

During the past 15 years, the ECOWAS market has become increasingly dependent on imports of food from the rest of the world (see figure 1.1). According to data from the United Nations Commodity Trade Statistics Database (UN Comtrade), in 2012, the region imported $4 billion of rice and $2 billion of wheat (figure 1.2).[2] The rise in imports has been especially sharp since the peak of the food crisis of 2008, with an increase of 44 percent for rice and 33 percent for wheat. In the past 20 years, imports of rice have grown at a rapid pace, on average by 20 percent each year (17 percent for wheat). Finally, in 2011 and 2012, imports increased markedly, refuting the impression that a post-2008 trend toward stabilization of imports was occurring (see, for example, CIRAD 2011 for rice) and that the food crisis represented a peak in imports to cover a particularly bad crop year in the region.

Although cereals are by far the most important imported staple in volume, they are not the only important food item imported by the region: in the past 20 years, imports of poultry meat have grown exponentially, increasing from virtually nothing to more than $600 million in 2012. The increase is

Figure 1.1 Imports of Food, ECOWAS, 1988–2011



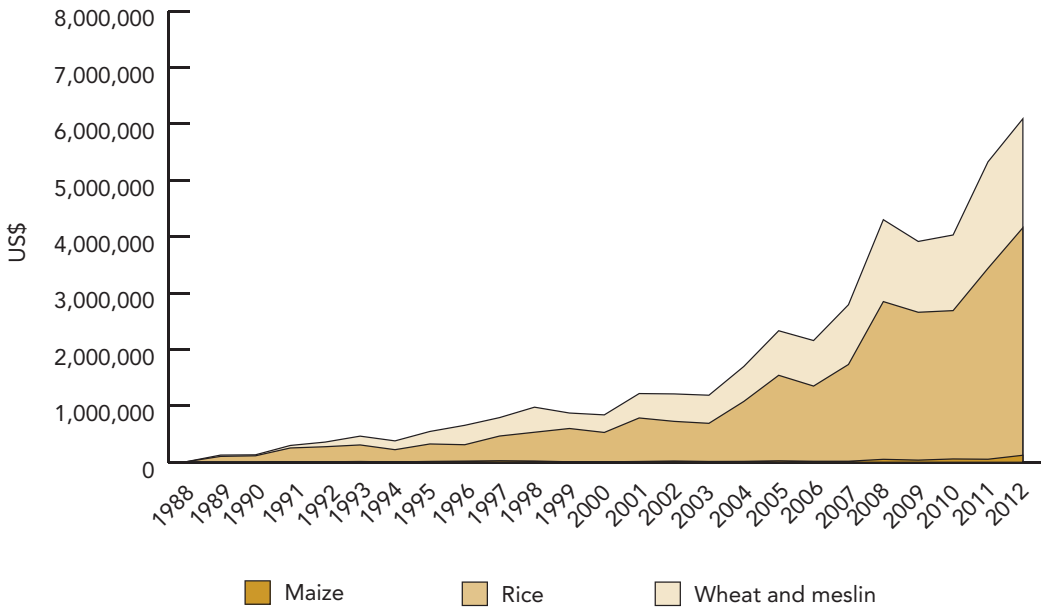
Source: UN Comtrade, using mirror statistics.

Note: Food is defined as in chapters 1–24 of the HS tariff nomenclature. This definition is slightly different from the definition adopted by Food and Agricultural Organization of the United Nations (FAO) but does not affect the magnitudes.

particularly dramatic since 2005. Poultry meat, imported frozen for the most part, is essentially sourced from the European Union, Brazil, and the United States.

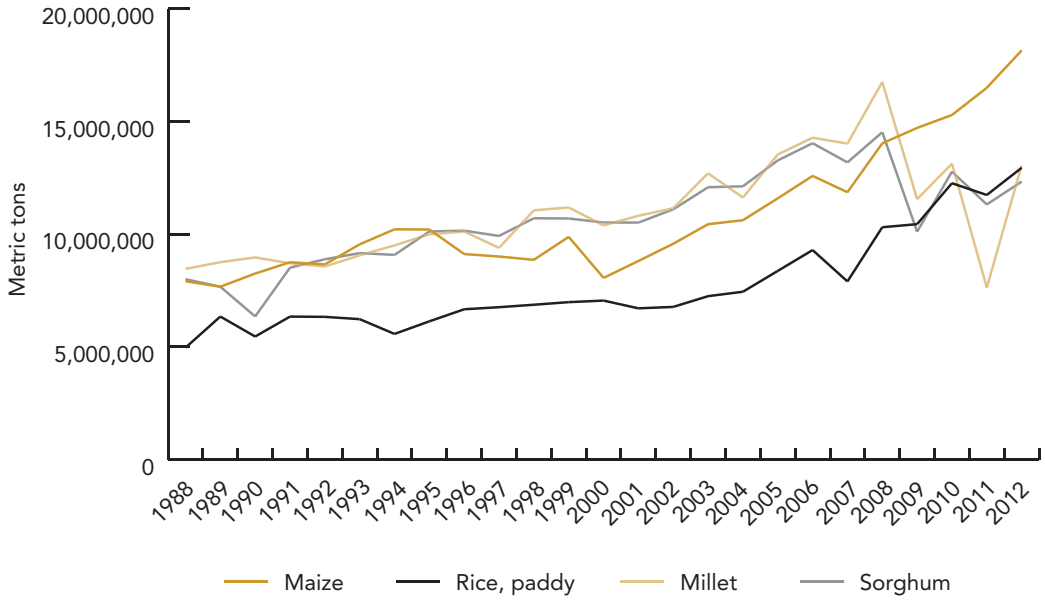
This increase in imports has occurred despite important and successful efforts to increase production in the region. Consumer preferences have fueled in particular the consumption of two cereals, rice and maize. Production has followed accordingly, roughly doubling since 2000, and increasing by 29 percent for rice and 24 percent for maize since 2008 (figure 1.3). In contrast, production of traditional cereals—millet and sorghum—has decreased since 2008.[3] Wheat is barely produced in the region, and the region is self-sufficient in maize (importing a small, but growing quantity of maize for animal consumption).

Figure 1.2 Imports of Cereals, ECOWAS Countries, 1988–2012



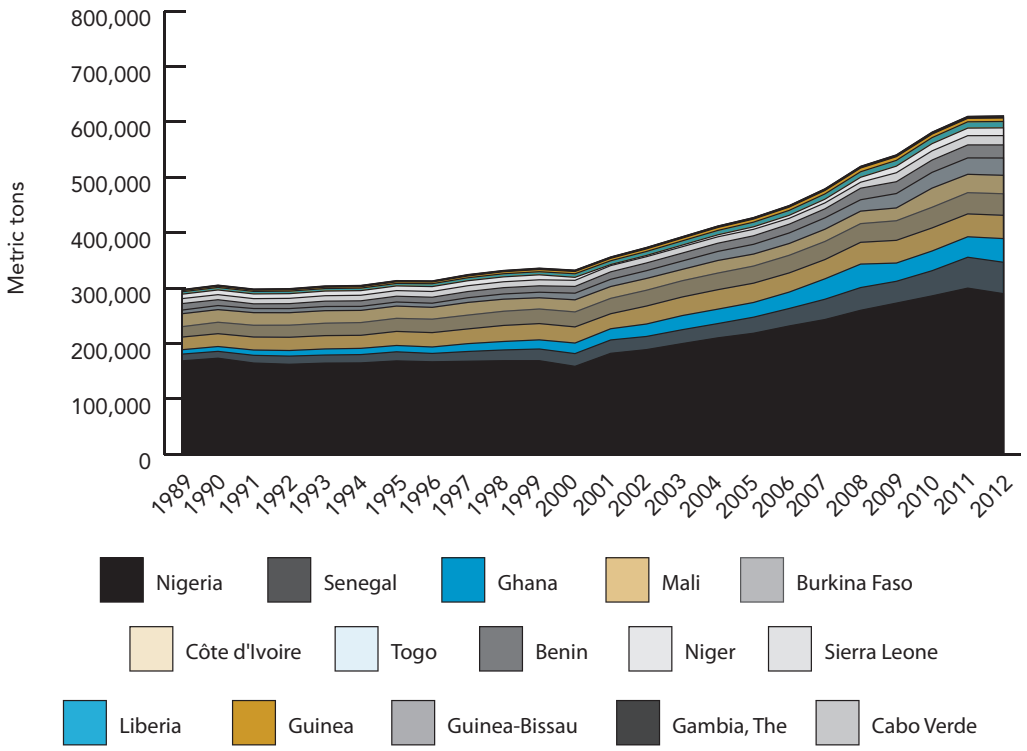
Source: UN Comtrade, using mirror statistics.

Figure 1.3 Cereal Production, ECOWAS, 1988–2012



Source: FAOSTAT.

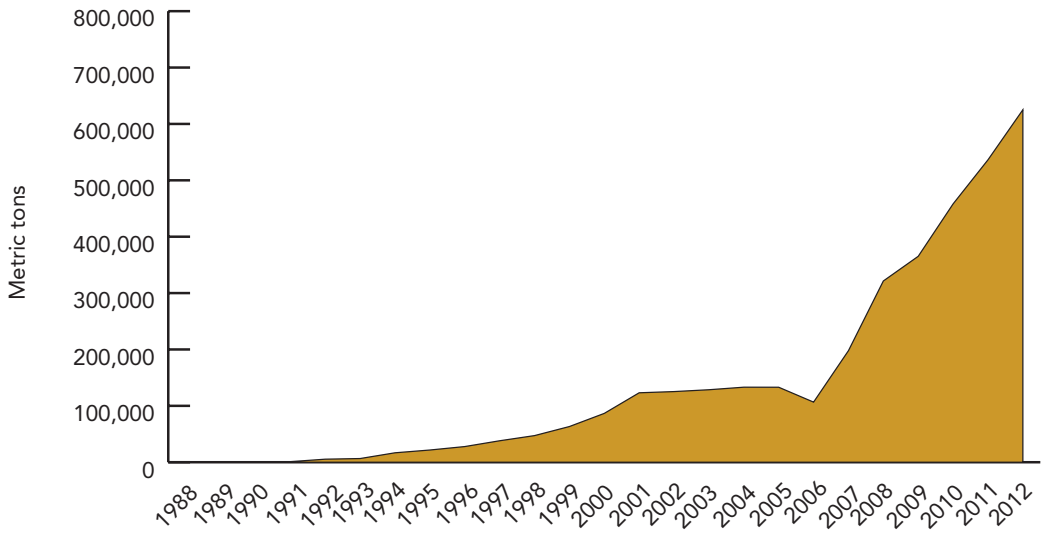
Figure 1.4 Production of Poultry Meat, ECOWAS, 1989–2011



Source: FAOSTAT.

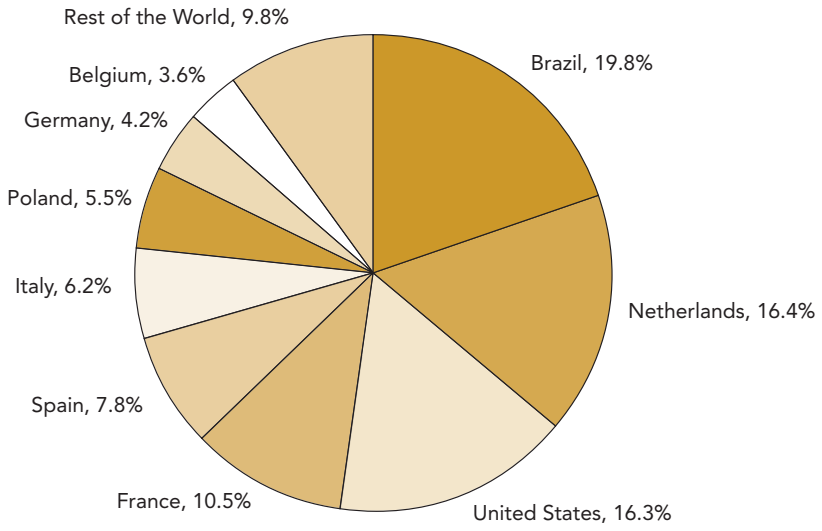
Similarly, boosted by national efforts to increase production, the domestic supply of poultry meat has been growing steadily, by 17 percent since 2008, notably in Nigeria, Senegal, and Ghana (figure 1.4). These markets witness a strong demand. However, this progression of domestic production has not nearly matched the exponential pace of growth in poultry meat imports (figure 1.5). It should also be noted that the poultry sector in West Africa remains generally geared toward the production of eggs, and not broiler meat. The West African poultry sector indeed faces high production costs, lacks sanitary controls, and faces technical constraints in processing and marketing, in part because of lack of vertical integration in the sector (Killebrew, Gugerty, and Plotnick 2010). The sector is also not well equipped to compete with large global exporters such as Brazil, the European Union, and the United States that have the ability to segment markets by selling high-value poultry parts to developed markets while shipping lower-value ones to markets such as ECOWAS (see figure 1.6). By contrast, local ECOWAS producers

Figure 1.5 Imports of Poultry Meat and Live Poultry, ECOWAS, 1988–2012



Source: UN Comtrade, using mirror statistics.

Figure 1.6 Imports of Poultry Meat by Origin, ECOWAS, 2012



Source: UN Comtrade, using mirror statistics.

must sell entire chickens locally, presumably attracting lower margins overall and thus being unable to compete aggressively on price with imports (Hollinger and Staatz 2015).

Following the 2007–08 increase in world food prices, countries in the region temporarily removed or reduced duties on imported cereals, which explains the surge in imports observed since that period.[4] However, at the same time policies to develop national production have also been put in place, which is reflected in the growth of production of cereals in the region. These recent developments have occurred in the broader context of not only urban population growth, but also consumption shifting toward foods (as noted in the introduction of this report) that are not traditionally produced in the region. These factors are key drivers for the increase in imports. Domestic markets are answering the change and increase in consumer demands in part only.

The sharp increase in the imports of poultry is a result of the liberalization of import barriers in West Africa in the late 1990s (Johnson 2011). Several countries in the region reacted to the increase in imports by banning imports, in some cases as early as 2002 in Nigeria (July) and Senegal. Senegal added further bans in October 2005 in response to the avian flu outbreak when all frozen chicken meat imports were banned. These imports have remained banned, and the government recently announced that these bans would remain in force until at least 2020.[5] Other countries, such as Ghana, chiefly kept their regular tariff regime with a 20 percent tariff.[6] Until 2002, Nigerian domestic production supplied the market demand (Killebrew, Gugerty, and Plotnick 2010; Schneider and others 2010).

Making predictions is difficult, especially given the strong resolve in the region to achieve food self-sufficiency. However, the trend—and the fact that imports tend to increase at an equal, if not faster pace than production—points clearly toward ECOWAS becoming more dependent on external markets for its supply of cereals (see the example of rice in Ghana in box 1.1) and poultry meat, which represent an increasing share of the food staples supply in the region (see table 1.1).

Nin-Pratt and others (2009) have argued that an increase in potential output of the currently very low production yields of cereals could radically alter the balance of cereal trade in the region: rice production could nearly double, while production of maize could nearly triple and that of millet and sorghum could more than triple. More open markets are a necessary condition for occurrence of this best-case scenario. First, to connect demand in growing urban centers with possibly distant geographic areas having strong yield potential, regional trade integration will have to change gears. Second, yield gains are feasible only through access to the most competitively sourced inputs—fertilizers, seeds, machinery, and agricultural extension services (World Bank 2012). These issues are discussed in greater detail in chapter 3 of this report that deals specifically with the question of access to inputs.

Table 1.1 Imports of Poultry Meat, Africa (metric tons)

Year	South Africa	Angola	Ghana	Benin	Congo, Rep.	Total: Sub-Saharan Africa
2000	72,000	49,000	12,000	40,000	21,000	253,853
2006	260,000	130,000	57,000	29,000	23,000	601,813
2007	239,000	138,000	75,000	46,000	28,000	662,589
2008	191,000	171,000	72,000	67,000	56,000	696,211
2009	206,000	161,000	79,000	77,000	58,000	747,615
2010	240,000	239,000	109,000	98,000	84,000	936,522
2011	325,000	287,000	155,000	104,000	77,000	1,216,733
2012	371,000	301,000	167,000	124,000	93,000	—
2013[a]	395,000	330,000	172,000	125,000	100,000	—

Sources: U.S. Department of Agriculture; Agritrade, http://agritrade.cta.int/Agriculture/Commodities/Poultry/Poultry-exports-to-Africa-continue-to-grow.

Note: — = not available.

a. Forecast.

Similar productivity gains in poultry production are not foreseeable. However, better access to inputs such as feed and chicks and to veterinary services and to quality standards would make regional production more competitive.

Regional Trade Flows in Food Staples: What Do We Know?

The missing trade data: the reality of ECOWAS regional trade in foods staples is not adequately captured by official statistics. For instance, a query entered into UN Comtrade, the official source of international trade data supplied from national customs data, shows very strong discrepancies across the years, import and export flows, exporters, and product categories, as well as data misreporting. The following are some examples:

- **Absence of data:** no exports and hardly any imports were reported for Nigeria between 2005 and 2012.

Box 1.1 Consumption of Local and Imported Rice in Ghana

In the past, Ghana has experienced a phenomenal increase in rice consumption. Estimated national consumption rose from 322,000 metric tons (MT) in 2006 to 621,840 MT in 2012. Moreover, estimates show that the level of per capita consumption of Ghanaian households of 24 kilograms (kg) in 2010–11 is expected to rise to 63 kg as a result of rapid population growth and urbanization, thereby giving an aggregate demand of 1.68 million MT by 2015.

According to a 2012 study by the Bill and Melinda Gates Foundation, urban market consumers prefer imported rice as a result of increasing incomes. The factors driving these preferences are perception of higher quality; cleanliness (no stones); perfumed rice, which now accounts for 81 percent of overall rice imports; low share of broken grains (48 percent of imported rice consumption has less than 5 percent broken grains); and appearance (for example, even color).

Local rice must meet these characteristics to compete with imports, but generally does not; most local rice has 10 to 25 percent broken grains. In fact, Ghanaian consumers are willing to pay a 113 percent price premium for imported rice (for example, Thai rice) in comparison to local rice.

The Ghanaian rice market is increasingly driven by premium rice, which is growing at a rate of 40 percent annually. The market segment for medium-quality rice is shrinking at less than 4 percent annually. This pattern is even more extreme in the urban markets, notably in the Greater Accra and Ashanti regions, which have the highest urbanization rates in the country.

Urban markets (such as Accra and Kumasi) consume 76 percent of total rice in Ghana (both local and imported rice), yet they consume only about 20 percent of local rice. A survey in Accra revealed that 71 percent of consumers never purchase local rice. Local rice is rarely found in supermarket chains, where shelves are dominated by imported rice varieties.

The rice produced in northern Ghana does not reach Accra in commercially significant quantities and is rarely found for sale as far south as Kumasi. Likewise, limited quantities of imported rice reach the far north and do not achieve volume sales in the markets. However, in Tamale, the imported rice is reportedly becoming more popular with a rising middle-income population.

Source: DePetris-Chauvin and Mulangu 2014.

- **Misreporting:** exports of sweet potatoes from Ghana to Côte d'Ivoire were reported to be $267 million in 2011.[7]
- **Difference between reporting of imports and exports:** recorded imports of food staples in ECOWAS fluctuated between ¼ and 1/26 of the value of recorded exports of the same products depending on the year:
  - *Not only do values differ, but different trade flows are recorded for imports and exports:* in 2010, more than $1 million of broken rice imports (mainly to Ghana) are recorded in ECOWAS,

while more than $20 million of exports (mainly from Senegal to Mali) are recorded for the same year.

- *Export flows are not systematically underestimating regional import flows:*[8] for instance, sorghum imports in the region in 2010 are slightly more than $5 million versus only slightly more than $2 million for exports of the same product.

- **Capture of a small portion of total trade:** in 2012, total recorded exports of key food staples[9] amounted to $215 million, about 0.05 percent of the region's gross domestic product (GDP) of $396 billion and 1.8 percent of intra-ECOWAS-recorded exports.

The Food and Agriculture Organization of the United Nations (FAO) provides a database, FAOSTAT, that is often quoted in the literature on agricultural trade. However, FAOSTAT data report even less intraregional trade than do UN Comtrade data. The value of total recorded intra-ECOWAS trade in FAOSTAT is $104 million in 2011, the last available year.[10]

The quality of trade data poses serious challenges because it casts doubt on the validity of any analysis that relies on this imperfect and incomplete information. Because of the lack of reporting, whole supply chains are likely to be underestimated or, worse, ignored by policy makers. Deciding on priorities is also difficult when the economic importance of trade flows is not clearly known. Private sector stakeholders are well aware of the downside of poor and unreliable statistics. Staatz and others (2011) report that private actors in Mali attribute the lack of consistency of government policies to this lack of knowledge base. In the absence of reliable information, policy decisions that are disconnected from the reality on the ground, such as trade bans, are made. Likewise, in the face of uncertainty, worst-case scenarios are often believed.

The reasons for the lack of trade data are well known. First, the prevalence of informal trade channels allows circumvention of official border points through the numerous roads connecting countries. For instance, in Benin alone, a survey by the National Institute of Statistics and Economic Analysis of informal trade polled 171 crossing points (a sample of all crossing points in the country) compared to about 30 official border posts. Second, customs authorities' perspective is that closely following these trade flows is not essential, because originating products (*produits du crû*) under ECOWAS and West African Economic and Monetary Union free-trade schemes are, in principle, free to circulate within the region and not subject to domestic and international taxes.

The majority of food staples trade goes unreported and unrecorded. So how much trade is being missed? Recent surveys (see also box 1.2) conducted by the United States Agency for International Development (USAID) for several staples (reported in Josserand 2013) estimate that between 66 and 80 percent

Box 1.2 Improving Statistics about Food Staples Trade

The shortage of data about food staples trade is surprising when one considers that the economic and political effects of securing access to foods for the poorest and of developing a sector of the economy with the highest prevalence of poverty, are so high. The dearth of statistics also represents the lack of voice of the huge segments of the West African population that are dependent on food staples production, consumption, and trade.

Sources of official data on food staples trade are scarce. At the international level, UN Comtrade and FAOSTAT are the two main sources of historical and cross-country comparable trade data for food staples. National statistics, in particular those produced by agricultural ministries and producer associations, can complement official sources, but international trade is rarely a focus of interest. These various sources of information often show significant discrepancies, which render them difficult to interpret.

Because staples are often traded through informal channels, one cannot rely on improving official data collection mechanisms. Instead, observation-oriented approaches or ad hoc surveys can be used. Several recent efforts to improve current data gaps can be highlighted.

CILSS and USAID-ATP surveys. A regional data collection effort was initiated under USAID (United States Agency for International Development), ATP (Agribusiness and Trade Promotion), and EATP (Expanded Agribusiness and Trade Promotion) projects in 2009. Market surveys were established in October 2012 and then transmitted to CILSS (Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, or Permanent Interstate Committee for Drought Control in the Sahel) in November 2013. Data are collected by 11 professional organizations through national private partner apex associations or regional organizations. The data collected include data on ruminant livestock (cattle, sheep, and goats), maize, millet, sorghum, and parboiled rice. The trade data collectors are positioned at exit points (borders) and in strategic markets in the various countries in the region. In all, about 60 markets are covered. CILSS surveys cover nine ECOWAS countries: Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Senegal, and Togo. Data collection activities are performed daily in each country and are supervised at focal points that collate and transmit the data to CILSS monthly.

FEWS NET. In 1985, FEWS NET (Famine Early Warning Systems Network) was created after famines occurred in West and East Africa and currently monitors 11 countries in West Africa, including 9 in ECOWAS. FEWS NET monitors trade by creating trade-flow maps between production and consumption zones and producing descriptive reports. In terms of statistics, FEWS NET does not produce trade-flow data. However, the organization provides detailed price statistics for a large number of markets and for several staples in the region, which can be used to analyze how regional markets operate.

of intraregional trade, depending on the staple considered, is not accounted for in official trade statistics. If one extrapolates from officially recorded figures (UN Comtrade), intraregional trade of food staples would amount to between $750 million and $1 billion and between 7 and 9 percent of ECOWAS intraregional trade.[11] Of these, livestock represent the bulk, followed by maize and millet. The large food staple exporters in the region are Burkina Faso, Mali, and Niger (livestock) and Nigeria (cereals and cassava). For the main

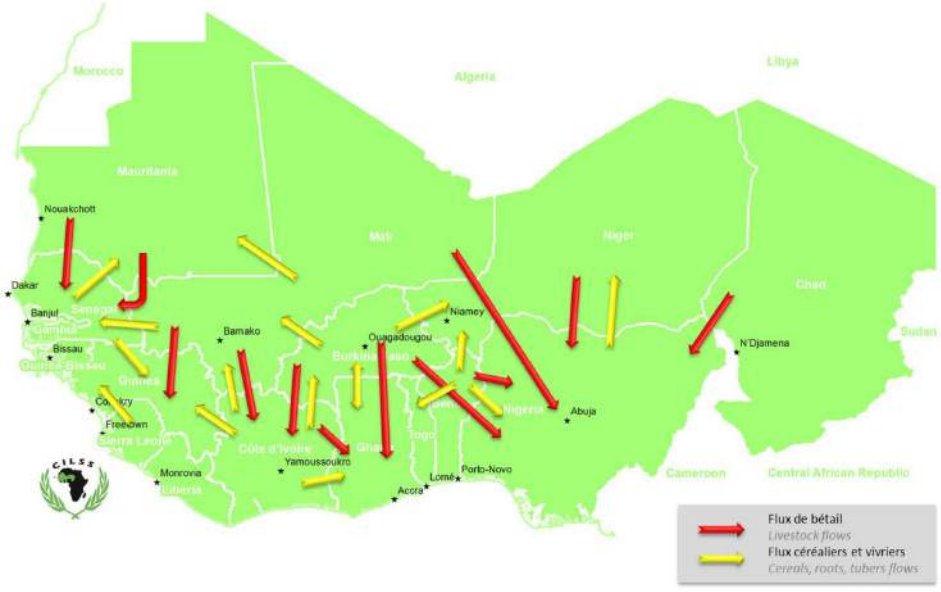
staples supplied regionally, the largest importers are Nigeria, Ghana, Côte d'Ivoire, and Senegal (livestock); Niger, Senegal, and Burkina Faso (maize); and Benin, Ghana, and Niger (sorghum and millet).

For an activity that employs such a large share of the population and still accounts for an important share of GDP, these numbers are low. The low level of regional trade must first be put in the context of low shares of production placed on the market, rather than of consumption by the farmer and his or her family, for some staples. The share of production traded is generally low: for cereals, for example, FAOSTAT data, which admittedly are not absolute, suggest that less than 1 percent of production by volume was exported. As noted earlier, the prevalence of informal trade means that the true figure is considerably higher. However, even if it is 5 percent, the level is still very low.

Characterizing Trade in Food Staples in West Africa

In this section, we review what is currently known of regional trade flows for different important staples. A map of trade flows in the region (CILSS 2014) shows that North-South flows dominate and that these flows can involve some level of transit along international corridors (map 1.1). However,

Map 1.1 Food Staples Trade Flows, ECOWAS



Source: CILSS 2014

numerous East-West (and vice versa) bilateral trading routes also exist among neighboring countries. International trade is pervasive in the region, even though, as noted earlier, it is often missed in official statistics.

Regional trade differs considerably in nature, with regard to direction of flows, volumes, incentives, and nature of traders involved, depending on the food staple. Thus although we know that regional trade in food staples matters, we need to deepen our understanding of the value chain at the regional level because it presents different characteristics that, in turn, are likely to call for different types of policy responses at the regional level. In this context, recognizing and understanding more deeply the nature of this trade is important. Many studies of markets in West Africa have been conducted over the years, and experts often have a detailed knowledge of the specifics of regional trade flows. However, a complete picture of these flows at the regional level is rarely presented. This picture is necessary to put these facts in perspective and eventually define priorities and commonalities among countries in the region and among staples markets.

We can separate intraregional trade flows in food staples into three broad groups. First is *arbitrage trade*, which is explained by informal transit reexports and trade deflection. These affect the staples that are imported in large quantities from outside the region. The staples are subject, as noted later in this report, to differing and sometimes varying import and domestic policy regimes that create artificial price wedges between markets and provide incentives for traders to arbitrage at a profit between these markets. Regional trade in rice and poultry meat are the prime examples of this type of trade.[12]

Second is *border trade*, which characterizes exchanges between regions close to the border separating countries. This border trade concerns locally produced staples and is motivated by the advantages provided by proximity[13] (which are further enhanced by the prohibitive cost of accessing distant markets) and by the porous nature of borders. Border trade also reflects local patterns of excess supply and demand. In this respect, border markets are important in lean periods when stocks for self-consumption are depleted and households must turn to markets for their food consumption. For instance, as reported by FEWS NET (2013), trade between Guinea and neighboring countries (Sierra Leone and Côte d'Ivoire, in particular) appears to play a crucial role in ensuring a steady supply of food products during the lean season in Guinea. The fact that border trade is driven by local production conditions also means that two phenomena sometimes occur: border exports can occur even when a country is importing as a whole; and border trade patterns sometimes reverse, depending on growing conditions on either side of the border (box 1.3).

Box 1.3 Two-Way Trade: The Case of Maize between Côte d'Ivoire and Guinea

Major maize trade flows exist between Guinea and neighboring countries. During the lean season and the early harvest period, large quantities of maize flow into Guinea from Côte d'Ivoire through the markets of Lola and Beyla (between August and October). After the maize harvest in Guinea (between November and February), maize flows into Côte d'Ivoire and also into Mali (Kankan–Bamako trade route). Throughout the year, maize is exported to Guinea-Bissau, through Boké and Saréboïdo, and to Senegal, through Koundara and Mali (in Mali prefecture).

Kankan and Beyla are two key markets in the domestic and cross-border trading systems for maize. Beyla is a key market, receiving trade flows from Côte d'Ivoire and the surplus of producers in Guinée Forestière region. Kankan is the largest wholesale market in the country for maize and stocks are accumulated there after the harvest period. Large traders supplying the Conakry market source maize from the Kankan market, and Ivorian and Malian traders sell their supplies there.

Source: FEWS NET 2013.

Third is *regional trade,* which occurs along international corridors for a handful of foods for which important complementarities arise between surplus production and demand areas. Trades in livestock and maize are the prime examples.[14]

Each type of trade raises different policy issues. For example, arbitrage trade poses the important question of addressing distortions among markets. Border trade challenges us to think of regions on each part of the border as an integrated space from an economic point of view. Regional trade raises the question of policing regional transit and logistics corridors. Furthermore, because the nature of trade differs depending on the food staple under consideration, thinking of differentiated approaches may be helpful, depending on the staple market being considered.

Livestock

For local production, livestock exports are by far the most important traded product in the ECOWAS space. Exporters are the Sahelian countries, serving the coastal markets. According to the strategic action plan of ECOWAS (2010), intraregional exchanges have increased over the past years but still face numerous barriers.

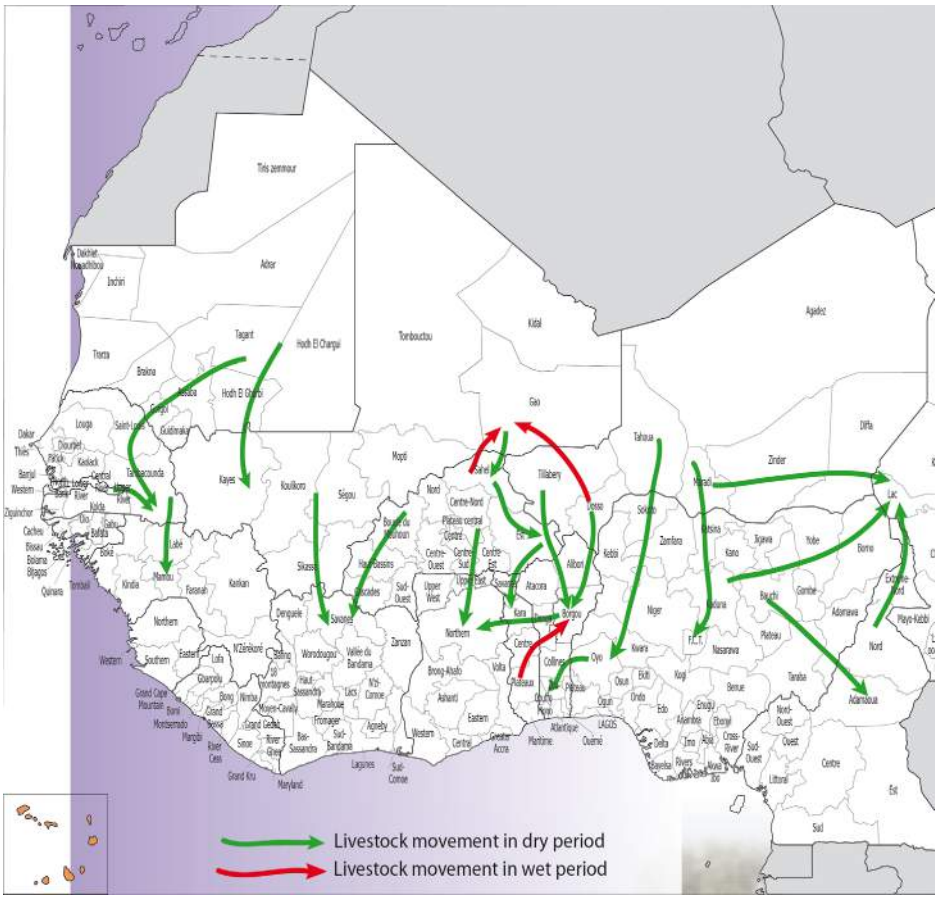
Cattle and small ruminant exports from Mali and Burkina Faso amount to, according to Josserand (2013), only $451 million (the majority, $408 million, being cattle) for 2012. FAOSTAT official

data report $181.6 million, which is 60 percent lower than the estimate provided by Josserand. UN Comtrade data report $147.8 million in 2012 for the entire region,[15] which is 70 percent lower than Josserand's estimate. Surveys by the Permanent Interstate Committee for Drought Control in the Sahel (Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, or CILSS) report exports of $101.6 million for the last trimester of 2013, consistent with the estimates provided by Josserand.

The data reported by Josserand and CILSS capture two of the three main exporters (Mali and Burkina Faso) but do not include exports from Niger, thus representing a lower-bound estimate of the cattle trade in the ECOWAS space. Additional figures for cattle and small ruminant exports are provided by the Central Bank of West African States (Banque Centrale des Etats de L'Afrique de L'Ouest, or BCEAO) Balance of Payments statistics and suggest that Niger is the largest exporter in the region, accounting for more than half of the exports of the West African Economic and Monetary Union (Union Economique et Monétaire Ouest Africaine, or UEMOA). For 2010, the last year available with export figures for the three main exporters, statistics show exports of $198 million, a number comparable to those reported in official statistics.[16] Niger is the main exporter, with a bit less than 60 percent of this total. Kamuanga and others (2008) estimated that every year more than 2 million cattle are driven in transhumance to Benin, Burkina Faso, Chad, Mali, and Nigeria (map 1.2). If one recognizes that Chad is itself a large exporter with various estimates of exports of 550,000–700,000 heads of cattle (Kossou 2013) and Mali and Burkina Faso export an estimated 730,000 heads (Josserand 2013), these figures are broadly consistent with estimates that put the exports of Niger above or on par with the exports of Mali and Burkina Faso together. Therefore, one can safely assume that exports of cattle in ECOWAS are above the $800 million mark.

For the period 2008–10, official statistics from BCEAO suggest a decline in regional exports of live animals by about one third, followed by a rebound (figure 1.7). However, the region is a net importer of processed animal products, meats, milk, and eggs (Kamuanga and others 2008). Urbanization and the changing consumer tastes that come with higher incomes are again pushing demand higher, and demand seems to be consistently outstripping supply. Of course, the region may not have a comparative advantage in processing operations because of the relative capital intensity of those operations for livestock compared with those for agriculture and because it depends on carefully controlled supply chains (for example, for temperature) to ensure minimum health standards. Nonetheless, some untapped potential appears to exist in this area given the advantage of having production sources close to demand sources. Adding value of this type is addressed in more detail in chapter 4 (value chains) of this report.

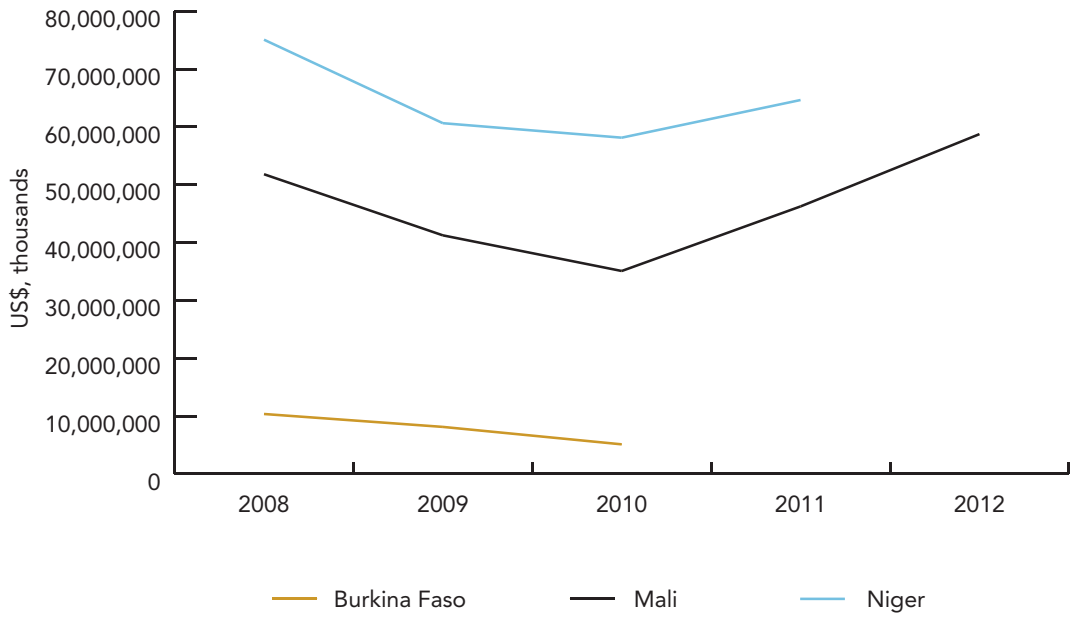
Map 1.2 Cross-Border Transhumance Routes of Livestock, West Africa



Source: Kamuanga and others 2008.

Recent surveys from CILSS (2014) show that exports from Mali are principally destined for Senegal and Côte d'Ivoire and, to a lesser extent, Guinea, while exports from Burkina Faso are bound toward Benin, Côte d'Ivoire, Ghana, Niger, Nigeria, and Togo. According to the World Bank (2010), 90 percent of Niger's exports are destined for Nigeria. The main destination markets in the region are, in order of volume, Nigeria (by far the largest market in the region), Ghana, Côte d'Ivoire, and Senegal. According to Keturakis (2012) 90 percent of cattle in Côte d'Ivoire are imported from Mali. This represents a change from the not-so-distant past when more animals were sourced from Burkina Faso and even Niger. The change in sourcing arose because train services from Burkina Faso have decreased and demand from the two main markets in the region—Nigeria (where prices are higher) and Ghana (where payments are in cash and easier)—has pulled supply away from Côte d'Ivoire. In

Figure 1.7 Exports of Live Animals, 2008–12



Sources: Central Bank of West African States (Banque Centrale des Etats de L'Afrique de L'Ouest), Balance of Payments; World Bank, World Development Indicators for exchange rate.

addition, competition in Nigeria from Mali and Burkina Faso producers has affected Niger's export prospects there (World Bank 2010). Some transit also occurs through Côte d'Ivoire (to Ghana) and Benin (to Nigeria).

Cattle trade is the largest in value, but the trade for small ruminants (sheep) is also important, especially from Mali, with Côte d'Ivoire as the main destination market. Mali represents about 60 percent of exports to Côte d'Ivoire, and 40 percent originate from Burkina Faso (Keturakis 2012).

Maize

For eight of the ECOWAS member countries,[17] estimates from market surveys (Josserand 2013) value trade flows in maize at $65.6 million in 2011. Comtrade data report a value of $16.9 million in 2012[18] for the entire ECOWAS region, which is 75 percent lower. FAOSTAT official data report a value

of only $3.2 million for 2011.[19] Although the figures lack precision, the value of livestock trade clearly far outstrips the value of maize trade in the region. This finding is generally true for other grains in the region as well.

Recent CILSS surveys provide another source of information.[20] To date, surveys for only the last quarter of 2013 are available. They report $7.1 million of trade in maize. These estimates suggest trade flows that are below those estimated by Josserand (2013).

Where does the maize trade occur? The largest sources of exports are Côte d'Ivoire, Nigeria, and Burkina Faso. Exports also come from the coastal countries of Ghana and Benin (Maliki Amadou 2014). Transit trade also occurs through countries such as Ghana (Fernandez and Cook 2014). Mali is a recent exporter because it is experiencing a surplus at the national level. The maize production has more than tripled over the past 20 years, fueled by input subsidies and by an increase in domestic and foreign demand (Staatz and others 2011). Main destination countries are both north and south of production zones, toward Niger, Senegal, and Burkina Faso.

Burkina Faso is both exporter and importer: this fact suggests that the country's regions may trade with neighbors rather than with each other and that Burkina Faso is a transit market. Trade with neighboring countries is motivated by seasonality. Maize is imported from Côte d'Ivoire (notably during the soudure period, or hunger season, in June–July, corresponding to the harvest period in Côte d'Ivoire). It is also imported from Ghana in the West and Central Cascade region and is exported to Ghana for two to three months after its October–November harvest (WAFM 2014). Pannhausen and Untied (2010) report that exports of maize in Burkina Faso are a relatively recent phenomenon—the result of production growth outstripping domestic demand growth, as in Mali.[21]

These recent phenomena could explain why no traditional trade ties existed with other regions in Burkina Faso and why the surplus production then was directed toward presumably more attractive demand (either because of transportation costs or price offered) across the border. Such nontraditional trade flows are being challenged; according to Pannhausen and Untied (2010), these exports are perceived as running counter to the objective of reducing national deficits in food staples and promoting food security.

In the case of Côte d'Ivoire, a survey conducted in 2012 (Keturakis 2012) shows that Bouaké, the second-largest city in Côte d'Ivoire (in the center of the country, north of Yamoussoukro), is a major market shed for maize, and much of the maize traded in Côte d'Ivoire passes through this market. The data also show that much of the exported maize passes through this market. In addition, the data indicate that exports are about 34,752 metric tons (MT) per year. This amount values the exports from

Bouaké at about $8.5 million.[22] For an overall perspective, CILSS (2014) reports for the last quarter of 2013 that Côte d'Ivoire had 10,336 MT of exports at a value of $2 million.

Millet, sorghum, and fonio

Estimates from the USAID Agribusiness and Trade Promotion (ATP) survey for 2011, show exports of millet and sorghum from Burkina Faso, Mali, and Nigeria that amounted to 69,111 MT. FAO reports 19,269 MT only (85 percent less), with almost no reporting of Nigerian exports. CILSS reports 30,400 MT over the last three months of 2013 alone, thus suggesting much larger trade than captured by both FAO and the USAID ATP survey.

Josserand (2013) estimates that exports of sorghum on 14 bilateral routes (not including Nigeria) in ECOWAS amounted to $20.2 million (44,200 MT) and exports of millet on 11 bilateral routes amounted to $8.1 million (17,800 MT). This number for millet might underestimate reality: the CILSS survey for the last three months of 2013 shows exports of $7.3 million for millet. For sorghum, CILSS reports $6.2 million in exports, consistent with the estimates provided by Josserand (2013).

In the absence of more complete estimates, venturing a figure for the total regional trade of sorghum and millet is difficult. The trade can be valued as at least $30 million according to the partial estimate in Josserand (2013).

According to CILSS, the main two routes for millet and sorghum exports are from the Pouytenga market in Burkina Faso toward Benin and Ghana and from the Dawanau market in Kano, Nigeria, toward Niger (see box 1.4).[23] WAFM (2014) also reports exports from Burkina Faso toward Niger. According to Keturakis (2012), Côte d'Ivoire imports about 35,000 MT per year of millet from Mali and Burkina Faso, which are valued at $10.5 million.[24] This figure tends to support the hypothesis of a higher level of regional trade than reported by Josserand (2013).

With regard to fonio, FEWS NET (2013) reports that major cross-border trade flows from Guinea to Mali and Senegal, but estimates are not available. Smaller quantities are exported to Guinea-Bissau and Côte d'Ivoire.

Rice

Josserand (2013) estimates regional trade flows of parboiled rice as being very modest, about 3,000 tons, and acknowledges that these estimates probably account for less than 10 percent of what is really traded. CILSS (2014) reports 2,741 tons for the last quarter of 2013, for a value of $1.5 million, a num-

Box 1.4 The Dawanau Market of Kano, Nigeria

Dawanau market is the largest grain market in West Africa. Created in 1985, the market houses more than 10,000 stores and 662 warehouses (averaging 6,000 cubic meters each).

It occupies an area approximately 3 kilometers long and 400 meters wide. It is divided into five zones: cowpeas (niébé) and sesame crops in zone A; groundnut, wheat, and cassava in zone B; yams in zone C; and maize, millet, and sorghum in zone D. Zone E is used by transporters.

The market has a roster of 27 groups, and some are specialized by crop or product. Vendors must belong to one of these groups to operate in the market. In 1996, these groups created an umbrella organization, the Dawanau Market Development Association.

All the ethnic groups in Nigeria are represented in the market, as well as merchants from the subregion (mainly from Niger, Chad, Cameroon, Benin, Togo, Ghana, and Mali). The market is a purely private enterprise and is open every day from 6:00 a.m. to midnight in the off-season and around the clock in the high season. Sales are mostly of crops grown in northern Nigeria: cowpeas, maize, sorghum, millet, and rice. Thousands of people work in and around the market including more than 4,000 warehouse staff members, 500 security guards, immigration agents, police officers, and so forth.

Credit can be readily obtained at the marketplace itself (in an informal manner). Prices fluctuate very rapidly, and merchants make heavy use of their networks (transporters, food processors, and so forth) to stay abreast of prices, quantities, and other factors via mobile phone.

Source: Inter-réseaux Développement rural 2010.

ber that still seems modest compared to actual trade. According to Comtrade data, formal ECOWAS exports of rice (all varieties) within the region amounted to $105.6 million in 2012 (down from $233.6 million in 2010), of which 74 percent is broken rice and the remainder is milled rice for the most part. These figures reflect important transshipment trade flows between countries (for instance, large trade flows between Benin and Mali in 2010 data and large flows between Senegal and neighboring Mali over the period 2010–12).

According to Campbell and others (2009), informal exports of rice are mostly from production locations close to borders. For example, informal trade has been observed between the Senegal River Valley and Mauritania, where rice prices were higher. According to the same study, trade from surplus areas to urban markets remains within the country of production, because high transport costs and customs formalities tend to discourage exports.

Rice is both produced and imported in the region. Most of the trade in rice within the region is actually trade of imported rice. Flows of imported rice in West Africa occur nearly everywhere in the

Box 1.5 Regional Trade and Food Crises

In the past 20 years, West Africa has witnessed several important food crises—in 1997–98, 2002, 2004–05, and 2007–08—that have highlighted the importance of regional trade in food staples in several ways.

First, food crises create new incentives for regional trade as food deficit countries turn to neighboring countries to fill their food deficit. For instance, Niger turned to Burkina Faso in 2002 to restock its safety reserves, and merchants from Niger depended on supplies from Benin and Ghana for maize purchases during the 2004–05 crisis (Terpend 2006). After the food crisis of 1997–98, Burkina Faso turned to Mali for cereal imports (Terpend 2006).

Second, food crises can disrupt traditional supply routes as governments take actions to contain exports and allocate production to domestic consumption first. This approach produces a reaction in trade partners. Nigeria's latest round of trade barriers to rice imports—with the objective of encouraging domestic production and reducing dependence on imports—is a reaction to export barriers imposed by regional trade partners during the food crisis.

Although market protection is one typical, and unfortunate, response to a food crisis, there are also pressures that push in the opposite direction. Net importers come under pressure from primarily urban consumers to ensure access to food staples at low prices. As a result, tariffs are sometimes reduced substantially, or even eliminated, and are not always re-established when the crisis has passed. This situation appears to have been the case for some products following the 2007–08 food crisis. As discussed in chapter 2 of this report, regional instruments in principle limit countries' range of actions with regard to restricting trade, although export measures are a legal gray area. Nonetheless, implementation on the ground of regional instruments differs greatly from country to country. In addition, monitoring at the regional level has generally not been effective in avoiding beggar-thy-neighbor trade policies that might temporarily improve domestic consumption conditions, but at the cost of negative effects for other regional producers and sometimes consumers too.

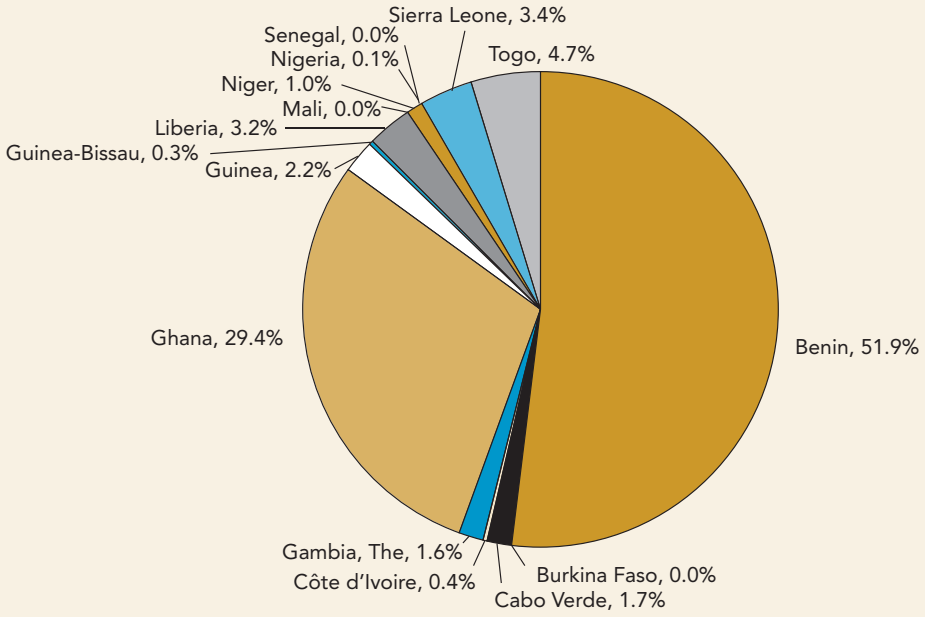
region. According to Campbell and others (2009), this trade is very significant: "for example, as much as 800,000 MT of rice are formally imported into Benin in some years, but the bulk of these imports are parboiled rice, which enters the Nigerian market through informal channels." Regional shares of rice imports indeed show that Benin is among the largest importers in the region with 11 percent of total imports landing in Cotonou. A similar phenomenon of arbitrage trade occurs for imports of poultry meat (box 1.6).

Government policies often create the incentives for arbitrage trade and also try to prevent it (see box 1.5). A study by the Bill and Melinda Gates Foundation (2012) reports that despite the ban on rice exports in Burkina Faso, the measure is very difficult to enforce. Local traders still find ways to export, leading to unofficial estimates that up to 20 percent of locally produced rice paddy from Burkina

Box 1.6 Arbitrage Trade: Imports of Poultry Meat in ECOWAS

Imports of poultry meat in ECOWAS countries are essentially destined to the wealthier Nigerian and Ghanaian markets. However, looking at import figures, one notes that there are almost no recorded imports in Nigeria (figure B1.6.1), which has a ban on imports, and that half of the region's imports (over US$300 million) land in Cotonou, where they are transshipped to Nigeria. Some exports to Ghana are also intended for Nigeria as the end destination market.

Figure B1.6.1 Imports of Poultry Meat in ECOWAS, 2012



Source: Comtrade.

Faso leaves the country illegally. In Guinea, the importation of rice is subsidized (through import duty exemptions and import subsidies),[25] and according to FEWS NET (2013), the government exerts pressure on private importers and distributors to maintain prices at relatively low levels. In several instances as well, the government has freely distributed rice in the major urban centers. Reportedly, rice is informally reexported to neighboring countries because its price is often lower in Guinea than in neighboring countries.

Intraregional patterns of trade deflection for rice are difficult to identify. One can assume that the largest rice-deficit countries in West Africa (as measured by a share of total consumption in 2006: Benin, Cameroon, Côte d'Ivoire, Ghana, Liberia, and Senegal) are likely to attract these types of trade. In addition, most imported rice is consumed in the coastal regions, especially in the larger cities.

Cassava

Trade in fresh cassava is limited because of the bulky nature and short shelf life of the product. However, light transformation in the form of gari26 or attiéké (a couscous-like product) enables the product to be exchanged. Cassava is also used in producing flour, as a substitute to wheat flour. As the main regional producer, Nigeria exports very limited amounts of cassava to neighboring countries (Niger) in the form of gari (Babatunde 2012). Nigeria also began exporting bread with 20 percent cassava content (as specified by Nigeria's production requirements) in the ECOWAS region in December 2012 (Elazeh 2012; Gaffney and others 2012; see box 1.7). Ghana also exports cassava products to Burkina Faso and Niger (WAFM 2014). According to International Trade Centre statistics reported by WAFM (2014), Ghana's exports of gari to Niger totaled $16.2 million in 2012, which suggests important trade flows in value. According to Keturakis (2012) and FEWS NET (2013), a vigorous trade exists between Guinea and Sierra Leone. Interviews conducted by USAID staff estimated that gari imports from Sierra Leone, via both the Forécariah crossing and the pirogues (small boats) that transit between Conakry and Freetown, amount to more than 164,000 MT per year. In contrast, exports of cassava from Guinea to neighboring countries (Guinea-Bissau, Senegal, and Mali) are usually minor. Finally, attiéké is traded regionally with increasing importance.

Yams, sweet potatoes, and other crops

Transportation and storage of yams and sweet potatoes are difficult because of their short storage life and the threat of damage during transportation. The region's largest producer for both staples is Nigeria. However, Nigeria exports very few yams according to official statistics. Sweet potato exports are also relatively marginal (less than $200,000 reported by Comtrade) in trade with Niger and Chad (Bergh and others 2012a). Most of the yam export trade is toward outside markets. According to the Nigerian Food Export Promotion Council, Nigeria exported $583 million of yams in 2009 (Bergh and

Box 1.7 Nigeria's Policies to Promote Cassava Flour

Nigeria is in the process of implementing a cassava flour policy that will mandate the inclusion of 40 percent cassava flour in bread. This policy follows the first mandatory inclusion of 10 percent cassava flour under an earlier Presidential Special Initiative. That initiative failed largely because millers could not secure a regular and quality supply of flour and because of general resistance by millers and bakers.

Learning from the lesson of the first initiative, the government has built a raft of incentives, particularly for investors, that include providing bakeries with a time frame of 18 months to make the transition and a corporate tax incentive of a 12 percent rebate. All equipment for processing cassava flour and related inputs (for example, enzymes) will enjoy duty-free importation into Nigeria. Cassava flour importation will be banned, and imported wheat flour will attract a total tax of 100 percent while wheat grain will attract a tax of 20 percent. The government also plans to use part of the 65 percent levy charged on wheat imports to create a Cassava Bread Development Fund that will support cassava value chain development. The fund will be used to train more than 400,000 master bakers in production of cassava bread, promote research and development, and bring in new equipment. A Cassava Market and Trade Development Corporation has been established as the primary vehicle for implementing value-added chain activities. The primary activity of the corporation is market development, including advocacy with potential users of cassava-based products and policy makers, to ensure reliable demand.

Although these measures will likely boost demand for cassava in Nigeria, and potentially lead to exports of flour and other processed products, they introduce major economic distortions into the relevant markets. In combination with the restrictions on importing wheat and wheat flour, the support for cassava use is effectively a local content requirement. Over the medium term, it will do little to promote genuine competitiveness in the cassava value chain, and it may even hinder development because it reduces pressure from suppliers of alternative products. Moreover, Nigeria's measures are being implemented unilaterally, which has potentially serious implications for the ECOWAS market in food staples—a market that should, in principle, be relatively free of intraregional distortions. The potential for negative effects on other countries in the region is significant.

Source: DePetris-Chauvin and Mulangu 2014.

others 2012b). Ghana is the main exporter of yams in the region, but according to FAO, most exports are destined for European markets (FAO 2013).

Very little data are available about the cowpea (niébé) trade, yet exports of the product seem locally important. For instance, according to BCEAO, Niger exports of cowpeas totaled $92.7 million in 2011.

Market Sheds without Borders: Informality as the Motor of Regional Trade

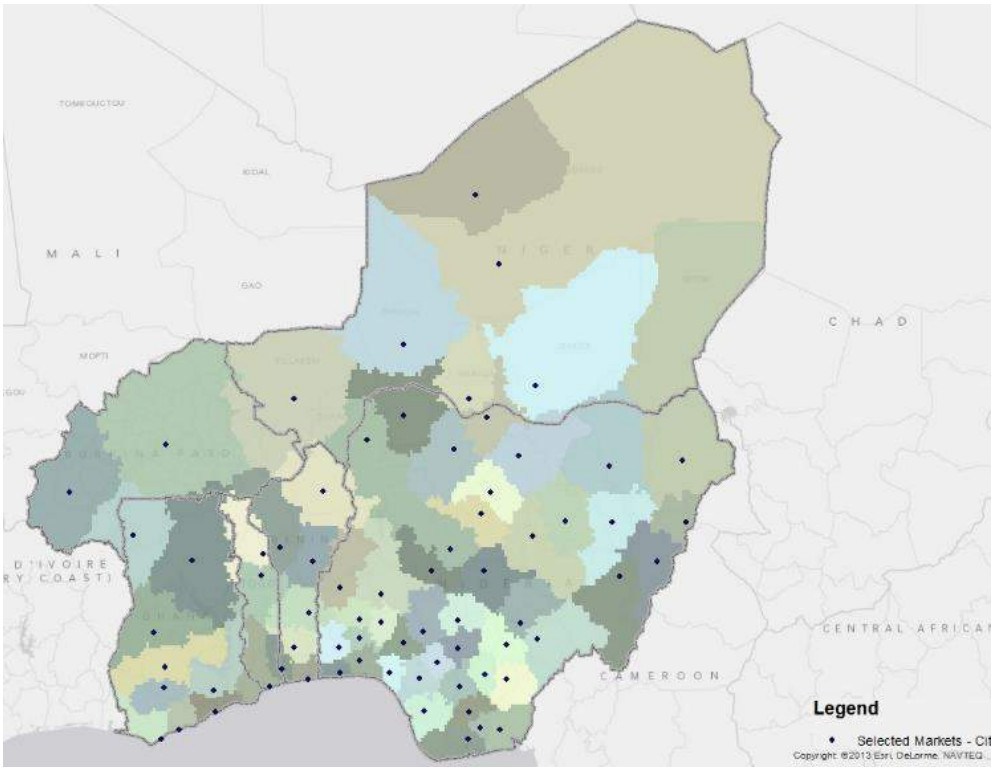
Better links between areas of food production surplus and areas of consumption would very likely dramatically expand the scope for regional trade. Existing trade flows in the region indeed suggest a regional environment that severely limits exchanges because of costly and complex policies and inadequate infrastructure. Furthermore, the growth of urban areas means that centers of consumption are becoming more distant from areas of production, which may lie across borders, thus requiring better market connections between more distant areas.

The existence of barriers to trade is thus stunting the development of larger markets in the region. One way to illustrate the potential for larger markets is by identifying "natural market sheds"; these highlight areas and crops for which there is actual and potential trade. The concept of market shed used in this report is different from that used in other research such as Haggblade and others (2012):[27] we define market sheds as the geographic area closest (measured by transport cost[28] to the market of goods traveling by the least-cost path over existing roads) to each individual market outlet. In accordance with the literature (including Haggblade and others 2012), we use a definition of market outlets as cities with a population greater than 100,000.[29] Market outlets are closely related to distribution markets: available information on food markets suggests also that markets are situated in or close to large population centers. Therefore, the concept of a market outlet can be understood both as a place where consumption of foods may have to be sourced from the market shed and as a place where input and product distribution markets are situated and where food staples are traded.

The exercise is performed for six countries of ECOWAS for which detailed spatial and transport cost data are available: Benin, Burkina Faso, Ghana, Niger, Nigeria, and Togo. Map 1.3 shows market sheds in the six countries, each with a different color. The map shows that many market outlets should have, as natural market sheds, zones that extend to neighboring countries, between Nigeria and Niger, Burkina Faso with Ghana and Niger respectively, or the eastern part of Togo with Benin. It should be noted that by construction, the map ignores potential market sheds with other neighboring countries (such as Cameroon, Chad, Côte d'Ivoire, and Mali). With regard to cross-border market sheds, the map also assumes that all border crossing points (that is, any point at which a road crosses the border) can be used.

In principle, border flows should cross only at customs international border posts, which are limited in number. However, the reality is different, and informal trade renders formal border crossing rules largely ineffective.

Map 1.3 Market Sheds without Border Posts, Six West African Countries



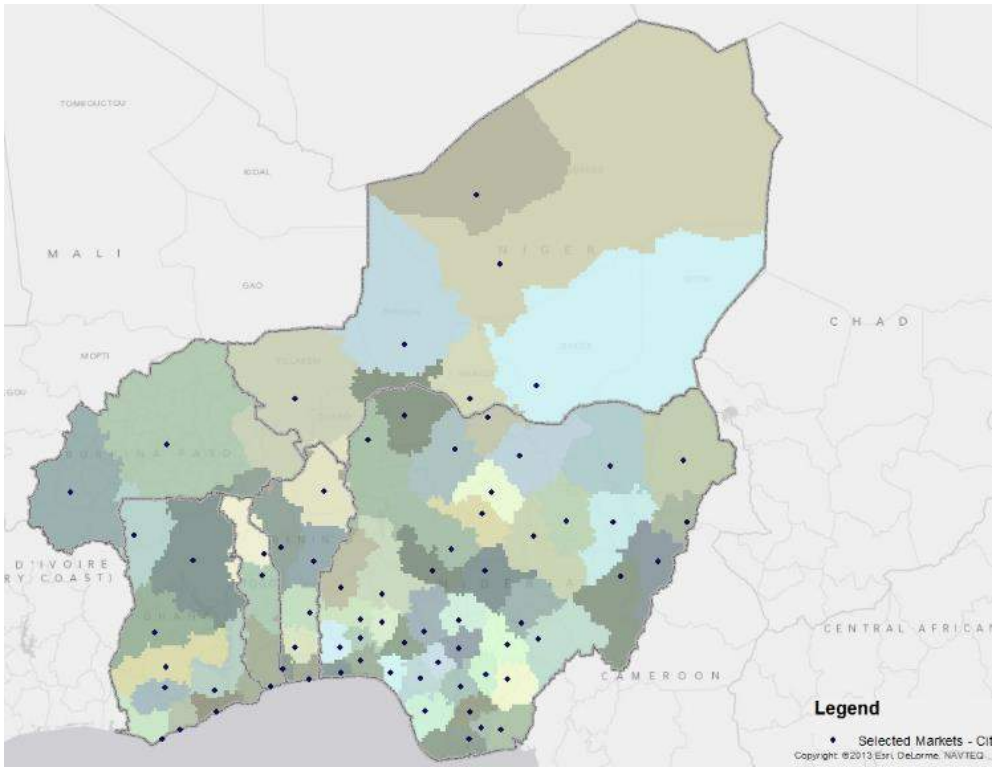
Source: Authors.

To illustrate how the enforcement of formal border crossing rules would affect market sheds, map 1.4 shows the way market sheds would look if transport had to pass through formal border crossings.[30] The effect is quite dramatic for some regional market sheds, which disappear altogether. We calculate that as many as 3.6 million people could be cut off from potential market outlets.

Arguably, this mapping exercise offers only a rough approximation of the reality on the ground, but it highlights a very important point. This exercise suggests that some large market sheds exist only through informal trade, using border crossings that are not monitored by border agencies (something that is confirmed by a recent survey of informal trade flows by Benin's National Institute of Statistics and Economic Analysis). It also suggests that trade in peripheral regions that are more likely to be subject to food crises and imbalances would suffer heavily from the formalization of trade flows.

Further evidence of the effect of relatively low incidence of enforcement of borders on patterns of trade is provided by a careful analysis of the determinants of food prices in the region by Portu-

Map 1.4 Market Sheds with Border Post Crossing, Six West African Countries



Source: Authors.

gal-Perez and Brunelin (2013). They find that although borders have a statistically significant segmenting effect on markets that is demonstrated by variations in prices across borders, that effect typically is relatively modest: between 2 and 23 kilometers of distance equivalent for the five grain crops they covered in their survey. This finding illustrates in our view the reality of unregulated trade flows, which tend to unify markets across borders into a uniform economic market shed as illustrated earlier. Brunelin and Portugal-Perez (2013) find in particular that Benin, Burkina Faso, Côte d'Ivoire, Niger, and Nigeria, have the lowest estimated borders and are thus the most regionally integrated, reflecting the intense cross-border trade of grains between those countries. This finding corroborates evidence observed in Niger of trade with Nigeria that dampens price fluctuations of food staples (World Bank 2013) and, to some extent, shields food staple prices from major external shocks (see box 1.8).

However, research shows also that local markets are segmented and that the relative price of the same product in two markets shows more variation over time if the two markets are separated by a bor-

Box 1.8 What Is the Cost of Using Different Currencies?

Niger's heavy reliance on trade with Nigeria, for both agricultural exports (livestock and cowpeas) and imports (coarse grains), means that movements in the CFA franc (CFAF)–naira exchange rate are a potential source of market risk. In fact, parallel market data from both sides of the border show that the CFAF–naira exchange rate is relatively stable for monthly exchange rates for the period January 2003 to October 2011. Moderate (5 to 15 percent) changes occur occasionally because of border closures, as in 2003 (presidential elections in Nigeria), 2005, and 2008 (food shortages in Niger), but these are short lived. Moreover, the Nigerian restrictions on foreign currency trade do not appear to restrict the parallel foreign currency market. This finding is attributed to the relatively open border between the two countries, active trade in both directions, and the preference of Nigerian people to hold the CFAF as a reserve currency rather than the naira.

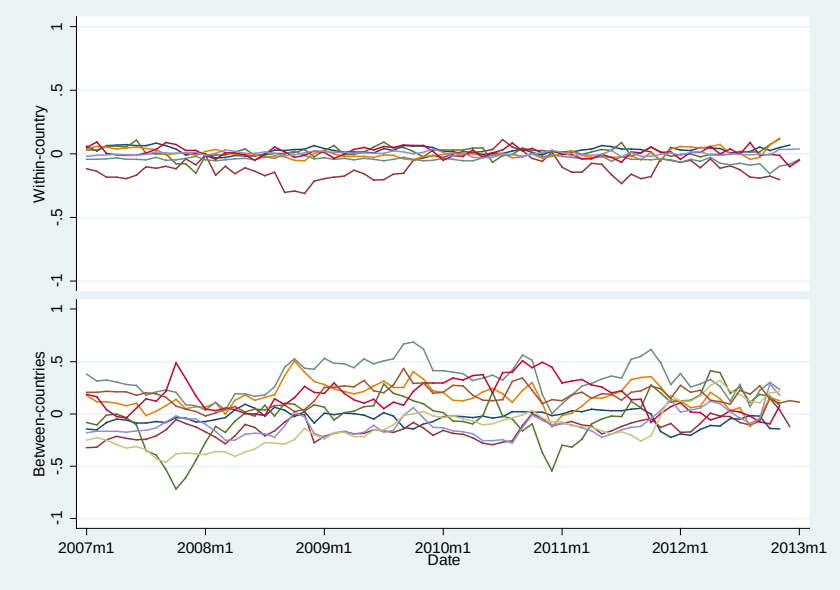
Source: World Bank 2013.

der than if they are in the same country. This evidence shows that transaction costs are greater between towns located in different countries than those located within the same country. Transaction costs may be due to longer distance between markets located in different countries than markets within countries, or to the cost associated with crossing borders. This also means that domestic markets are much more integrated than regional markets and suggests that there are missed opportunities with regard to further regional trade, which would reduce the volatility of prices. (For the prices of millet, figure 1.8 shows more variation between prices across a border than between prices within a single country). Furthermore, border barriers may become more important in the future, especially when a food crisis occurs or when trade opportunities grow. In particular, the research confirms the importance of hard infrastructure constraints as a segmenting factor of markets. If such constraints were eased, border costs would come to matter more.

Connecting Markets

Beyond transport constraints, markets are defined by the availability of produce and location of consumption. Although urban centers at the heart of market sheds certainly play a crucial role in the trade of food staples, further investigating the location of geographic areas with highest trade potential is useful. We thus estimate for each market shed the food production–consumption balance[31] for cassava and maize, the two staples for which we have information. The balance simply provides an estimate of

Figure 1.8 Average Relative Prices (logarithm) for Millet, January 2007 to January 2013



Source: Brunelin and Portugal-Perez 2013.

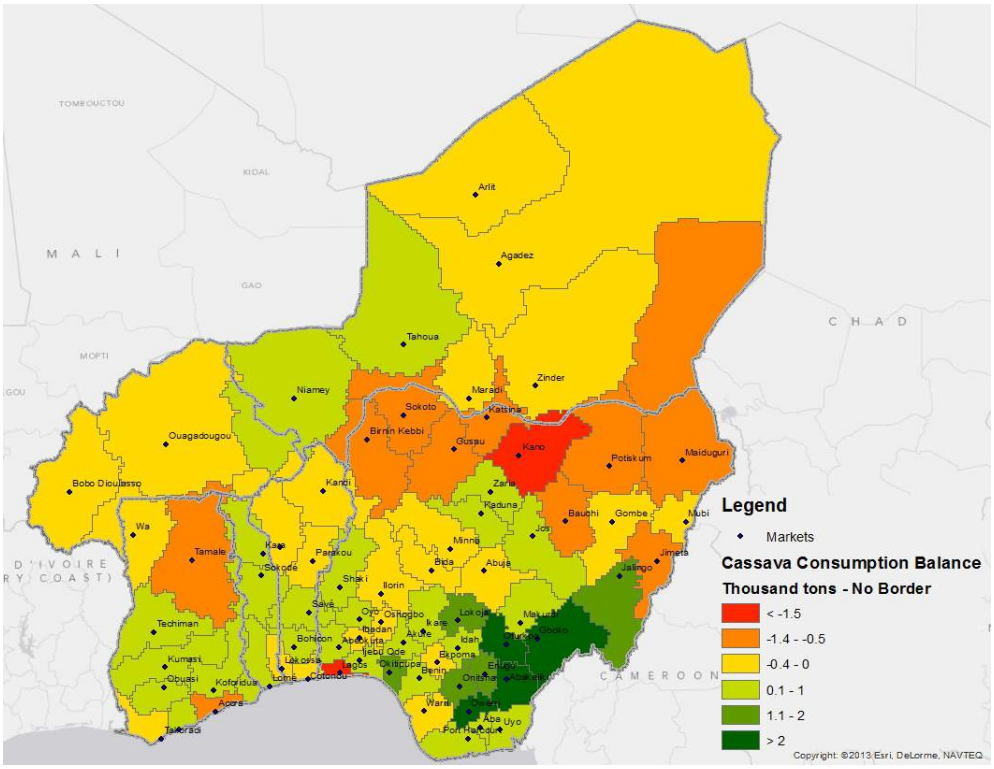
Note: Each line represents a country (top of the graph) and a country pair (bottom of the graph). In the latter case, only country pairs with common borders are plotted.

market sheds with potential surplus and deficits (in thousands of tons for each market shed) for a given crop.

For cassava, the Southeastern part of Nigeria is the main surplus area, whereas the Northeastern portion of the country and most of Niger is in deficit (map 1.5). This situation is confirmed by the fact that Nigeria is a source of limited regional cassava exports. Togo also generally appears as a zone of light surplus overall, whereas the Northern portion of Ghana and Benin experience deficits. The Southern mainland parts of Benin and Ghana also show light surplus. However, for maize the situation is the reverse: the Northern portion of Ghana and Benin display surplus (which they export to Burkina Faso), whereas Togo displays deficits. Northwestern Niger shows cassava surpluses, with bordering deficit zones in Eastern Burkina Faso and Northwestern Nigeria.

With regard to maize, different zones appear as surplus areas (map 1.6). The middle and northeastern portions of Nigeria and the northern portion of Ghana suggest potential to serve other areas. Next to the Ghana zone of surplus, Southwestern Burkina Faso is also an area of surplus. Although

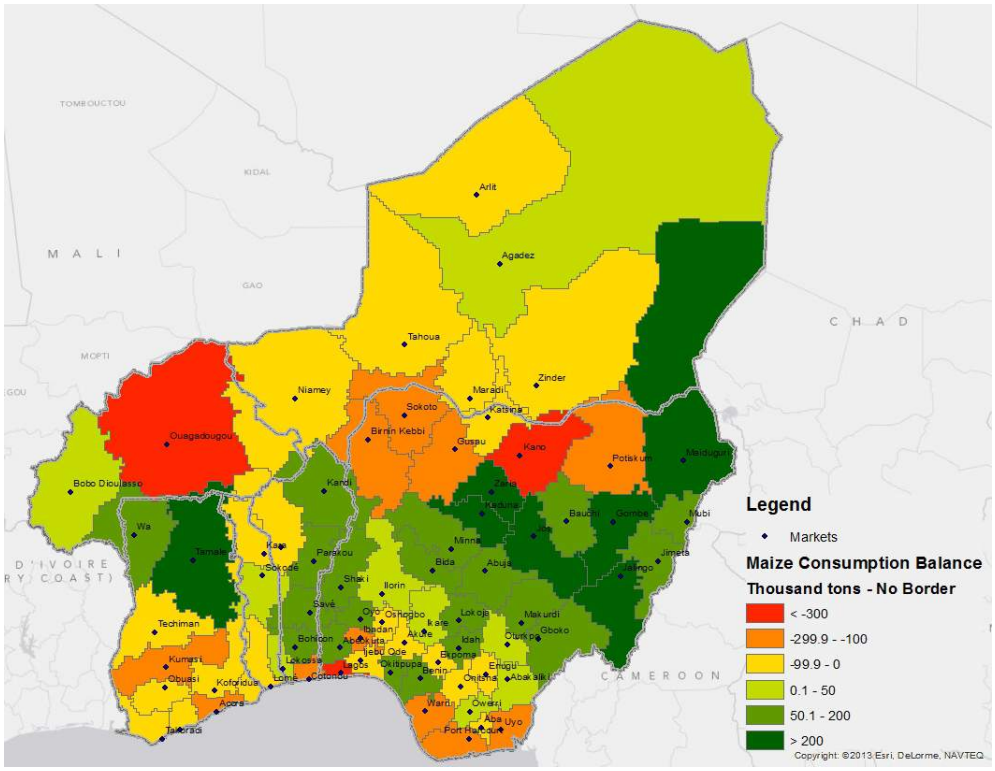
Map 1.5 Surplus and Deficit Markets of Cassava, Six West African Countries



Source: Authors.

this analysis does not enable us to infer actual trade and in particular whether that trade would be domestic or regional, confronting this with other information on trade flows provides an interesting perspective. A first example is the contrast we observe between the surplus zones in Southern Burkina Faso and the deficit zones in the rest of the country, which tallies well with the fact that some policy makers would like to see the observed export flows to the region from that portion of Burkina Faso instead serve the deficit markets in the country. This political stance reflects a reality that we observe here, but whether it constitutes the optimal economic decision remains to be seen. A second example is the important surplus zone in Northeastern Ghana. Although geographically close to regional markets, Ghana is not a major source of exports according to available information. This may mean instead that surpluses are directed to the coastal regions of Ghana, for domestic trade purposes only, thus offering a contrast with the situation in Burkina Faso. Maize deficits appear in Northern Nigeria and Burkina Faso, as well as Southern Niger (which imports from Nigeria through Kano), Southern Ghana, and Southern Nigeria.

Map 1.6 Surplus and Deficit Markets of Maize, Six West African Countries



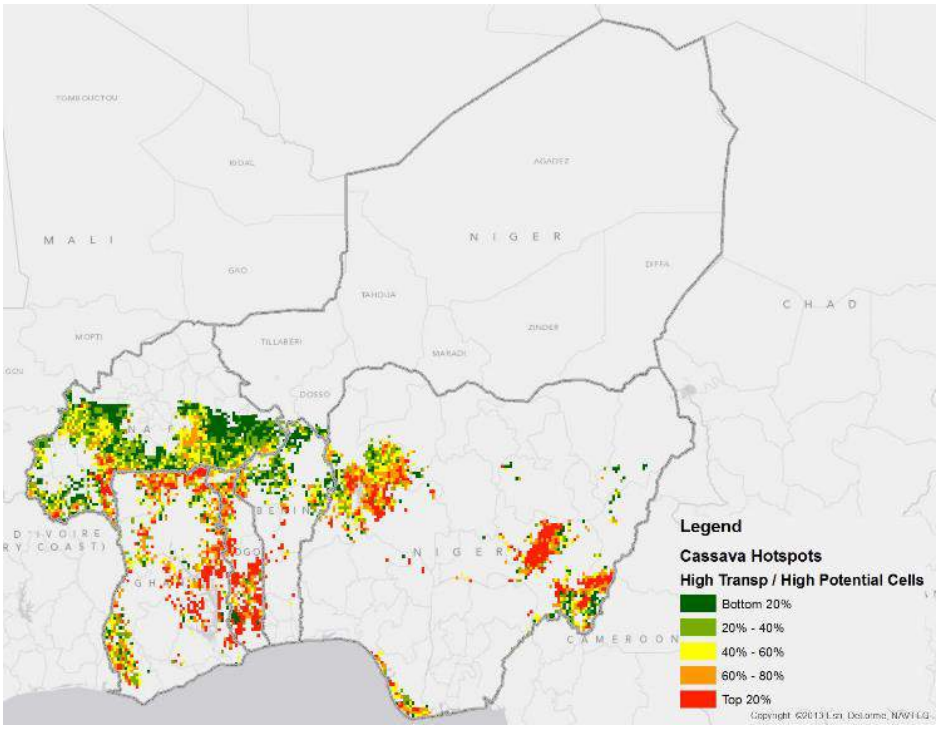
Source: Authors.

From the perspective of investment planning, identifying areas that have high potential for sustainably expanding production but low connectivity with markets is also useful. These may be areas where investments in expanding or improving transport infrastructure, in particular, making "last-mile" connections in rural areas, might have a high payoff. So, in a second simulation exercise, we identify areas that (a) have high production potential, according to FAO estimates based on agroecological zones; (b) are not in forests or protected areas; and (c) have high transportation costs to the nearest market (of 100,000 or more population) because of absent or low-quality road infrastructure.[32] Although not being simulated here, low connectivity can be further compounded by lack of trade facilitation policies and trade barriers as well.

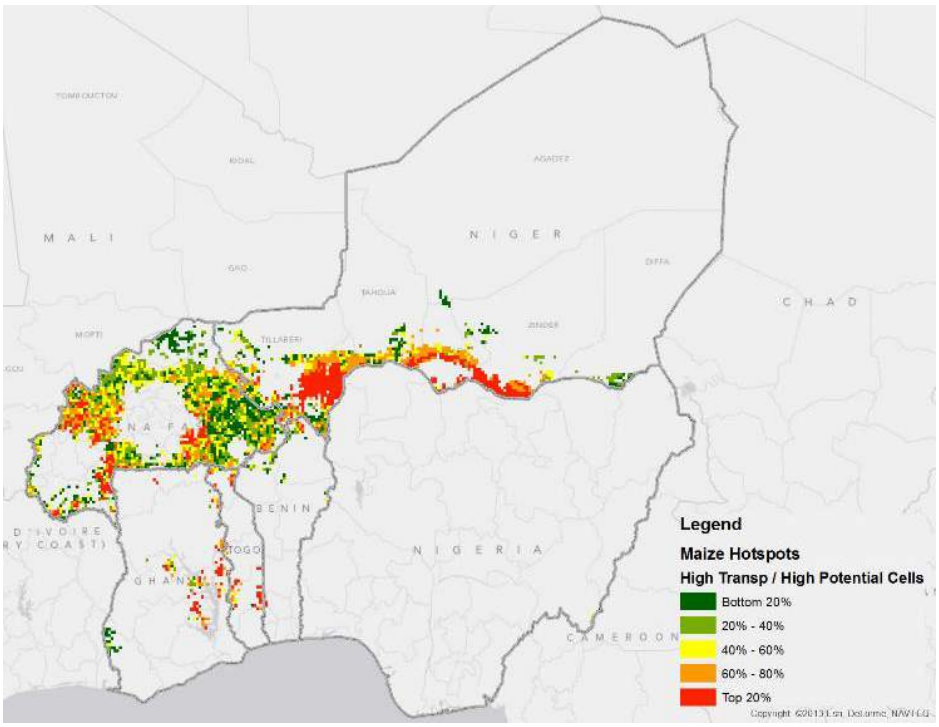
Map 1.7, panels a and b, plot these hot spots for cassava and maize, using red dots to indicate areas with the highest production potential and highest farm-to-market transport costs. This plotting identifies areas where local connections are the worst, therefore reducing any meaningful trade in zones where important production potential exists and also likely making access to important inputs a challenge as well, thus

Map 1.7 Hotspots for Cassava and Maize, Six West African Countries

a. Cassava



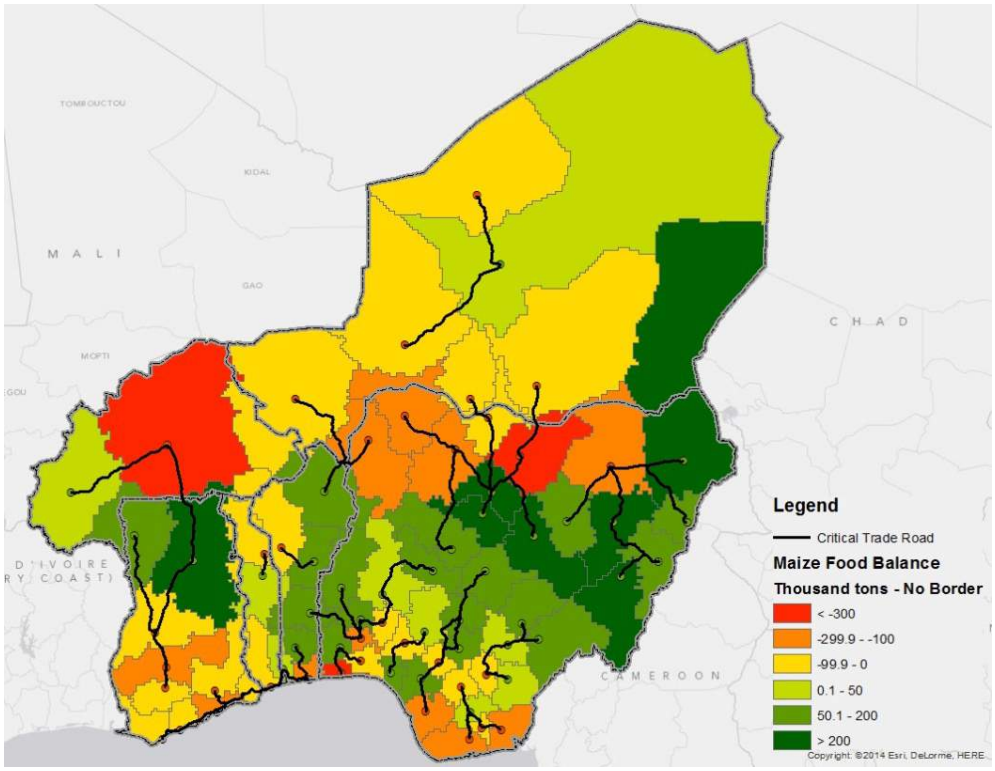
b. Maize



Source: Authors.

Note: Transp = transportation costs.

Map 1.8 Critical Roads for Maize, Six West African Countries

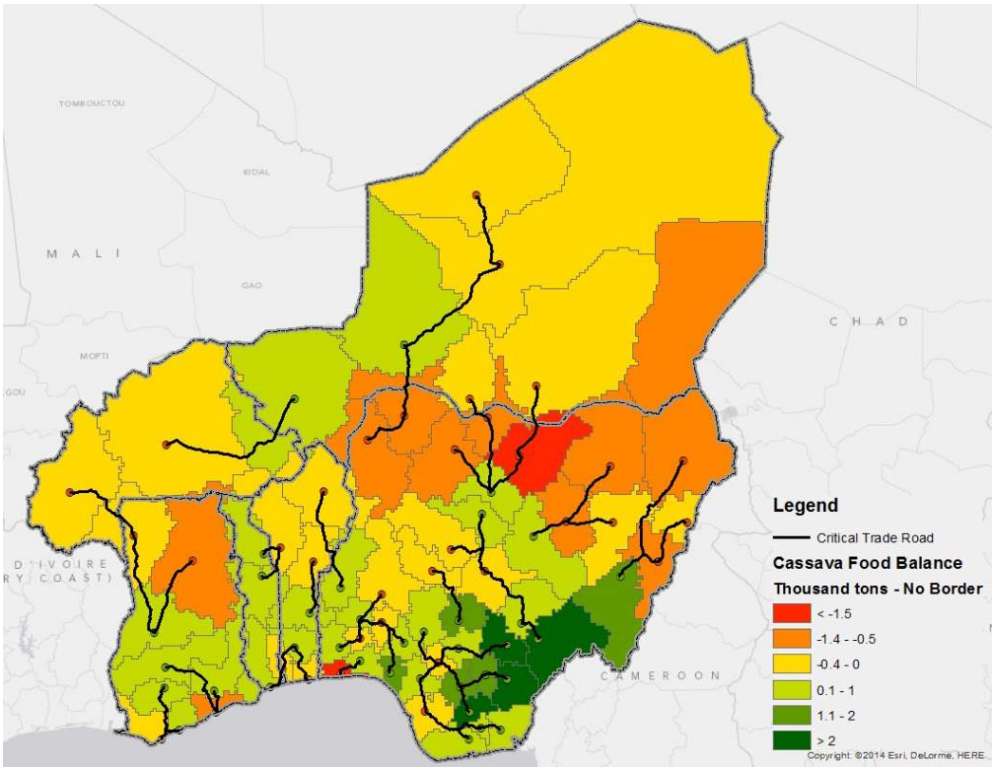


Source: Authors.

stunting any possible increase in production. A high concentration of hot spots is found close to borders, showing production potential that remains unexploited because of difficulty in reaching nearby markets.

The importance of connecting regional markets for the two staples is further illustrated by looking at the lowest-cost routes, based on existing infrastructure, between main surplus and deficit areas (if one assumes that no further costs of crossing borders exists). The resulting critical trade roads show as well the location of important links within countries, the existence of important regional roads between countries such as, in the case of maize, those between Southern Niger and Northern Nigeria, Northern Benin and both Nigeria and Niger or Ghana and Burkina Faso (map 1.8). Map 1.9 shows the critical roads for cassava. Interestingly, some corridors are in common with maize (Northern Nigeria to Southern Niger) whereas other cross-border links are commodity specific. Although this stylized exercise cannot be construed as identifying the most strategic roads because other parameters enter into play (such as availability of transport and ease of crossing borders), it helps understanding the potential importance of regional connections in ensuring food security.

Map 1.9 Critical Roads for Cassava, Six West African Countries



Source: Authors.

Conclusions and Policy Recommendations

The ECOWAS region has a vibrant regional trade in food staples, but this trade is unrecorded. Therefore, it runs the risk of being misrepresented in policy making because at least part of policy measures will directly affect only formal trade. Available rough estimates suggest that about 75 percent of the trade is not captured in official statistics.

The first imperative is to better capture the nature of regional trade and reinforce current initiatives to survey regional trade. This approach requires some effort, but this exercise is comparatively inexpensive and could be easily achieved through regular surveys of informal trade. With better knowledge of regional trade flows and their nature, investments in infrastructure and other policy efforts could be better directed. This effort is foreseen in the ECOWAS Agricultural Information System that is being implemented by the United Nations Office for Project Services. Close monitoring of the correct implementation of this component, with the active involvement of local institutions, will be important.

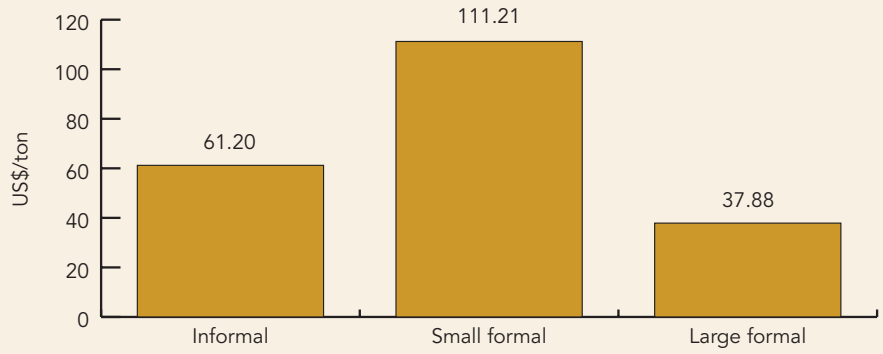
Informal trade accounts for the overwhelming share of regional trade in food staples, yet informal traders are not included in policy planning. The capacity of informal traders to carry out their activities is important with regard to the effect of poverty and to times of food shortages. Therefore, efforts should be directed toward facilitating trade flows carried by small traders by continuing to simplify procedures for trade flows of food staples, including exemptions of border taxes; reducing documentation requirements; and adopting good practices in agencies dealing with them (box 1.9). The time to recognize the economic potential of informal traders and contribute to the expansion of

Box 1.9 Charter for Cross-Border Traders

Informality in general and informal cross-border trade in particular are major features of African economic and social landscapes. For example, about 3 million metric tons of staple food commodities were traded in 2013 in East Africa (FEWS NET 2013). In Southern Africa, thousands of traders cross the borders every day bring in revenues from informal trade of beans, maize, or rice that often exceeds that of formal exports and imports. Such trade is essential for welfare and poverty reduction, because poor people are intensively engaged in the informal production and trading of the goods and services that are actually crossing African borders. Allowing these traders to flourish and gradually integrate into the formal economy would boost trade and the private sector base for future growth and development.

Despite numerous benefits, conducting cross-border transactions remains expensive for small traders in Africa. In particular, small traders face highly regressive costs and have little choice but to trade informally. For example, small traders in Malawi and Zambia pay 62 percent more in per unit terms for border costs than do large formal traders, but they would pay almost double the current informal rate if they switched to the small formal route (figure B1.9.1).

Figure B1.9.1 Border Costs at Kasumbalesa, Democratic Republic of Congo, 2011



Source: World Bank 2014.

(box continued next page)

Box 1.9 Charter for Cross-Border Traders *(continued)*

Although systems are in place to facilitate cross-border trade, such as the current Simplified Trade Regime that eases certain customs processes, a host of registration and other requirements remain in place and increase small traders' costs to uncompetitive levels. Such conditions are particularly burdensome for people with small consignments that may not cover the fixed costs of complying with formal sector procedures. In the case of cross-border trade, this notably includes high customs duties and taxes, as well as procedures at the border that can be time consuming, inefficient, or unclear (for example, customs, sanitary and phytosanitary standards, immigration procedures, and technical regulations).

In response, the World Bank has proposed a Charter for Cross-Border Traders to be clearly posted at borders. The charter enshrines a basic set of rights and obligations for traders and officials that the international community could support through training of officials and carefully defined programs to support behavioral change at the border. The charter is currently piloted at the Mwami–Mchinji border crossing between Zambia and Malawi, and plans exist to extend its application to other borders across Eastern and Southern Africa.

The text of the charter is reproduced below. It was developed by the World Bank in collaboration with local stakeholders. This version of the charter was adopted by the Common Market for Eastern and Southern Africa (COMESA) in 2014 as "Regulations on Minimum Standards for Treatment of Cross-border Traders."

Basic rights and obligations for traders and officials at the border

1. All individuals shall be able to cross the border without verbal or physical abuse or harassment, including but not limited to sexual and gender-based violence.
2. Traders shall be processed at the border in an efficient and timely manner without discrimination. A receipt must be provided to the trader for any payment made and the payment properly recorded.
3. Only officials of the approved agencies are present at the border, and all border officials wear uniforms or ID badges that allow the identification of their respective agency.
4. Physical checks of traders must be recorded with the reason and outcome provided. Female traders have the right to receive a physical check by female officials in a private but regulated and accountable environment.
5. All duties, fees, and taxes and the basis for their calculation are publicly available at the border. Any change to duties, fees, and taxes must be publicly announced at the border, with reasonable time for traders to prepare, before their application. No unpublished fees or charges should be demanded at the border.
6. Documentary requirements should be clearly stated and publicly available at the border. Any change in documents required must be publicly announced at the border with reasonable time for traders to prepare before implementation. Simplified procedures should be applied to small traders.
7. Traders should be aware of their rights and obligations when crossing the border. Traders must present required documentation and pay appropriate duties at the border and obtain a receipt for any payments made to an official. Traders shall not attempt to bribe any

official to avoid payment of duties or obtain preferential treatment in any way, including avoiding queues.

With the support of the international community, governments commit to

1. That by [agreed time] these basic rights and obligations governing cross-border movement of goods and people are clearly stated in the local language and visibly apparent at all border crossings.
2. By [agreed time] at every border post there is at least one agent that has received gender awareness training. All senior officials at the border have received gender awareness training by [agreed time]. Ensure that 50 percent of officials at any border post have received gender awareness training by [agreed time].
3. At all border posts traders have recourse to an independent and confidential mechanism to register violation of any of these basic rights. Female traders must be able to register the violation of any basic rights with a female staff.
4. Apply strict disciplinary measures against officials found to have violated the rights of a trader.
5. Support organizations of informal cross-border traders in disseminating information on these rights and obligations and in delivering advice and information to enhance the capacities of the traders.
6. Continue to improve the quality of infrastructure at all border crossings to provide an open and safe environment for traders, with attention to the specific needs of women traders, and appropriate facilities for officials to undertake their work.
7. Improve the quality of data collected at all border posts on small traders, including the number passing through the border each day and the nature of the goods carried.

economic opportunities for them is here. Smuggling is the result of bad or imperfect policies, not of informal traders.

The nature of intraregional trade is also motivated by different factors, depending on the products. There are three types of trade: (a) reexport and transit of staples imported outside the region; (b) local international trade in border regions; and (c) regional trade of two key productions. With regard to volume and economic value, the regional trade of key productions is the most important factor as far as available statistics tell us. Trade in livestock and maize are the two most important traded staples in ECOWAS.

The examination of informal trade reveals the importance of market sheds that span borders. These markets, which tend to be naturally economically integrated, are artificially segmented by domestic policies. ECOWAS member states may want to consider a number of priority regional markets in the

ECOWAS space. Concerned member states could start working together on how best to address the needs of such markets. This concern already exists to some extent for cattle and small ruminant trade with longstanding regional decisions on transhumance corridors, which are not really being enforced. This approach should be extended for key cereals such as maize and sorghum, as well as for cassava. Rather than using a regionwide approach, which may prove too burdensome, member states could handle these market sheds on a bilateral or subregional basis (but under ECOWAS and UEMOA regional supervision) to develop the necessary bilateral agreements and joint initiatives required to develop these key markets. This strategy would present at least two advantages. First, it would allow partner countries to decide the scope and elements of intervention, with the hope that they choose a value chain approach that holistically considers the problems affecting cross-border flows (transport, standards, border crossings, and so forth), rather than limiting these to a few aspects agreed at the regional level. Second, it would create an element of healthy competition among various regional corridors for these products. Although regional programs have nominally focused on sectors, they have generally not taken a value chain approach to addressing problems in an integrated way.

With regard to volume, regional trade in foods remains modest relative to the importance of the primary sector in the region's economy. This fact points to important market failures in promoting better trade integration. The informality of intraregional trade in food staples suggests trade flows that are highly fragmented and thus inefficient. The causes of fragmentation are difficult to pinpoint but are probably related to lack of organization in sectoral value chains and the poor state of infrastructure, both of which prevent economies of scale. One important dimension of infrastructure that was highlighted in this chapter is the roads that connect cross-border markets.

Notes

1. Section 2.4.3 of Hollinger and Staatz (2015) examines in detail the available evidence.

2. These figures were obtained on the basis of exports from the world to the region. These numbers suggest a different import profile for the region than that generally mentioned in the literature, which tends to put imports of rice and other cereals more or less on par, with rice accounting for a bit less than 50 percent of total imports (CIRAD 2011); Josserand 2013, quoting Food and Agriculture Organization data).

3. This decrease is due to an important decrease in production in Nigeria. Outside of Nigeria, the production of other countries has grown.

4. According to CIRAD (2011), in 2011 some countries such as Liberia had not reinstated the tariffs on rice.

5. See Agritrade. 2013. "Senegal to Maintain Poultry Import Ban," November 24. http://agritrade.cta.int/Agriculture/Commodities/Poultry/Senegal-to-maintain-poultry-import-ban.

6. An additional duty of 20 percent received a successful vote in parliament in 2003, but it was never implemented and was later revoked (Johnson 2011).

7. This amount would be more than the total trade of the main export in the region—livestock. The figure is probably the result of a missing decimal: this reported value corresponds to a reported quantity of 1,178 kilograms only.

8. Customs (the source of trade flows data) generally uses greater care in recording imports than exports.

9. Key food staples are defined as (name preceded by the Harmonized System Code): 101 Live horses, asses, mules, and hinnies; 102 Live bovine animals; 103 Live swine; 104 Live sheep and goats; 105 Live poultry; 106 Other live animals; 71410 Manioc (cassava); 71420 Sweet potatoes; 71490 Other; 100110 Durum wheat; 100190 Other; 100510 Seed; 100590 Other; 100610 Rice in the husk (paddy or rough); 100620 Husked (brown) rice; 100630 Semi-milled or wholly milled rice; 100640 Broken rice; 100700 Grain sorghum; 100820 Millet; and 100890 Other cereals.

10. The comparison is not entirely straightforward because FAOSTAT uses its own classification of products.

11. Josserand (2013), for instance, estimates that livestock trade alone in the region could be $800 million. Another estimate for Nigeria, quoted by Inter-Réseaux Développement rural (http://www.inter-reseaux.org/revue-grain-de-sel/51-special-issue-nigeria/article/the-agro-pastoral-product-with) suggests an even higher volume of trade: "The overall value of trade in agrifood products between Nigeria and neighboring countries is estimated at more than 1 billion, broken down as follows: exported livestock on the hoof, $350 million; reexports from neighboring countries to Nigeria (rice, poultry cuts, apples), $300 million; locally grown grains, $200 million; and about $100 million for other contraband (cowpeas, yams, cassava flour, potatoes, tomatoes, onions, other spices) for the most part from Nigeria to neighboring countries."

12. Trade in cooking oil is not covered in this report.

13. Ethnic links are a factor facilitating cross-border trade. Aker and others (2014) show that border costs between Niger and Nigeria are lower when trade is conducted within an ethnic region spanning the border.

14. Examples also include exports of food staples outside the region, including other Sub-Saharan African countries, or more distant markets such as Europe for some yam exports.

15. The data include horses and other live animals but exclude poultry.

16. Although suggestions have been made that BCEAO make some adjustments for informal trade (World Bank 2010), BCEAO numbers seem close to those reported in Comtrade and FAOSTAT and remain well below estimates of total trade.

17. These countries are Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Nigeria, Senegal, and Togo.

18. This figure uses import trade flows. The year 2012 was chosen because the data value reported for 2011 is $3.3 million (but $5 million using export trade flows) and is most likely even less accurate.

19. This value is the same amount as recorded using Comtrade import statistics. See also note 18.

20. For maize, the CILSS survey reports trade flows among Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Mauritania, Niger, Nigeria, Senegal, and Togo.

21. Sorghum remains the main crop in Burkina Faso, but maize has grown the most with a fourfold increase in the past 15 years (Kaminski, Elbehri, and Zoma 2013).

22. This figure is based on the value per MT used by Josserand (2013). If one uses the value of $185 per MT in December 2013 as reported by CILSS (2014), this figure would be $6.4 million.

23. According to Babatunde (2012), Nigeria supplies about 60–70 percent of Niger's grain imports (mostly maize, millet, and sorghum).

24. For exports to Côte d'Ivoire, Josserand (2013) uses a value of $300 per MT for sorghum and $550 for millet. The lower of the two values is chosen for the estimate.

25. After the presidential election of November 2010 and in reaction to price increases, the new government decided to import massive quantities rice, sugar, and vegetable oils for sale at subsidized prices. In July 2011, a 50-kilogram rice bag was priced at 185,000 Guinean francs (3,700 Guinean francs per kilogram) anywhere on the Guinean territory, which represented a 38 percent subsidy. The distribution of subsidized imported rice continued in 2013 (World Bank 2015a).

26. Gari is a mash made of cassava that is fermented and roasted to produce granules.

27. In Haggblade and others (2012), the term market sheds describes the actual or potential flow of food from areas where it is grown to the place where it is consumed or the catchment area supplying a major market outlet.

28. Transport costs are estimated using information on road conditions and topography (which determine travel times), as well as country-specific cost factors for fuel, vehicles, wages, and so forth. The area is divided into 10-kilometer-square cells, and for each cell, the transport cost is estimated to potential markets. The cell is assigned to the market shed of the market with the lowest transport cost.

29. We use data from Delorme (geo-referenced road network), FAO, IFPRI (SPAM database), LandScan, and World Bank (project data on road condition). For details on methodology, see World Bank (2015b).

30. For the sake of simplicity, we assume that border crossings are entirely cost free in terms of time spent. In maps 1.3 and 1.4, each color represents a separate market shed.

31. For each market shed, production is estimated using the Spatial Production Allocation Model (SPAM) developed by the International Food Policy Research Institute. The SPAM data set uses crop production data from the FAO and spatially disaggregates the data using an algorithm based on a host of agricultural production inputs. Production in each market shed was estimated by reaggregating the SPAM data using the market shed boundaries. Consumption within each market shed was calculated by taking national average consumption statistics of each agricultural product, from FAO, and multiplying it by the total population within each market shed. Therefore, the method does not account at this stage for important regional differences in consumption patterns. The food balance is simply the difference between what is produced and what is consumed within each market shed.

32. Cells (10 kilometers by 10 kilometers) with estimated transport costs to the nearest market that exceed 6.5 percent of production value per ton were identified. This set of cells was divided into quintiles by potential for production, according to FAO estimates based on agroecological zones. The quintiles are differentiated by color

in map 1.7: the 20 percent with highest production potential are in red, the next 20 percent are in orange, and so forth. The threshold of 6.5 percent was set on the basis of information in the Expanded Agribusiness and Trade Promotion: Transport Cost Assessments for Each Value Chain along a Key Corridor, Updated Annually, USAID E-ATP (2011). That publication estimated this figure as the normal cost of transportation of rice in this area.

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2 Regional Policies for Food Staples

KEY POINTS

- A very active and ambitious regional agenda for food staples in West Africa, led by the regional economic commissions, has translated into numerous institutional developments, a subsequent portfolio of regional projects, and community legislations.
- The regional agenda is, however, not met by the same level of ambitious implementation at the national level. Implementation of regional commitments at the country level needs urgent addressing.
- The gap between regional and national aspirations is further illustrated by self-centered national agricultural policies that tend to undermine intraregional trade rather than to promote it.
- Food security is at the heart of national and regional agricultural policies, but the trade dimension of those policies is left behind.

Food Staples at the Heart of an Ambitious Regional Policy Agenda

With agriculture among the top-priority sectors at the regional level, many efforts have been made to develop common initiatives at both the Economic Community of West African States (ECOWAS) and West African Economic and Monetary Union (UEMOA) levels. Those efforts are now supported by two common agricultural trade policies: the ECOWAS Agricultural Policy (ECOWAP) and the Agricultural Policy of the UEMOA (PAU). Those policies have translated into several new ECOWAS decisions aimed at progressively eliminating such obstacles as taxes, rules of origin, standards, approvals, and restrictions on cross-border transhumance.

ECOWAP offers the reference framework for common policies in the region. It identifies several key rationales for regional intervention: (a) the ecological diversity of the region that allows for trade complementarities between areas of production and consumption; (b) the existence of natural resources shared among several countries in the region, such as aquifers, river basins, and pastoral lands; (c) the role of regional integration as a way to position the region in international negotiations, especially as the region develops a common external tariff and trade policy; and (d) a way to more effectively manage agricultural supply chains at the regional level (including through better infrastructure and common trade policies).

ECOWAP makes an eloquent case for regional intervention. The strategy highlights the importance of West African regional public goods and identifies the role of regional coordination and collective action to address positive and negative externalities at the regional level. Indeed, without

solid regional intervention, sizable costs and risks would not be avoided, and significant benefits would not be captured if the sole interventions were those of individual member states. An example of positive externality identified by ECOWAP is the creation of economies of scale to benefit the small economies in the region. An example of a negative externality mentioned in the policy is the national management of water resources against the regional common interest or the failure to control the spread of disease. There is also a recognition that countries in the region have reinforcing mutually beneficial interests, for instance, through ecological complementarities and by implication through trade.

The two regional common policies have had significant achievements since their inception. Among the most important initiatives are the creation and implementation of regional support funds. Funds should be an important instrument for supporting regional infrastructure, including regional food security stocks, as well as a tool to address imbalances in the region. With regard to assessing their implementation to date, only the UEMOA fund has been operational long enough. The main focus has been on the supply of agricultural products through support to irrigation and production, which amounted to 75 percent of UEMOA program funds in 2013 (a total of African Financial Community franc, or CFAF, 215 billion, about $430 million). Many of those initiatives support national efforts rather than regional ones, and the reasons for their prioritization from a regional perspective seem unclear. The subsidiarity principle is indeed not well enforced (van Seters, Afun-Ogidan, and Rampa 2012; UNIDO 2013); there is a lack of a clear allocation of responsibilities between regional and national institutions. That lack of enforcement may have been the result of regional bodies' sensing that national governments would have difficulties taking the initiative, and therefore the regional commissions have also taken the lead on some national aspects. It should be noted that the member states themselves do not understand the logic of subsidiarity well, as they will also be reluctant to delegate responsibilities to the regional level or acknowledge regional obligations. That is not to say that no interventions exist that have a clear regional scope in mind; examples are the Office du Niger's promotion of the fight against sand accumulation in the Niger River, the creation of regional food security stocks, or projects to create regional information systems and procurement mechanisms.

The regional economic communities' commissions, in particular ECOWAS, have taken a strong leadership role. On the institutional front, the regional agricultural policies have created coordination mechanisms for member states and between UEMOA and ECOWAS to agree on common policies, including policies in four priority staple sectors together with the cotton sector, which has an important role to play in view of its complementarity to staple production (see Porto and Depetris-Chauvin 2014). Associated regional information systems are part of the vision, but they have yet to materialize fully.

Yet major shortcomings remain. Regional institutions remain understaffed, thus undermining the true effectiveness of regional bodies. Besides, regional programs seem too heavily reliant on, and sometimes driven by, donor support.

That situation points to a general deficit in defining how regional public goods should be supplied for food staples. If member states do not step in to assume their role with regard to regulatory aspects and financial commitment to make things happen, regional policies will fail. There are also lacunae in coordination: it is unclear how much cooperation exists among member states beyond agreeing to common policies. For instance, no clear evidence exists of sharing and allocation of responsibilities among member states, building on the relative importance of each in the production of regional goods. That aspect should be emphasized, as not all regional public goods require an equal level of effort from all member states; on the contrary, they require a strategic choice of one or a few members as the providers of the regional common goods (examples being a regional institution that must be located in one member state or unique capacities in some member states that are being developed for the regional good).

Another important element missing from the common institutional framework is transparency and accountability on national policies. It is well-known that member states routinely breach their regional commitments (see, for example, Bromley and others 2011; Rolland and Alpha 2011; and the "Trade Policies in the Service of National Objectives" section in this chapter). Currently, no surveillance mechanism on agricultural and trade policies exists in UEMOA and ECOWAS.[1] In addition, no active dispute and binding sanctions mechanism exists. Finally, provisions for exception and safeguard mechanisms, although foreseen in ECOWAS and UEMOA treaties, do not seem to be applied. Article 49 of ECOWAS's revised treaty requires prior notification to other member states and approval by the Council of Ministers. UEMOA has a sector safeguard mechanism under article 86 of the revised treaty. Article 79 of the same treaty requires notification of trade restrictions and bans taken to safeguard security and public order. None of those measures were invoked when countries issued export bans in the aftermath of the 2008 food crisis.

An important harmonization agenda has been carried out on key agricultural inputs and services: seeds and cultivars, fertilizers, veterinary pharmacy, and sanitary and phytosanitary (SPS) and veterinary regulations. The regional legislative framework is well developed but not entirely complete. Implementation in member states is lagging. Moreover, the harmonization agenda has yet to result in a true regional market for agricultural inputs that would contribute to their greater availability and diversity and more competitive prices. Among the factors preventing further integration are obstacles to better distribution networks, including regional ones, as well as national policies that undermine those efforts, as diverging fiscal and subsidy policies create distortions that prevent competitive regional trade.

The food crisis has influenced the deployment of common policies, focusing the largest share of efforts into reinforcing national production systems. That factor has diverted the regional agenda from its initial objectives, in particular the integration objectives affirmed in ECOWAP. The regional framework has embraced the pursuit of food self-sufficiency promoted by all member states, in particular the development of import-substituting rice and cereals production. Thus, the main objectives of cooperation in agricultural policy are the achievement of food security and rural development rather than competitiveness and trade (Fulponi, Shearer, and Almeida 2011). Moreover, the promotion of local productions tends to run counter to objectives of promoting trade: member states have tended to maintain trade barriers to avoid real or perceived leaks of local productions and inputs and production-competing imports.

The effects of the common policies on regional trade integration have yet to be assessed. The extremely poor quality of statistical data on intraregional trade has already been highlighted, and no regional monitoring systems are in place to assess the levels of integration of markets beyond those already described. On the basis of an assessment of the policies implemented under ECOWAP and PAU, that effect can be expected to be minimal. National policies that intentionally or unintentionally undermine regional trade are widespread, and few operational regional initiatives have an objective directly linked to increasing regional trade of staples.

The Precursor: UEMOA's Agricultural Common Policy—PAU

In 2000, the UEMOA Commission initiated a participatory process with national and regional actors to formulate the broad guidelines of the UEMOA Agricultural Policy, or PAU, which was adopted in December 2001[2] and bestows on the UEMOA Commission a mission of orientation, coordination, stimulation, and regulation. The PAU's overall objective is to contribute in a sustainable manner to the satisfaction of the food needs of the population, the economic and social development of the member states, and the reduction of poverty. The PAU has three axes (UEMOA 2002):

- Adaptation of production systems and the production environment
- Deepening of the common agricultural market
- Insertion in the subregional market and in the global market

To implement the PAU, UEMOA took the following key initiatives: (a) the setting up of an institutional framework for consultation of member states on priority sectors, (b) the creation of the Regional

Fund for Agricultural Development (Fonds Régional de Développement Agricole [FRDA]) to finance regional projects, (c) a Regional Agricultural Information System (SIAR), and (d) the adoption of common regulations, mainly regarding SPS and input policies.

The FRDA is the main financing arm of the PAU and has been operational since 2011 (for two of its three components). The fund has mobilized CFAF 52 billion (about $102 million),[3] partly drawn from the UEOMA Commission's own resources. The SIAR project started in 2011 and has been piloted for some components in a few countries. It is not yet operational.

Five priority sectors, four of which are food staples, were identified by the UEMOA Commission in 2007: (a) rice, (b) livestock and meat, (c) poultry, (d) maize, and (e) cotton.[4] The plan for the development of the five sectors was initially divided into detailed action programs, summarized in box 2.1 (UEMOA 2007). The plan foresaw two specific actions at the regional level regarding the harmonization of value added tax (VAT) application[5] and the organization of professional associations. Following the food crisis, the emphasis on priority sectors shifted—with little focus on the poultry industry—away from market regulation mechanisms and trade policy concerns in favor of supply-side policies. UEMOA (2014) identifies three main pillars for rice and maize: (a) improving access to inputs and machinery, (b) improving productivity, and (c) improving processing.

A regional advisory committee for the agricultural priority sectors was established in 2007.[6] The regional advisory committee is composed of the national directors in charge of plant and animal production and national and regional representatives of producer associations. The committee meets once a year and is responsible for providing technical advice to the UEMOA Commission on the implementation of the PAU. The committee has a broad mandate covering aspects relative to the adaptation and development of the priority sectors (including regional trade and investment) and to the improvement of production.

The PAU also provides a body for dialogue, information, and decision support for international trade negotiations in the agricultural sector. According to the UEMOA website, UEMOA members have already developed several common negotiating positions in this area in the various ministerial conferences of the World Trade Organization (WTO). The common agricultural market has been developed with the adoption of several harmonization regulations (table 2.1). In 2007, a framework for the safety of plants, animals, and food was adopted. Its objective is to create cooperation mechanisms between the member states and to establish mutual recognition, subject to the precautionary principle. National authorities are expected to align their sanitary measures on standards, guidelines, and other international requirements (the Codex Alimentarius, WTO SPS and technical barriers to trade agreements, the International Convention for the Protection of Plants, the World Organisation for Animal Health [OIE], among others).

Box 2.1 The PAU Action Plan for Food Staples (2007)

For rice, the plan seeks to protect the sector through trade protection, instruments to mitigate fluctuation of international prices, new information systems in the context of the Union Economique et Monétaire Ouest Africaine's (UEMOA's) Regional Agricultural Information System, and regional investments. For the latter, UEMOA supports the regional project of development of agricultural land for the Office du Niger (Mali). The program aims to increase the pace and volume of irrigation in the area of the Office du Niger and to increase the production of food, including rice. The project aims to develop 11,000 hectares of agricultural land and to give access to it to farmers from all eight member states. The first tranche of the program, which focuses on the development of 5,500 hectares, started in 2008 with scoping work. In 2011, the head of the coordination and management unit was appointed, and work was expected to enter into an active phase.

For maize, the prospect of tariff dismantling in the context of the economic partnership agreements (EPAs) is again highlighted by the action plan. Adoption of a price adjustment mechanism to avoid dumping competition from internationally sourced maize is also suggested. The second set of proposed actions deals with creating information-sharing systems at the regional level, both on production technology and market information. The final action point proposes to help with the organization of the profession in the sector.

For livestock, the plan focuses on four pillars. The first encompasses the facilitation of regional trade through (a) the facilitation of procedures to cross borders (through single windows), (b) the harmonization of various taxes levied by countries and the elimination of illicit taxes, (c) the harmonization of sanitary and veterinary policies and the effective implementation of veterinary certificates, and (d) the implementation of an information system on cattle trade in the context of the planned Regional Agricultural Information System. The second pillar is the preservation of tariff protection offered by the common external tariff in the EPA negotiations. This objective seems to have been achieved, given the current market access offer being discussed. The third pillar is about organization of the profession at both the national and regional levels. In 2005, the Confederation of National Federations of the livestock and meat sector (COFENABVI-AO) of the UEMOA member countries was created, a step toward organizing the profession. In 2010, the COFENABVI-AO was extended to members of the Economic Community of West African States. The fourth pillar, on investments, focuses on setting up alert systems (for diseases) and improving infrastructure, such as grazing areas, transit zones, markets, slaughterhouses, cold storage, and transport.

The main rationale behind the poultry sector plan is to fight against increased imports from outside the region, which are perceived as undermining the development not only of the local industry but also of the cattle sector and are also of low quality. Thus, the first element of the action plan is to consider revising the common external tariff to increase protection. Next is the improvement of sanitary and veterinary controls. The avian influenza crisis was still fresh in the mind. The third element of action is the harmonization of regional rules, such as value added tax and phytosanitary rules, to promote regional trade. The last element is the preservation of market protection in the EPA negotiations.

Source: UEMOA 2007.

Note: PAU = UEMOA Agricultural Policy.

Rules governing the approval, marketing, and control of pesticides within the UEMOA were harmonized in 2009. The regulation is identical to that of ECOWAS and was developed with the Permanent Interstates Committee on Drought Control in the Sahel (CILSS). The regulation foresees that member states will ratify the main international conventions and harmonize the conditions and criteria of approval, including labeling, packaging, and storage of registered pesticides. The regulation includes five lists of products. A regional committee, the Comité Régional des Pesticides de l'Union, checks the conformity of applications for authorization and ensures postauthorization controls.

Rules harmonizing the quality control, certification, and marketing of seeds were also adopted in 2009. The process was carried out jointly with ECOWAS. It establishes a regional catalog of species and varieties of seeds (*Catalogue des espèces et variétés végétales commun aux états membres de l'UEMOA*) that consolidates the national catalogs. The regulation adopts the principle of mutual recognition of national certifications that are based on UEMOA's norms. Finally, the common framework defines the services related to the marketing of seeds and plants. Implementation at the national level is, however, a problem that is discussed in more detail in chapter 3.[7]

Finally, UEMOA has also embarked on a process of harmonizing SPS and animal health. A Regional Committee for Sanitary Safety was created in 2007 along with a regional regulation defining the measures for the control and surveillance of sanitary and phytosanitary risks. The regulation sets an ambitious agenda for the region, including the objective of regional harmonization, and offers a framework that is deemed to be more practical and concrete than in other regional agreements. Maghalães (2010) notes that care seems to have been taken to ensure that the SPS framework can be implemented easily by member states. Capacity building and technical cooperation are a central element of UEMOA's strategy in the sanitary and phytosanitary area. In 2008, the European Union brought additional funding to cover all of ECOWAS through the West Africa Quality Programme implemented by the United Nations Industrial Development Organization (UNIDO) following the program's successful implementation in UEMOA between 2001 and 2005.[8]

UEMOA's SPS policies have subsequently focused on animal health and on agricultural inputs (seeds, fertilizers, and pesticides). The animal health framework, adopted in 2006 and implemented in 2008, established a consultative mechanism with a veterinary committee tasked with providing technical opinions on community issues relative to (a) animal health, (b) sanitary issues regarding animal feed, (c) veterinary medicine, (d) the transmission of infectious diseases, and (e) the veterinary profession. The regional framework includes a centralized management of marketing authorization (the UEMOA Marketing Authorization), which is managed by the Regional Committee for Veterinary Pharmacy. The framework further includes common rules for the distribution of veterinary drugs and a common

infrastructure for quality control of veterinary drugs, including a network of veterinary laboratories. Furthermore, in 2012, a directive guaranteeing the free circulation of and right to establish veterinarians within UEMOA was adopted. Gergely, Daré, and Kanatiah (2013) praise the harmonization work undertaken so far, but they also note that the framework remains incomplete with implementation legislation missing in member states. They also remark on the need to reinforce the institutional framework because the veterinary committee does not meet frequently enough and is not well attended by all member states. And by their account, the Regional Committee for Veterinary Pharmacy has only proceeded to 10 market authorizations. By 2012, 489 market authorizations had been submitted by pharmaceutical companies (UEMOA 2014).[9] Finally, they note the constraints in the availability of human resources at the UEMOA Commission level.

Since the adoption of the PAU, the question of food security following the 2007–08 food crisis has been brought to the forefront. That has led to a shift in focus for regional priorities. UEMOA's 2012 report on the implementation of the PAU identifies nine axes of priority interventions. UEMOA (2014) offers an overview of the implementation of the various actions under the priority axes. The focus of interventions in food staples centers on several actions to improve agricultural production of rice and maize (irrigation, land development), the organization of actors in the sector (maize and rice), support to the livestock sector, and pursuit of the implementation of harmonization of regulations.

Table 2.1 Regional Harmonization Legislations Adopted under PAU

Regulation no. 07/2007/CM/UEMOA defining a framework for the safety of plants, animals, and food
Directive no. 01/2012 guaranteeing the free circulation and right of establishment of veterinarians within UEMOA
Regulation no. 03/2009/CM/UEMOA harmonizing the quality control, certification, and trade of plant seeds and seedlings
Regulation no. 04/2009/CM/UEMOA governing the approval, marketing, and control of pesticides within the UEMOA
Regulation no. 01/2006/CM/UEMOA creating a UEMOA Veterinary Committee
Regulation no. 02/2006/CM/UEMOA establishing community procedures for the market authorization and surveillance of veterinary drugs and creating a Regional Committee for Veterinary Drugs (CMRNV)
Regulation no. 03/2006/CM/UEMOA setting fees for veterinary drugs within UEMOA
Regulation no. 04/2006/CM/UEMOA setting a network of laboratories for the quality control of veterinary drugs within UEMOA
Directive no. 07/2006/CM/UEMOA relative to veterinary pharmacy

Sources: UEMOA 2012; WTO 2011a; and UEMOA 2014.

Note: PAU = UEMOA Agricultural Policy; UEMOA = Union Economique et Monétaire Ouest Africaine.

In the context of the PAU implementation programs, initiatives to deepen regional integration either are modestly funded or have yet to deliver their results. In the livestock sector, efforts to build slaughterhouses and market infrastructure seem modest with a budget envelope of CFAF 2.2 billion ($4.4 million) over the years 2013–15. The regional program to fight against plant pests and diseases is budgeted for CFAF 3.4 billion for 2012–14 and is aimed at its national counterpart, so it is unclear what its regional implications are. Other regional initiatives are still in the early stages. Looking forward, a 2014–24 plan for the implementation of the priority interventions is currently being developed (UEMOA 2014). That plan will follow the two three-year plans implemented so far under the PAU.

In the context of the multidonor and multistakeholder 2012 Global Alliance for Resilience Initiative for the Sahel and West Africa, an ambitious effort of regional coordination to acquire food security is being initiated conjointly with ECOWAS and several partners. First, in collaboration with the CILSS, there is a plan to reinforce regional and national information systems on food security. Second, it provides support to member states for the reinforcement of emergency intervention by building additional storage capacity and possibly increasing security stocks. Third, the initiative involves and reinforces regional food security institutions: UEMOA's High-Level Committee for Food Security (Comité de Haut Niveau pour la Sécurité Alimentaire [CHNSA]); the ECOWAS Regional Committee on Agriculture, Environment, and Water Resources; and the Food Crisis Prevention Network, which serves as the alliance consultation and monitoring body. The Global Alliance for Resilience Initiative will support the implementation of regional instruments, including a regional food reserve that will be facilitated by ECOWAS, and the implementation of the 2012 Charter for Food Crisis Prevention and Management in the Sahel and West Africa, which affirms among its principles "the need to promote regional solidarity in times of crisis by avoiding actions that could disrupt the smooth functioning of the regional market" and "the need for transparency through independent assessments of interventions."[10]

A second regional enterprise is the project of creating a regional commodity exchange for food staples. Both UEMOA and ECOWAS view commodity exchanges as an important mechanism for facilitating market transactions. A 2010 UEMOA study foresees eight national subsidiary exchanges in addition to a regional exchange (Coulter and Aning 2011). Commodity exchanges are not yet a reality in the UEMOA region. Countries in the region (Côte d'Ivoire, Burkina Faso) have indicated a strong interest in the concept. We come back to this question in chapter 4.

A third noteworthy initiative from a regional standpoint is the idea of regional procurement of agricultural inputs. A feasibility study (UEMOA/PAFICOT 2013) recommends the establishment of a regional observatory of fertilizer markets; the creation of a regional fund to support the procurement and distribution of fertilizers, which would be funded by the FRDA; and the implementation of a re-

gional procurement mechanism. The study also recommends the harmonization of subsidies and taxes on fertilizers. That approach is similar to recommendations that have been made to the Common Market for Eastern and Southern Africa.

Development of the Agenda under the Entire ECOWAS Membership: ECOWAP

ECOWAP covers issues that are closely related to UEMOA's common agricultural policy (box 2.2). That alignment of objectives is very welcome and demonstrates member states' common understanding of agricultural issues. ECOWAP was formally adopted in 2005 and was complemented by a regional action plan for its implementation.[11] ECOWAP is also the vehicle for the implementation of New Partnership for Africa's Development's Comprehensive Africa Agriculture Development Programme. ECOWAP's objective is to "to ensure sustainable food security and nutritional & sustainable management of natural resources within the Member states, a decent income to agri-household, expansion of agri-trade on a sustainable base, at the community level as well as the world."[12] Seven specific objectives are (a) food security for people in the region, (b) reducing food dependence and achieving food sovereignty, (c) involving producers in markets, (d) creating jobs with guaranteed incomes in order to improve living conditions and services in rural areas, (e) intensifying production systems in a sustainable

Box 2.2 Genesis of ECOWAP: A Cautiously Liberal Approach

The Economic Community of West African States (ECOWAS) Agricultural Policy (ECOWAP) has four scenarios that were initially formulated on the basis of variable levels of regional integration and international openness. The first two scenarios focused on opening regional agriculture to international markets. The main differences between the two scenarios lay in the degree to which economies and trade within the ECOWAS area would be integrated: the first favored highly integrated regional agriculture, whereas the second would leave greater fragmentation within the region, which would not be conducive to the emergence of a single internal regional market. The third and fourth scenarios differed in their trade policy toward economies outside the ECOWAS zone. Both assumed that the West African agricultural sector would be unable to tolerate direct international competition without protection from imports that competed with regional produce. The third scenario envisioned a high level of generalized protection for the whole agricultural sector, in order to "compensate" for the lack of regional integration. In the fourth scenario, protection is provided case by case, according to the issues and specificities of regional supply chains, and is associated with a high degree of regional integration. That scenario was retained as the basis for the regional agricultural policy.

Source: ECOWAS 2009b.

manner, (f) reducing the vulnerability of West African economies by limiting factors of instability and regional insecurity, and (g) adopting appropriate funding mechanisms (ECOWAS 2009a).

A regional action plan for the implementation of ECOWAP and the Comprehensive Africa Agriculture Development Programme of the New Partnership for Africa's Development during the period 2006–10 was agreed on in July 2005, underpinned by a Regional Agricultural Investment Plan (PRIA) and National Agricultural Investment Plans (NAIPs) that were developed with the support of the ECOWAS Commission for all 15 member countries in 2009–10.[13] The PRIA and NAIPs were developed with the objective of federating and aligning all the initiatives from the different donor partners and stakeholders, and the regional initiatives are widely recognized as having been instrumental in enabling the NAIPs (van Seters, Afun-Ogdan, and Rampa 2012).

The implementation of ECOWAP coincided with the food crisis. In June 2008, ECOWAS members adopted the Regional Initiative for Food Production and the Fight against Hunger. That initiative was followed by the implementation of three emergency mobilizing programs under the PRIA for a total value of $900 million (ECOWAS 2012a): (a) promotion of strategic commodities for food security and sovereignty, (b) promotion of an enabling global environment for agricultural development, and (c) reduction of food insecurity and structural vulnerability of the populations through social safety nets. Under the first mobilizing program, four strategic food value chains have been prioritized: cassava, rice, maize, and livestock and meat. The second mobilizing program includes some initiatives for promoting regional trade in food products, in particular, the development of trade infrastructure suitable for agricultural food products and for adapting and implementing new trade provisions at the borders of the ECOWAS subregion (ECOWAS 2009b).

Several PRIA sectoral programs have now been initiated for key value chains (ECOWAS 2012a): (a) the Regional Fisheries and Aquaculture Development Program; (b) the West African Livestock Development Action Plan (ECOWAS 2010); (c) the development of a harmonized framework to develop a regional agricultural interprofession in the various sectors; (d) the development of value chains for regional products with high trade flows between the Sahelian and coastal countries, for example, maize and livestock (supported by the United States Agency for International Development's Agribusiness and Trade Promotion and Enabling Agricultural Trade projects); (e) the ECOWAS Rice Offensive; and (f) the West African Agriculture Productivity Program. Those activities are closely related to what has been undertaken within UEMOA. Other actions under the regional action plan have included the following initiatives (ECOWAS 2012a): (a) promotion of fertilizer use and implementation of a project on a regional inputs market (with the International Fertilizer Development Center), (b) establishment of a framework to disseminate agricultural technologies, (c) implementation of a regional plan to control

the fruit fly, (d) launch of a biotechnology and biosafety program, (e) support for the production of improved seeds and establishment of a seeds alliance (Alliance for Seeds in West Africa with the West and Central African Council for Agriculture Research and Development), and (f) establishment of a regional agricultural information and decision-support system (ECOWAS Agricultural Information System).

As noted by van Seters, Afun-Ogidan, and Rampa (2012), the NAIPs and the PRIA are not clearly articulating the relationship between national and regional interventions. That shortcoming is also noted, for instance, by UNIDO (2013) in the context of SPS policies. The NAIPs are considered too inward looking and do not account for regional dimensions, in particular trade. Conversely, as was noted in the UEMOA context, the PRIA includes interventions that could be better addressed at the national level.

ECOWAP Regulatory Agenda

The second major area of ECOWAP intervention is the development of several community regulations on SPS and veterinary controls, as well as community regulations on agricultural inputs. That regulatory framework has been developed jointly with UEMOA (table 2.2). Now, those regulatory initiatives will be followed by implementation actions with donors, which will include the establishment of several regional institutional arrangements. We review those policies in detail in chapter 3.

The ECOWAS treaty calls for the harmonization of standards, such as SPS.[14] The ECOWAS Regulation on the Harmonization of the Structural Framework and Operational Rules Pertaining to the Health Safety of Plant, Animals, and Foods in the ECOWAS region was finally adopted in 2011. It was prepared with UEMOA and is similar to its SPS standards regulation and aims to harmonize ECOWAS and UEMOA regulations. The regulation refers to the adoption of standards for a number of international conventions, such as the OIE, Codex Alimentarius, or the International Plant Protection Convention. It also indicates the conditions and organizational procedures for health safety of food and animals at national levels and defines the structures and mechanisms for cooperation in the area of health safety in the ECOWAS region. The regulation is recent, and there is little evidence of further progress to date, in particular with respect to the harmonization of SPS measures beyond the measures taken on inputs and animals that mirror what was done in UEMOA. Signs are evident that the ECOWAS Commission is moving forward, trying, for instance, to establish or strengthen national SPS committees.

In their review of SPS policies in non-UEMOA and ECOWAS countries, Deeb and Humado (2007) offer several recommendations for action, in addition to recommending a regional SPS harmonization

Table 2.2 Regional Legislations Adopted under ECOWAP, 2008–12

Regulation C/REG.21/11/10 on the harmonization of the structural framework and operational rules pertaining to the health safety of plant, animals, and foods in the ECOWAS region
Regulation C/REG.4/05/2008 on harmonizing the rules governing quality control, certification, and marketing of vegetable seeds and seedlings in the ECOWAS countries and associated implementing regulations
Enabling Regulation 01/06/12 relating to the roles, organization, and functioning of the West African Seed and Seedling Committee of the Community
Regulation C/REG.3/05/2008 on harmonizing the rules governing registration of pesticides in the area and associated implementing regulations
Regulation C/REG.21/11/10 harmonizing the structural framework and operational rules on animal health, plant and food safety in the ECOWAS area
Regulation C/REG.22/11/10 on community procedures for the management of veterinary medicinal products in ECOWAS countries
Regulation C/REG.23/11/10 establishing and setting operating procedures of a regional veterinary committee (RVC) within ECOWAS
Directive C/DIR.1/11/10 on veterinary pharmacy within ECOWAS
Regulation C/REG.13/12/12 relating to fertilizer quality control in the ECOWAS region
Regulation C/REG.2/08/11 on establishing the ECOWAS Agriculture Development Fund (ECOWADF)
Regulation C/REG.1/08/11 on establishing the ECOWAS Food and Agriculture Agency
Recommendation C/REG.4/12/12 on establishing the Regional Food Security Reserve in the ECOWAS Region and Supplementary Act AS/2/02/13 E on establishing the Regional Food Security Reserve in the ECOWAS Region

Note: ECOWAS = Economic Community of West African States.

regulation, and they suggest a broad agenda. Among their recommendations are (a) the creation of a common basic inspection kit, which could be based on a Food and Agriculture Organization model, to be used for seafood, plant, animal, and food safety and (b) the design of a regional strategy for developing internationally accredited laboratory capacity. That strategy may call for several laboratories because of geography, distance, and the needs of industry and must incorporate a fee structure to render the laboratory self-funding. In addition, the strategy should take into account that private laboratories may be the optimal solution.

Similarly, they suggest (a) developing a plan for a metrology laboratory and a system for testing; (b) contributing to shared learning and knowledge between stakeholders and professionals in the region; (c) providing train-the-trainer courses for representatives from the government, industry, nongovernmental organizations, and academics; (d) strengthening or forming national food safety or codex committees in each country, as well as creating a simple template that countries can use to develop a

three-year national food safety strategic plan; (e) providing simple, easy-to-use web-based tools that will allow all nations in the region to collect and store data on pests, diseases, parasites, and weeds; (f) creating unified and simple messages to help build consumer awareness; and (g) considering the creation of a regional quality seal program. Not many of those simple recommendations seem to have been operationalized, except the strengthening of national food safety committees.

As mentioned earlier, ECOWAS and UEMOA have benefited from the support of the West Africa Quality Programme, implemented by UNIDO between 2007 and 2012. That program's overall objective was to "strengthen regional economic integration and trade by creating an environment that facilitates compliance with international trade rules and technical regulations."[15] Although the program's scope initially covered the support of SPS systems, activities have instead focused on technical regulations, as a strategic emphasis was put on agroindustrial products (UNIDO 2013). One of the program's key outcomes was the drafting of an ECOWAS regional quality policy and the technical reinforcement of regional bodies on testing, certification, metrology, and accreditation. Nevertheless, as said before, the focus of the program was almost exclusively on downstream industries.

However, as with UEMOA, harmonization efforts have been pushed vigorously in two areas: livestock and agricultural inputs. For seeds, ECOWAS has asked the West and Central African Council for Agriculture Research and Development to facilitate the establishment of the West Africa Seed Committee, created in 2012, the establishment of an Alliance for Seeds in West Africa, and the West Africa Seed Catalogue. The regulation regarding the latter has been drafted but is pending the operationalization of the West Africa Seed Committee (Dimithe 2014). A regulatory framework has been agreed on for fertilizer quality control, and now the International Fertilizer Development Center has been mandated to implement the West African Committee for Fertilizer Quality Control (WACFC). Four implementing regulations have already been drafted, including for the WACFC and regulations related to labeling, inspection, and analysis. Similarly, for pesticides, ECOWAS is working on implementation, with the CILSS, and the establishment of the West African Pesticide Registration and Homologation Committee (Traoré 2014).

Regarding the implementation of veterinary controls, ECOWAS lags behind UEMOA. In 2010, the community adopted legislation that transposes the UEMOA legislation. However, that transposition is not without creating implementation problems in the legal context of anglophone countries (Gegerly, Daré, and Kanatiah 2013). The institutions foreseen by the regulations (the veterinary committee and the drug authorization procedure) are not yet operational. Furthermore, the 10-year regional action plan for livestock farming (ECOWAS 2010) foresees a comprehensive list of actions regarding animal health: (a) establish a network of regional laboratories, (b) improve early detection

and response capacity (cross-border animal diseases and zoonoses), (c) strengthen the production capacity of veterinary inputs by equipping local vaccine production and drug control laboratories, (d) increase livestock farmers' access to veterinary services, (e) improve the legislation, (f) improve the organization and administration of veterinary services, and (g) support the creation of regional networks (socioeconomic, laboratory, and epidemiologic). In 2012, an informal platform that was created in 2006—the Regional Animal Health Center (RACH)—was transformed into an ECOWAS technical agency that is now located in Bamako, Mali. Its purpose is to become a regional central agency for all animal health–related questions, since it covers all the areas considered under the action plan. That mission is very ambitious, according to Gergely, Daré, and Kanatiah (2013) and remains to be operationalized.

In addition to health aspects, cross-border transhumance is the other crucial feature of regional policies regarding livestock, since the major part of cattle raising follows traditional pastoralist methods (Kamuanga and others 2008). The regional framework predates ECOWAP, with the 1998 decision that established the ECOWAS international transhumance certificate and set the conditions under which transhumance should take place.[16] Implementation of the regional framework has been difficult (Kamuanga and others 2008), in particular because of the conflicts between herders and local farmers, difficulties associated with coordinating with local organizations, and the rigidity of the regional legislation.

Some of those problems should also be addressed at the bilateral or subregional level (see also box 2.3). ECOWAS members started establishing bilateral (Benin–Burkina Faso, Benin–Nigeria, Benin–Niger, and so forth) or multilateral (Benin–Burkina Faso–Niger) agreements to implement the ECOWAS decision (Kamuanga and others 2008).

ECOWAP Institutions

On the institutional front, ECOWAS largely mirrors the setup described earlier for UEMOA: the Consultative Committee for Agriculture and Food[17] and the Inter-Departmental Committee for Agriculture and Food have been created. The operationalization of the ECOWAS Agriculture Food and Development Fund (ECOWAFD) has been slower than planned,[18] but the process of institution building has recently accelerated. In August 2011, the decree establishing the ECOWAFD was adopted, and the fund was launched in September 2013 with $38 million allocated by the ECOWAS Commission. The commission is now working with financial partners so that they supply the ECOWAFD with their contributions as part of the commitments they made at the signing of the regional compact. The Re-

Box 2.3 Subregional Cooperation and Agriculture in West Africa

In Africa, West Africa has been at the forefront of the development of subregional initiatives. Regional trade and agriculture are among the key priorities of those efforts. The subregional dimension is actually the object of a specific policy of the Economic Community of West African States (ECOWAS) through its Cross-Border Initiatives Programme and the 2006 Convention on Cross-Border Cooperation in the ECOWAS area. That effort is unique among African regional economic communities (AEBR 2012).

Created in 1970, the Liptako-Gourma Authority (LGA) covers a 370,000-square-kilometer area straddling Burkina Faso, Mali, and Niger. Since its inception, the LGA has intervened to develop regional programs in the transport, telecommunications, water, agropastoral, and fisheries sectors (LGA 2013). Issues regarding livestock form an important part of the LGA mandate: herds converge in the region during the dry season. Among its other roles, the authority serves as a coordination mechanism among the three countries on questions related to transhumance and as a forum for dialogue between member states and local and professional organizations.

Created in 1964, the Niger Basin Authority (ABN) is an intergovernmental organization among Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Guinea, Mali, Niger, and Nigeria. The ABN deals with shared water resources of its members, taking into account concerns over access to water for stock watering and pasture (Kamuanga and others 2008).

The Inter-State Committee for Drought Control in the Sahel (CILSS) was created in 1973 and comprises nine Sahelian member countries (Burkina Faso, Cabo Verde, Chad, The Gambia, Guinea-Bissau, Mali, Mauritania, Niger, and Senegal). The CILSS's mandate is food security and the preservation of natural resources, in particular the fight against droughts and desertification.

Although the LGA focuses on cross-border cooperation, the ABN is centered on the management of a common regional good, and the CILSS focuses on a common regional agenda. The variety of approaches reflects the need for variable geometry, depending on the regional problem that must be addressed. For instance, one could also consider other arrangements, for example, around regional transport corridors.

Given the numerous cross-border issues, in particular in geographic areas of high transnational economic integration, there is scope for more cross-border cooperation in the region. In particular, such initiatives seem to be a useful way to help with the participation of local and subnational level authorities (AEBR 2012). Because we are often talking of regions far from capitals, political will and capacity often seem limited. Moreover, the desirability of more cross-border cooperation should also be viewed against the risk of multiplication of institutions, already numerous in the West Africa region.

gional Agency for Food and Agriculture—whose role will be to ensure the implementation of regional programs—was launched in September 2013.[19]

Finally, the creation of an ECOWAS Regional Food Security Reserve was adopted in December 2012. The reserve will have a physical component, consisting of staple food products and products that meet the needs of emergency programs, and a financial component to provide assistance response. The

regional reserve will also facilitate the mobilization of national reserves through the creation of a cooperation framework, which would include intercountry lending and donations (ECOWAS 2012b).

Trade Policies in the Service of National Objectives

Regional coordination has been an important force in West African trade relations. However, national policy decisions remain paramount, even in cases where policies should be harmonized within the context of ECOWAS and UEMOA. Moreover, even harmonized policies can be administered differently in different countries. And some important areas of trade policy, such as trade facilitation, are largely areas of national competence. It is therefore important to examine both national and regional policies and to identify the main impediments to increased intraregional and extraregional trade in food staples.

In principle, border policies in ECOWAS and UEMOA are decided at the regional level. In practice, however, national administrations retain considerable flexibility, and many domestic policy decisions have implications for regional trade. Also, implementation of regional policies is often challenging, which means that they are de facto matters of national competence. In addition, some regional policies leave room for national applications, so different countries apply them in different ways.

In implementing agricultural policies, national policies have tended to ignore the trade dimension, focusing instead on reaching self-sufficiency and raising productivity levels of domestic production.[20] That focus has been reflected by a lack of a trade reform agenda, and even more a tendency to undermine trade. National policies indeed tend to run counter to the objective of expanding regional trade prospects, as import-substituting policies tend to both direct resources away from export activities and compete against potential exporting sectors in neighboring countries.

Furthermore, trade policy interventions tend to be used as safeguards for food security and infant industry protection for local productions and first transformation. Unlike policy safeguards, however, such measures are not handled in a transparent manner and stay in place well after problems have passed. Government interventions are difficult to undo, and in many cases, trade policy interventions—such as bans, government purchases, and tariff exemptions—have remained long past their usefulness. Transparency would help in ensuring that trade interventions do not last more time than necessary and would assist both trade neighbors and private actors in putting in place contingency and mitigation measures and, perhaps, in proposing alternative solutions.

Despite regional institutions and commitments to coordinate agricultural policies, ECOWAS member states remain largely unilateral in making policy decisions with little consideration of the trade-related implications at the regional level for food staples.

Important capacity constraints affecting the transport and logistics chain, coupled with lack of enforcement of rules, act as compounding cost factors that prevent the further development of intra-regional trade flows in food staples. Those issues remain largely unaddressed in most ECOWAS member states.

Reconciling Food Security and Protection Objectives in a Common External Tariff

In October 2013, ECOWAS countries agreed to the new ECOWAS common external tariff (CET). The implementation of the ECOWAS CET, planned for January 1, 2015, will lead to a number of changes in the tariff structure of countries in the region that are directly or indirectly related to food staples.

Currently, UEMOA countries apply the UEMOA CET. For agricultural products,[21] the average tariff currently stands at 14.9 percent.[22] Protection is high for animal products, 18.5 percent on average, with 20 percent tariffs protecting livestock, poultry, and meat products. Root vegetables and plantains are also protected by the higher-band 20 percent duty. Cereals, which are strategic for food security, are subject to a much lower 5 percent duty, including locally produced crops like maize. However, flours are subject to the highest tariff. Inputs such as animals for reproduction, as well as fertilizers, seeds, and pesticides, are subject to the lower 5 percent duty or no duty at all. Finally, agricultural machinery is generally subject to a 5 percent duty.[23]

ECOWAS countries are currently somewhat aligned with the UEMOA CET, but there can be important differences. For instance, Guinea exempts agricultural inputs and equipment from CET duties (WTO 2011a), and Ghana differs vastly from the UEMOA CET: average tariffs for agricultural products are 17.3 percent, including 19.0 percent for animal products (WTO 2014). According to CIRAD (2011), Liberia had not reinstated the tariffs on rice that were lifted to mitigate the food crisis. Finally, Nigeria has not started implementing the CET. Alignment with the ECOWAS CET should lead to substantially reduced protection in Nigeria, where average tariffs fell from 50.2 percent for agricultural products and 25.3 percent for nonagricultural products to 15.6 percent and 11.4 percent, respectively, between 2003 and 2009.

The implementation of the ECOWAS CET introduces a new 35 percent tariff band for 130 product codes. It also changes tariff categories for a small number of products. With respect to food staples, the key change affects meat products, which will now be subject to the highest tariff band. Other food staples and their transformations are not affected.[24]

The UEMOA CET and ECOWAS CET create the conditions for high levels of effective protection by keeping duties low on inputs and high on processed products.[25] That tariff structure is designed to protect agroprocessing industries, such as meat processing, flour, and confectionery, while maintaining access to affordable inputs, which include cereals and livestock. As we saw earlier with the example of Nigerian cassava flour in chapter 1, tariff measures are only one part of the arsenal, and other measures—such as content requirements, export barriers, and other forms of input subsidy that we will discuss later—are widely used. One effect of that policy is a possible antiexport bias[26] in the agricultural sector, as protection creates rents in import-competing agroprocessing industries that will attract resources that could have been employed in potential export activities. The rate structure also directs food staples toward domestic consumption instead of exports.

The development of local industries and the creation of added value are certainly desirable objectives, but often the cost of protection, such as high tariffs, is too easily ignored. Tariffs on imports create a rent with the objective that it will act as an equivalent subsidy to the industry that is protected by the tariff. Consumers are the ones paying that subsidy through higher prices, especially the poorest among them. Gourdon and Maur (2014) show that effect in the case of the implementation of the new ECOWAS CET, which—because of the change to higher-band tariffs on a few consumption products (several of them food)—may increase the cost of living for households (from 7 percent to 10 percent) and therefore decrease their welfare (from 2 percent to 5 percent).

Moreover, although consumers pay the price, there is no certainty that tariffs actually benefit the emergence of local production. The tariff protects not only producers but also those who are able to extract rents in the industry—for instance, in upstream markets, such as the provision of inputs to agriculture, or in downstream markets, such as distribution and transport—prevailing from preexisting market failures. In such environments, tariffs are an imperfect way to promote a given sector, since part of or the entire subsidy element is captured by others.

The negative incidence of tariffs on consumption was recognized during the food crisis, when countries decided to eliminate their customs duties on imported cereals (box 2.4 summarizes measures for rice in some ECOWAS countries). The crisis also illustrated implementation issues in trade policies through the lack of coordinated responses, despite the existence (at least in UEMOA) of a common trade policy; the lack of transparency of the measures taken (it is still relatively difficult to comprehensively list the measures that were taken during that period); and the absence of a clear exit strategy when the measures were no longer needed, as demonstrated by the various regimes that still exist today in the region.

Box 2.4 Tariff Exemptions on Rice during the Food Crisis

During the food crisis, many countries reacted by lifting import duties on cereals. That move was a rational policy response to unsustainable price rises for consumers. However, as table B2.4.1 shows, that change was made in a relatively disorganized fashion at the regional level. Moreover, the exemption in some countries remained well beyond the end of the crisis, such as in Guinea and Liberia. Finally, countries in the region have continued to resort to similar policies until recently. For instance in 2012, Côte d'Ivoire and Mali lifted import duties on rice to keep prices low. Côte d'Ivoire and Senegal also set maximum prices on rice in the same period.

Table B2.4.1 Tax Exemptions on Rice Imports in Response to the Food Crisis in Selected ECOWAS Countries

	Border or fiscal measure
Benin	Reduction in December 2007 of the reference value for the calculation of duties to be paid. There were still negotiated reference values for rice in force in 2010 according to the WTO. Exemption of customs duties and VAT between December 2007 and August 2008. Replaced by distribution of free seeds, subsidized fertilizer, and sale of rice at subsidized prices.
Guinea	Exemption from customs duties starting in 2007, including import subsides that are still in place since the end of 2010.
Ghana	Exemption from customs duties in 2008 until the end of 2009. Rice is currently subject to 20 percent duties plus taxes.
Senegal	Exemption of customs duties from September 2007 to September 2008. Rice is currently subject to 10 percent duty plus taxes.
Liberia	Exemption of customs duties in May 2008. Was still in force at the beginning of 2011.
Mali	Exoneration of VAT in 2008 and again in 2009.
Nigeria	Exemption of customs duties between May and October 2008. Nigeria cut its duty on rice from 100 percent to 2.7 percent. Until recently, rice was subject to a 10 percent duty, a 100 percent levy, and taxes. A reduction of the levy would have been approved recently, but levels would remain high.

Sources: CIRAD 2011; WTO 2011b; USDA 2013; and authors' calculations.

Note: VAT= value added tax; WTO = World Trade Organization.

In addition to tariffs, countries in the region apply a variety of other border taxes. UEMOA countries can impose an additional safeguard border tax, the TCI (*taxe conjoncturelle à l'Importation*), of 10 percent when the CIF (cost, insurance, freight) price of a product falls below a given trigger price reference. The TCI is designed to protect agricultural and agrofood products and is modeled on the special safeguard clause of the WTO Agreement on Agriculture. The TCI can be implemented for a six-month period. Côte d'Ivoire and Senegal are applying the TCI. Of the sectors of interest to food staples, Côte d'Ivoire applies a TCI on flour, raising further the rate of effective protection for the industry, whereas

Senegal applies the TCI on milk.[27] Application of the TCI is typically not coordinated at the regional level.

In addition to those significant taxes, some UEMOA countries, such as Benin, Côte d'Ivoire, Senegal, and Togo (UEMOA 2014), as well as other ECOWAS members, such as Ghana and Guinea, not to mention Nigeria (sugar, rice), also apply a range of additional levies. In the case of Senegal, an additional tax of 10 percent is imposed on cereals not produced domestically, such as sorghum and millet (Plunkett and Ofei 2010; UEMOA 2014).

Other levies, which do not target food staples specifically, are still widespread and are typically justified as they relate to such activities as inspection and verification, infrastructure protection, and, in some cases, customs stamp duty. Although the charges are typically low, they nonetheless have the potential to create distortions among ECOWAS members, as well as to undermine the principle of free circulation in the ECOWAS area, to act as a drag on intraregional and extraregional trade, and to add to the overall burden of tariffs, taxes, and charges faced by food staple exporters in the region.

Some countries, like Burkina Faso and Côte d'Ivoire, charge an advance profits tax on imports. Regional instruments require its application to be neutral between imports and domestically produced goods, but in practice, exports are often easier to target because they cross the border and are therefore more visible to revenue authorities. Consequently, the system tends to create de facto discrimination against traded goods, even though the legal setup may not discriminate in principle.

Finally, exemption regimes are a source of considerable differences in the applied rates of border taxes among countries (see, for instance, Rota Graziosi and Mansour [2013] and UEMOA [2014]). Little is known about how those different national regimes affect sectors specifically. Exemptions are generally motivated by policies that seek to attract investment, but not always. Investment incentives can be sector specific. For instance, in Guinea, agricultural investment is among the priority sectors covered by the investment law, which offers exemptions from duties and VAT on inputs and lower taxes on profits. In Burkina Faso, investments for agriculture, livestock, and fisheries benefit from additional concessions regarding the use of local inputs and labor, and the duration of benefits is increased by three years (WTO 2011a). In Benin, the 2013 Finance Act exempts feeds for poultry and cattle from import taxes, statistical tax, and VAT (article 7). It also exempts agricultural machinery from import taxes and VAT (article 8), and there are new exonerations for agricultural inputs and parts of agricultural machines (articles 12 and 13).

Intraregional trade in food staples is exempt from duties and border taxes under the ECOWAS Trade Liberalization Scheme. The defective implementation of the scheme has been well documented (Bromley and others 2011). Regional documents further aim to facilitate the circulation of basic prod-

ucts (*produits du crû)*, such as food staples, by exempting them from a VAT.[28] The regional VAT regime for food staples is, however, far from being completed. The ECOWAS 2009 Additional Act on VAT, which aims to apply the VAT exemption to ECOWAS countries, has not been implemented because countries have yet to agree on a common list of products. That lack of agreement means that an effective VAT exemption is in place for food staples only in UEMOA countries. The products covered by the exemption are defined on a relatively short list[29] that fails to include livestock, whereas processed fresh meat products are. As often is the case with border measures in the region, implementation is an issue: officials require traders to pay a VAT (at a rate of 18 percent or more), and the community regime is generally poorly understood.[30]

Beggar Thy ECOWAS Neighbor: Trade Bans

A number of countries in the region apply import prohibitions or similar quantitative restrictions to food staples. Those measures are implemented in ways that typically violate WTO and regional trade obligations, but ECOWAS members have not pursued enforcement action.

According to Article 41(3)(c) of the ECOWAS treaty, a "Member State may, after having given notice to the Executive Secretary and the other Member States of its intention to do so, introduce or continue to execute restrictions or prohibitions affecting the protection of human, animal or plant health or life" on community-originating goods. National governments retain a great deal of power over decisions regarding food-related policies, particularly in cases of food security and when there is the risk of some potential danger to human or animal health (Bromley and others 2011).

Safeguards from external shocks have in some instances provided an initial rationale for ban decisions, even though a ban was probably stricter than necessary to achieve a legitimate domestic policy goal. We can take, for example, the case of poultry imports. Nigeria and Senegal banned imports of poultry (in 2002 and 2006) following the avian influenza epidemic. However, in the case of Nigeria and Senegal, the prohibitions are still in place and cover all origins. Arguably, the scope of such measures is way too broad with regard to both period of implementation and geographic coverage to be explained purely on the grounds of protecting public health. That scope must be viewed within a broader context in which Nigeria and Senegal are protecting local industries. Other countries in the region have also reacted to global health scares in a similar way, at least initially: for example, Burkina Faso banned beef imports from countries potentially affected by bovine spongiform encephalopathy in 2009, as were imports of poultry from several countries following the avian influenza outbreak. Benin also banned poultry imports in 2004 and 2005 on grounds of the avian flu (Armah, Gugerty, and Plotnick 2010).

Côte d'Ivoire, Guinea, and Mali also temporarily banned poultry imports. According to a press report, The Gambia has recently banned imports of frozen chicken legs on health grounds (Jallo 2013).

Other food staples have been affected as well. Mali has banned imports of meat and imports and exports of breeding livestock (WTO 2011a).[31] Until 2007 and 2010, respectively, Nigeria's import bans also affected maize and wheat flour on the one hand and cassava on the other hand. Today, in addition to frozen poultry mentioned earlier, pork and beef imports remain banned, as well as several agroindustrial products like pasta and oil.[32] Bans on meat imports exist to support the development of Nigeria's own network of slaughterhouses and tanneries, which depend partly on importing live animals from Niger (World Bank 2010). In 2012, Côte d'Ivoire suspended imports of sugar and wheat flour. And in Benin, according to the WTO (2010), "temporary" prohibitions[33] were in place on importing by road wheat flour (also by river), vegetable oil, rice, sugar, frozen and chilled fish, beef, and poultry, clearly to protect the transit traffic of smuggled goods from Nigeria through the port of Cotonou.

The import policy regime of ECOWAS countries is not transparent. In the absence of any notification to regional authorities, no complete record of current and previous bans exists. Further muddying the picture is the fact that countries also use seasonal import prohibitions in a clear effort to aid domestic producers. Such measures are typically applied during the local selling season in an effort to keep producer prices up. Surveys conducted by the West Africa Trade Hub with both private and public sector representatives confirm the relative pervasiveness of *ad hoc* prohibitions. For instance, in Benin, according to a gap analysis by the West Africa Trade Hub (Brock, Omoluabi, and Van Dusen 2011), 100 percent of the private sector surveyed reported seasonal restrictions. That report was confirmed by one-third of the officials interviewed (although products are not specified, they are probably agricultural products, given the seasonality element). The report further concluded that "predictable costs and procedures and removal of arbitrary restrictions on mostly agricultural trade will assist in expansion of regional trade, and encourage legal trade" (Brock, Omoluabi, and Van Dusen 2011, 15).

Of course, those prohibitions negatively affect consumers, for whom prices are higher than they would otherwise be. Furthermore, unlike the bans on poultry imports that concern products originating from outside the region, numerous instances of bans are also directed at neighbors' products. Those kinds of import prohibitions are classic "beggar thy neighbor" trade policies—the reason why they are banned under WTO rules and regional instruments. Import bans protect domestic producers at the expense of domestic consumers and foreign producers, including regional suppliers.

Import prohibitions are significant limitations on *formal t*rade in food staples within the region. At the same time, however, they act as incentives to engage in *informal* trade, because borders are relatively porous and areas of surplus and deficit exist and can be linked through informal trade networks, as dis-

cussed in other chapters. Import prohibitions are therefore not just bad for trade, they also do nothing to maintain revenue flows to governments and in fact undermine already weak governance structures by giving traders an incentive to engage in informal trade. In the case of poultry meat smuggled to Nigeria, there is also the suspicion that the smuggling of perishable items along unreliable supply chains has potential public health consequences (Hollinger and Staatz 2015). National governments should therefore make it a priority to ensure that import prohibitions are used only in extreme cases, for example, when human life or health is at risk and no alternative instrument is available. In any case, import prohibitions should be limited in duration and geographical scope to ensure that their distortionary effects are as limited as possible.

Bans Also Plague Exports

Particularly following the 2008 food crisis, export measures have become relatively common in the region, generally taking the form of temporary (seasonal) or permanent export prohibitions (see also box 2.5). A legal gray area in both multilateral and regional trade agreements, export restrictions are typically justified by those implementing them on the basis of a national shortage, most often of food staples. By preventing exports, so the argument goes, there will be more food available for national consumption, thereby avoiding a more severe shortage. Domestically, bans act as a de facto price subsidy to consumers that is paid directly by the domestic producers. Such bans favor domestic consumers by keeping prices lower than they would otherwise be and by preventing producers from accessing the world market, where prices are presumptively higher.

On a regional level, export prohibitions prevent trading partners from accessing competitive supplies from the country with the restriction, which creates artificial scarcity and therefore higher prices,

Box 2.5 Other Export Measures

Prohibitions are not the only export measures applied in the region. Some countries also tax exports of certain staple food products. For example, Burkina Faso applies a significant per capita tax on exported livestock and poultry. The proceeds of the tax are supposed to fund investment in breeding research, pasture maintenance, livestock market infrastructure, market information, and similar public goods. However, recent experience suggests that at least some of the funds levied are being diverted to other uses, and the funds retained by the relevant livestock agency are not being fully or efficiently used. In any case, the export tax penalizes producers as well as foreign (in this case, regional) consumers. The same is true of Guinea's export tax designed to fund the National Chamber of Agriculture. In both cases, porous borders and weak governance combine to suggest that many operators can likely avoid the taxes.

which in turn negatively affect consumers from neighboring countries. If export restrictions are imposed in response to a price spike or temporary shortage, they effectively export the problem to other regional markets. As a result, export restrictions often have a vicious cycle effect: their imposition in one country leads to their imposition elsewhere as well, and rolling back the policies becomes politically difficult, even as market conditions return to normal.

Cereals markets, particularly for maize, millet, and rice, are notably affected by export bans. For instance, in 2012, the Ministry of Agriculture in Burkina Faso prohibited exports of cereals, and in Mali, exports were subject to authorization (RPCA 2012). Liberia banned all food exports in 2008 in response to the crisis.[34] The chief motive behind such bans is food security, and there are two specific instances in which national governments feel compelled to impose them. In the first instance, seasonal bans are imposed during periods of food shortages. Plunkett and Ofei (2010) report that during the food crisis, an unusual number of countries in the region banned exports of rice for longer stretches of time and, in some cases, indefinitely: export restrictions were in place in Benin, Burkina Faso, Mali, and Togo. Seasonal export bans, however, have continued since the crisis and are imposed nearly every year according to the same authors.

In the second instance, bans are imposed on producers that receive government subsidies: rice and maize principally. Plunket and Offei (2010) encountered such bans in Senegal, namely, for rice produced in the Senegal River Valley and for maize produced in the region of Tambacounda.

Frequently, such bans are imposed in the absence of official documents. Even when an official decision sanctions bans, it does so at short notice and with little information reaching the traders. The U.S. Agency for International Development (USAID 2013) noted a recent example: in Burkina Faso, a parboiled rice cooperative could not honor a preexisting sales contract with buyers in Mali because cereal exports were banned by a *note circulaire* issued by the Ministry of Land Administration in December 2011. That example demonstrates that prohibitions can be enforced without notice and therefore can create an extremely uncertain environment for trade. In other countries, like Benin, there appears to be no official document instigating the ban. Instead, traders are informed of it when their goods are refused passage at the border.

Regardless, export bans, like import prohibitions, do not reduce trade to zero. With porous borders and governance problems at official crossings, it is still possible to export in many cases. However, the ban increases the uncertainty of doing so, as well as of other transaction costs. It therefore restricts trade and undermines governance without effectively reducing exports to zero.

The pernicious effects of export prohibitions are reflected in ECOWAP (ECOWAS 2009a). The policy was recognized as undesirable and as being detrimental to food security overall. However, the

regional approach has often failed to be translated into action at the national level, and governments seem to continue to reserve the right to institute export restrictions when they deem them necessary on the basis of market conditions. Going forward, it will be important to identify and implement alternative measures that can help ensure food security in cases of bad weather, crop failure, or international price spikes.

Subsidize and Ignore Thy Neighbor

The discussion so far makes apparent that policies affecting trade in food staples are essentially motivated by a dual policy objective: to support food security by enabling access to essential staples and to support local productions of staples and their transformation. Border measures are widely employed because of their simplicity in design and relative simplicity with regard to implementation. From an economic standpoint, a tax on competing imports acts as a subsidy equivalent to producers (but a tax on consumers), whereas a tax on exports acts as a subsidy to domestic consumers (and a tax on domestic producers and foreign consumers).

Taxes are obviously not the only instrument that ECOWAS governments are using. Providing support to local production of food staples is a key pillar of all governments' agricultural policy in the region. Particularly since the food crisis of 2008, governments at both the regional, as we saw earlier, and the national level have stepped up their efforts to increase the production of staples. Support to local production now includes widespread subsidies for supply of inputs, equipment, and infrastructure.

Local productions are also supported to some extent through the purchases of agencies in charge of food security stocks, such as SONAGESS (Société Nationale de Gestion du Stock de Sécurité Alimentaire) in Burkina Faso, which buys surpluses from farmers, and OPVN (Office des Produits Vivriers du Niger) in Niger, which offers subsidized sales of grain between February and June and if necessary free distribution from July through September (World Bank 2013). In Nigeria, the Buyer of Last Resort Grain Programme, operated by the Food Reserves Agency, had the primary objective of creating a buffer stock of grain to respond to shortages. Another objective was to support prices by purchasing grains whenever market prices fell below the established price. The Buyer of Last Resort Grain Programme was replaced in May 2008 by a guaranteed minimum price scheme that operates through licensed buying agents (WTO 2011b).

Support provided by national governments to local productions has numerous aspects, which are beyond the scope of this study. Insofar as this study is concerned, the desire to support national interests affects prospects for regional trade. The first element of a subsidy is the "consumption" of inputs in

Box 2.6 Rice Trade Policies in Guinea

The Guinean government actively intervenes in the rice sector trade policy by such means as temporary export bans, exemption from duties and taxes on imports, and, more recently, the subsidy of imports. States' intervention has increased since 2007 with the political crisis and soaring world prices. In January 2007, following a general strike, the government banned exports of food products. Rice imports previously subject to a flat-rate tax became exempt. In 2009, the military junta in power decided on the amount of imports to ease tensions on the market in rice. At the time, imports exceeded 400,000 tons.

After the presidential election in November 2010, the new government decided to import massive amounts of rice, sugar, and vegetable oils, to be sold at a subsidized price, to counter the price increases in 2010. In July 2011, the sale price of a 50-kilogram bag of rice was 185,000 Guinean francs (GF 3,700 per kilogram) anywhere in the Guinean territory, which represents a 38 percent subsidy. The distribution of subsidized imported rice continued in 2013.

Those interventions in the market are designed to keep the price of rice at a low level, but the cost of those interventions for the national community is high. Apart from their budgetary cost, those measures are the source of inefficiencies in the allocation of resources. They first penalize local rice farmers, who suffer from competition from cheap imported rice. They are a source of rents for authorized traders to import rice, and they encourage informed traders to speculate by buying subsidized low-cost rice for later resale at profit. The measures are also the origin of trafficking in reexported subsidized rice to neighboring countries. Finally, the measures benefit only a limited number of consumers, mainly those in the major urban centers, and maintain consumers' dependence on rice consumption.

Source: World Bank 2015a.

production and the provision of essential foods to avert a crisis. Naturally, governments want to avoid the consumption of those subsidized products by neighboring countries, as there is an incentive for consumers or distributors to resell them for profit where prices are higher. However, with subsidy programs, governments face an important effectiveness problem caused by both the difficulty of preventing resale of products and the porousness of borders (box 2.6).

Often ignored is the question of how government-led subsidy programs affect the development of private sector participation. Regarding developments in the distribution of agricultural inputs, the answer is unclear (Staatz and others 2011; see also box 2.7). In Mali, fertilizers for rice production procured through the subsidy program are delivered by selected suppliers to designated government warehouses and distributed to farmers by government agents and local committees, thereby curtailing private sector involvement at the retail level. The only part of the fertilizer distribution chain that involves private retailers is the one that serves the large number of rice producers who do not have access to credit or to subsidized fertilizer. On the one hand, the program has led to the involvement of two large

Box 2.7 The Fertilizer Subsidy Program in Ghana

During the 1980s, the government of Ghana provided input subsidies to farmers. The rate of the subsidy on fertilizer imports was as high as 65 percent. Following the liberalization of the fertilizer market in the 1990s, the subsidy program was phased out. In 2007, however, global fertilizer prices began to rise, and the following year, the government introduced a new subsidy program in partnership with the country's major importers. In 2008, 21 percent of Ghana's public agriculture budget went to support the subsidy program. Two years later in 2010, that proportion had fallen to 12 percent. Despite the decrease in allocation, sustainability of the government's subsidy program is of a concern.

The program started with the introduction of a voucher system, which was disbanded after two years. Subsidized fertilizer did not always reach the smallholder farmers, and in some instances, it was reexported informally to neighboring countries. The bureaucratic process of redeeming the vouchers from the district offices of the Ministry of Food and Agriculture (MOFA) also provided a disincentive. Some farmers reported having to make repeated visits because MOFA officials were not in their offices. The payments to importers came late, averaging six months, leading to late delivery of fertilizer to retailers. In the southern zones of the country, late deliveries caused farmers to miss the most important planting season in March and April. Although importers claim they maintain stocks from previous years that are available for sale during the growing season, a number of farmers complained that the subsidized fertilizer was not available when it was needed. Many farmers would both wait for the fertilizer and apply it when the optimal period had passed or would end up buying it at market rates. In contrast, the three northern regions, where the major planting season is two to three months later, have been better able to take advantage of the subsidy.

Beginning in 2010, a new program, the waybill system, was introduced. Under the system, the government absorbs port handling, loading, and transport costs; agents' commissions; and margins to ensure that fertilizers are available to all farmers at an agreed-on low price in all regions. The operational details of the subsidy include determination of the subsidy price, ensured distribution, monitoring and oversight, and payments on the basis of validated sales receipts. Initially, retail prices of fertilizer in the domestic market are set up front, through negotiation between the importers and the government of Ghana. Fertilizer companies can import, clear the fertilizers from the ports, and pay all charges. Upon delivery to designated districts for sale to farmers by their registered sales agents, the subsidy is then paid after presentation and reconciliation of the relevant waybill receipts, which should guarantee that the fertilizer reached the intended user.

The program's effectiveness has yet to be determined. On another front, the problem of late payment to importers has not yet been resolved, and the resulting delays in fertilizer delivery persist, particularly in the south.

Sources: Benin and others 2011; World Bank 2012.

operators—Toguna Agro-Industries and Yara Mali—but on the other hand, they have not developed distribution networks.

Also, the issue exists of such programs leading to high concentration of market shares. According to Staatz (2011), Toguna and Yara import 97 percent of the fertilizer needs in Mali. Similar patterns are observed in rice imports. A study financed by USAID (2010) suggests that the rice import sector is dominated by oligopolies: in each of six countries surveyed (The Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, and Senegal), the top five or six firms concentrate between 81 percent and 95 percent of the volume of imports. In Ghana, the top five importers accounted for 77 percent of imports in 2008 and increased their market share over 2004–08 (Campbell and others 2009).

Still in Mali, AMI, the holding company of the flour processor Grands Moulins du Mali, is involved in the importation of wheat. The concentration of actors in the import sector raises the issue of whether imports are competitively priced (arguably, the authorities provide incentives to keep prices low for food security purposes) and questions the likelihood of the development of a truly competitive private sector in those value chains and the possibilities of abuse of market power in related markets.

A second important aspect relates to the broad government support to enhance the agricultural production of food staples (including, for instance, support for irrigation and financing). A key reason why governments are now vigorously pursuing such policies is food self-sufficiency and security. It should be noted that a distinction between self-sufficiency and security is often not made, which in a way betrays the absence of consideration of the role of trade. Therefore, the tendency seems to be that governments are pursuing self-sufficiency.

ECOWAS governments have all subscribed to similar policies, notably under ECOWAP. Chief among them is the promotion of cereal production, in particular, import-substituting rice but also maize. That big push for national cereal production is made without real consideration of complementarities within the region, and each country certainly appears to pursue mostly national objectives. Again, trade and the notion of a regional supply market are mostly absent from the picture. The establishment of a regional food reserve is, however, an exception. The consequence of pursuing nationally driven policies will be at the expense of building comparative advantages in other productions and of regional trade flows that could eventually cover the needs of deficit areas. Admittedly, an important problem of information and coordination probably prevents ECOWAS countries from doing otherwise at this stage. First, a better understanding of where the conditions are best for the production of key staples for food security in West Africa is surely needed. That means an understanding not only of natural agricultural potential, in the availability of productive land, but also of the capacity potential for infrastructure, organization of production, and transport to achieve better agricultural production levels that can then

be traded regionally. Second, a problem exists in coordination among ECOWAS members, who cannot reasonably put their own populations at risk while expecting that the rest of the region will come to their rescue with sufficient and affordable food production for their needs.

That issue suggests, therefore, that the first place to start is a better recognition of the importance of specialization and trade, followed by a periodic assessment of where resources and efforts should be directed to maximize food production capacity at the regional level. Individual maximization efforts by countries can only lead to a suboptimal outcome.

The Imperative to Facilitate Trade in Food Staples

An overall very poor trading environment superimposes itself to the trade policies that favor national and short-term interests at the expense of better regional integration. Factors such as predictability of the trading environment and sources of extra logistics costs and disruptions are particularly damaging to trade prospects, especially for time- and price-sensitive goods such as food staples.

Unpredictable and Weak Application of Trade Rules

Facilitating the movement of essential products such as food staples has been among the objectives in designing the ECOWAS Trade Liberalization Scheme, which exempts the products from certificate of origin. Because staples are lightly transformed or nontransformed products, regional agreements customarily give staples origin status automatically and therefore exempt them from documentary requirements in order to gain preferential zero-duty status within the region.

However, experience suggests that implementation of trade rules is a problem in the ECOWAS internal market, because both the traders and the officials implementing the rule lack knowledge about trade rules (Bromley and others 2011; Plunkett and Ofei 2010; USAID 2013). Thus, rules are applied when they should not be, and that generates an overall environment of uncertainty, which deters traders from formal trade. In the three years that have passed since the USAID gap analysis studies, anecdotal evidence gathered for this report suggests that the problems likely persists.

Moving staple products from one ECOWAS or UEMOA country to another should be a simple matter with regard to the documentation and procedures required. Even in cases where duties and taxes are not unduly requested, requiring extra documentation creates costs and has a chilling effect. In chapter 1, we recorded the absence of formal trade flow statistics for the majority of food staples: that deficiency is a symptom of borders that are not functioning. Even when goods should cross the borders duty free and

tax free (such as cereals), their trade goes unrecorded, which suggests that crossing borders is a source of transaction costs.

Phytosanitary and veterinary certificates are required for regional trade of food staples. The policy reason is that each member state has a legitimate interest in protecting human, plant, and animal life and health within its borders. West African countries are confronted by both systems that are to some extent inadequate and implementation challenges. The way in which SPS requirements are administered at the national level tends to create unnecessary barriers to trade in the region. For example, often border officials do not recognize certificates issued by other countries in the region as being equivalent to those in the importing market and therefore require the issuance of an additional certificate, sometimes at a cost of a bribe. Harmonization efforts at the regional level are under way with a large work agenda still to be done, as we saw earlier. See box 2.8.

At the national level, the capacities of member states vary greatly. In their study, Deeb and Humado (2007) scored the performance of SPS regimes in the seven non-UEMOA countries of ECOWAS. Animal health systems were on average rated as being better than plant health systems, according to international best practice. Some countries, like Liberia and Sierra Leone, showed very weak capacity,

Box 2.8 Harmonization of Sanitary and Phytosanitary Measures to Boost Regional Trade in Maize

Like many food staple crops, maize is subject to particular sanitary and phytosanitary (SPS) risks. For example, maize kernels can contain unsafe levels of aflatoxins, which can be harmful to human health. As a result, having regional and national regulations on SPS issues that affect maize trade is appropriate. However, designing and implementing the rules in a way that facilitates trade as much as possible is important.

Typically, when cereals are traded across borders in West Africa, the importing country insists on issuing a national phytosanitary certificate, even in cases where the shipment already has a similar certificate from the exporting country, thus creating unnecessary duplication. Moreover, evidence indicates that in many cases, the new certificates are issued without properly sampling the maize in question. As a result, the implementation of SPS procedures increases the cost of trade and does little to actually improve the protection of human life and health.

Border officials are not properly implementing the requirements of regional instruments in West Africa so that other countries' SPS certificates are treated as equivalent. Although national administration of SPS regimes remains a sovereign right, regional and international laws require that their application be transparent, be based on science, and not unduly restrict trade. Recognizing the equivalence of SPS certificates on the ground could have a significant effect on boosting regional trade in maize, as well as other food staples that are affected by similar problems.

Source: Plunkett and Ofei 2010.

whereas performance in other countries, such as Cabo Verde, Ghana, and Nigeria, was above the regional average. According to the authors, countries fail to meet international standards, but that may not necessarily be a concern, as food staples are generally not exported outside the region. In other words, more adapted standards to the regional situation might be preferable. On animal and veterinary services, national systems appear in better shape, having received extensive donor support. A gap analysis conducted by the OIE (Gergely, Daré, and Kanatiah 2013) on nine ECOWAS countries[35] finds that veterinary public health priorities should now focus on downstream products, such as improving slaughter conditions and red meat inspections at slaughterhouses, as well as controlling inspections on other products (milk, eggs). Focus should be expanded throughout the processing and marketing chain rather than being concentrated on fighting major zoonotic diseases, such as rabies and tuberculosis, which is less of a priority.[36] The development or strengthening of the governance of veterinary services is another priority, with the application of OIE standards and the recovery or maintenance of a strong veterinary authority. The analysis highlights the inadequacy of budgetary resources and human resources, as well as problems in the chain of command. According to the OIE, upgrading investments over five years on the order of €43 million for the nine countries concerned would be necessary, as would doubling the running costs for veterinary services.

Conversely, plant health controls are a much weaker area. In Benin, for example, the quality and sanitary controls for food exports are very weak and are fragmented among several agencies. Currently, technical means are unavailable for conducting sanitary and quality controls at various stages of the trade supply chain (in the fields, in the warehouses, and before exports). For instance, exports are not tested but are simply subjected to a visual inspection. A program has been established to consolidate those services under one roof, the Agence Béninoise de Sécurité Sanitaire des Aliments, which would be a first in the region (World Bank 2015b).

However, the reform is proving difficult, as there is a need to relocate several agencies and their 300 employees, as well as a need to discuss the degree of autonomy of the new agency. Those difficulties suggest that political economic interests may be at play in quality control agencies (and other regulatory control agencies for that matter), which can act as sources of rents.

Facilitating Trade

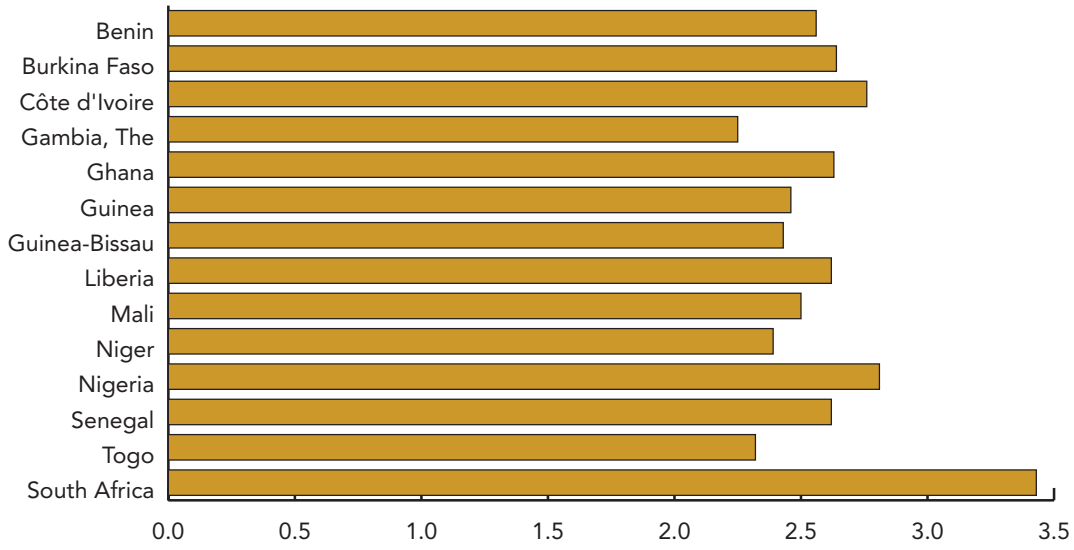
Trade costs tend to be higher for agricultural goods than for industrial goods.The difference is often significant, on the order of double (Arvis and others 2013). Improving trade facilitation[37] is therefore a potentially important way of boosting regional trade in food staples and of improving the incentives

for operators to engage in formal, rather than informal, trade. Trade facilitation performance varies considerably at the national level in West Africa. A broad indication of that fact is shown in figure 2.1 by comparing the World Bank's Logistics Performance Index (LPI) scores[38] for ECOWAS member states, as well as South Africa as the top performer in Sub-Saharan Africa.

Nigeria and Côte d'Ivoire are the strongest trade facilitation performers in West Africa. However, their overall LPI scores are still significantly lower than that of South Africa. By contrast, The Gambia, Niger, and Togo are the weakest performers, with scores well below the West African average of 2.54 (compared with 3.43 for South Africa). Trade facilitation is therefore a very real and serious constraint on trade, both intraregional and extraregional.

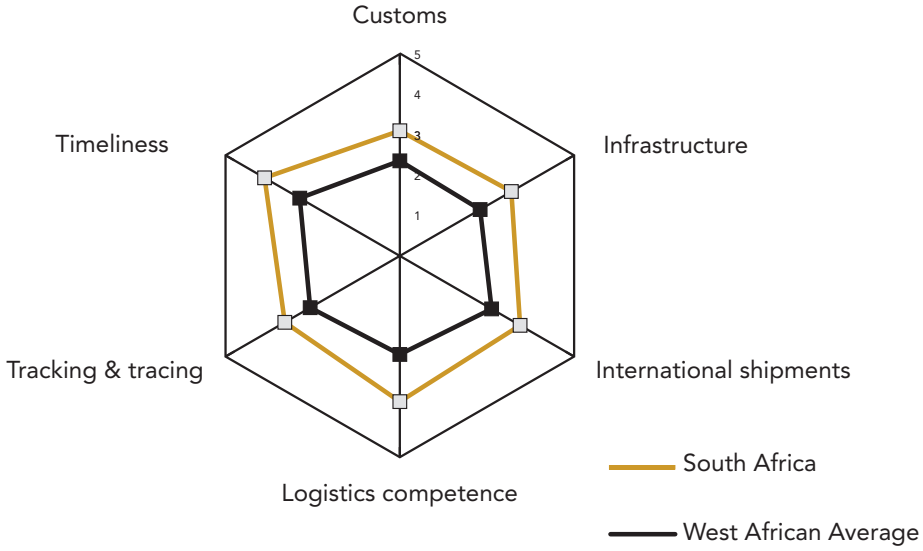
Figure 2.2 presents ECOWAS averages for each component of the LPI, again compared with South Africa as a performance benchmark. West Africa clearly lags regional best practice in every area of logistics performance. The gap is largest in relative terms in logistics services and infrastructure. That result means that the quantity and quality of infrastructure in West Africa are holding back trade, and the same is true of private logistics services markets, including transport and freight forwarding. The policy agenda that those results suggest therefore needs to include both public sector investment (in infrastructure development and maintenance) and private sector development (of

Figure 2.1 Overall Logistics Performance Index Scores for ECOWAS Member States and South Africa, 2014



Source: Logistics Performance Index, World Bank database 2014.

Figure 2.2 Logistics Performance Index Component Scores for ECOWAS Member States (simple average) and South Africa, 2014



Source: Logistics Performance Index, World Bank database 2014.

relevant services sectors). Of course, private sector development itself requires an appropriate regulatory stance that encourages market-based competition. Openness to trade in services and foreign direct investment can be one part of an overall policy mix that encourages development of logistics and trade facilitation.

It is important to zoom in from the high-level view provided by indicators like the LPI to examine the sorts of measures that could facilitate regional trade in food staples in practice. As the LPI discussion makes clear, however, progress is sorely needed in a number of areas if trade costs are to be substantially reduced. A number of those areas have been discussed elsewhere in this report, particularly in this chapter. Implementation of regional free trade is one important measure that can reduce trade costs substantially and can boost export and import activity among West African states. The nontariff elements of that agenda—such as eliminating de facto certificate-of-origin requirements and recognizing the equivalence of SPS certifications—are important steps along the road to establishing a free regional market in general and one for food staples in particular.

The treatment of trade facilitation in ECOWAS and UEMOA represents somewhat of a paradox. On the one hand, a large number of projects are being implemented on the ground with the aim of improving regional trade facilitation infrastructure, both hard (physical) and soft (regulatory). Agencies such as USAID, including through the CILSS and the West Africa Trade Hub, have worked hard to assess the various barriers to effective trade facilitation on the ground and to work with governments to design and implement possible solutions. Other organizations, such as a number of European development agencies and the Millennium Challenge Corporation, have been active in upgrading trade facilitation performance at key international gateways, such as ports.

On the other hand, however, ECOWAS and UEMOA have not comprehensively addressed trade facilitation in the way that it has been in other parts of the world, such as the Asia-Pacific Economic Cooperation. That is not to say that the regional bodies have not been active; indeed, they have been. But their activities lack the overall unifying framework provided by a broad concept, such as trade facilitation. As a result, some useful progress has been made in some areas, as has already been discussed, but more work is required in others.

An area that has not been explicitly addressed so far in this chapter is transport. Regional transport markets suffer from a number of deficiencies, yet producers of food staples depend on them to get their goods to market. Trucking markets tend to be poorly regulated, fleets are old and inefficient, and roads are in bad condition. That combination of factors leads to a general underdevelopment of the transport sector, which translates into relatively high prices and poor performance with respect to time and certainty of delivery.

As the example of the Kano–Lagos corridor shows (box 2.9), problems in private transport markets are not the only problems that shippers have to deal with when they move goods—including food staples—from producer to consumer in West Africa. In many places, road blocks and stops of various kinds are ubiquitous. Agencies such as the police and customs set up official or unofficial stops at numerous points along key corridors (map 2.1 and figure 2.3). Each roadblock adds to the time and cost of moving goods. By creating queues of vehicles, roadblocks also add to the uncertainty associated with road transport. The climate of uncertainty is heightened by the fact that many roadblocks are unofficial, and the "fees" levied by agents are in fact unofficial payments required for passage, as opposed to genuine state-sanctioned levies. The net result is difficulty in moving goods within the region, with the problem being felt most acutely by producers of perishable goods, who need to move them quickly and with certainty to their final destination. Remarkably, Hassan and others (2011) find that for the Kano–Lagos corridor, only about 60 percent of the total travel time is spent driving. Holdups, including roadblocks, account for over 20 percent of the total.

Box 2.9 Livestock Transport in the Kano–Lagos Corridor

Beef is an important food staple, and movement of cattle from Kano to the large consumption market of Lagos—a trip of just over 700 kilometers—is an important trade route for producers in Nigeria. Although the route is internal, in the sense that it is all within one country (Nigeria), the issues producers face in getting their goods to market are common to a wide range of other transport corridors throughout the region.

On the one hand, the time it takes trucks to make the trip from Kano to Lagos varies considerably, on the basis of such factors as the type of goods being loaded, but it can be anywhere from one to two days, or more. Drivers typically make only two to four trips per month, which is not a high enough volume to provide shippers with a constant supply of low-cost, reliable trucking options.

On the other hand, the trip from Kano to Lagos is less expensive than the trip in the opposite direction, because many trucks are forced to travel without loads. Unbalanced trips are, however, a factor that has a negative influence on the overall operating costs and productivity of the road transport sector.

In addition to factors that are peculiar to the functioning of private transport markets, there are public policy factors—or semipublic factors—that influence how goods move from producer to consumer. Livestock are time sensitive, in the sense that they have to arrive in the consumer market in good health if they are to retain their full value. As a result, drivers are subject to numerous holdup problems along the route. Typically, there are as many as 15–23 roadblocks along the corridor, at which payments (both formal and informal) are solicited. Drivers are usually in no position to refuse, because their goods are perishable, and because they are often unaware of their legal rights (or cannot in any case enforce them effectively). On average, drivers might make formal and informal payments amounting to about $450 annually along the corridor. The ability of roadblock operators to act arbitrarily results in additional time and cost for the trip and a less reliable delivery time.

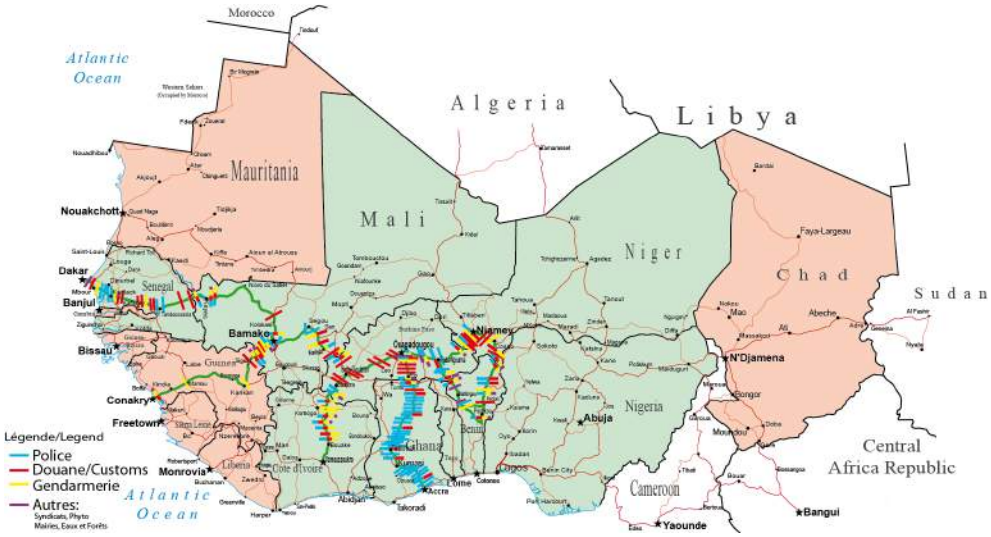
Source: Hassan and others 2011.

An important point to highlight about roadblocks in the region is that since many are unofficial, the "fees" they charge are typically unrelated to the provision of any service. The fee is simply a payment that must be made to ensure passage. For example, on the Kano–Lagos corridor, nearly 40 percent of the costs incurred by transporters are estimated to fall into this category (Hassan and others 2011).

Conclusions and Policy Recommendations

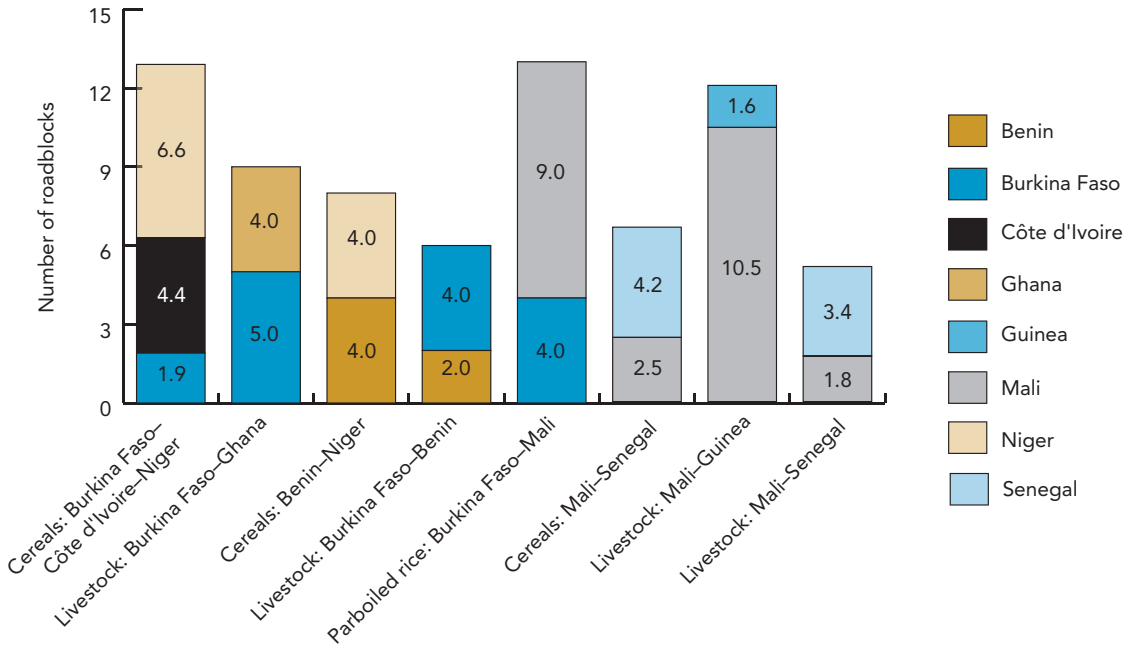
Regional policies are no substitute for national policies. There is a need to rebalance both the regional agricultural agenda and the responsibilities within it. At the regional level, that rebalance would mean focusing the agenda on areas where common action and rules provide a clear value added, in the

Map 2.1 Roadblocks in Selected West African Countries



Source: CILSS 2014.

Figure 2.3 Number of Roadblocks per 100 Kilometers on Corridors for Food Staples in West Africa, August 2014



Source: CILSS 2014.

spirit of the subsidiarity principle. One of the areas of focus is intraregional trade, for which there is a lack of clear vision. For instance, when investing in developing food staple markets, regional interventions should clearly prioritize projects with demonstrated spillovers to regional trade and where member states cannot support the implementation of policies with their own resources. The next PRIA would be a good opportunity for ECOWAS to give those principles substantive form and to focus regional and national interventions on the appropriate targets.

As a start, the policies of ECOWAS members should be reported at the ECOWAS and UEMOA level, and nonimplementation of fundamental regional commitments—such as duty-free intraregional trade—should be addressed as a matter of priority. Transparency is the first key element in that agenda to create the conditions to openly discuss the solutions for better regional integration. As things stand, the ECOWAS market for food staples does not exist, and evidence shows that countries are not aligning their actions with their commitments. That lack of alignment happens more easily when actions go undetected. Elements of monitoring already exist in the region (such as the road harassment surveys conducted by the CILSS), and plans also exist to improve information systems (such as the ECOWAS Agricultural Information System). However, monitoring remains exceedingly incomplete, with only partial ownership by ECOWAS and member states. And projects for information systems focus on production and market prices and less so on trade flows and policies. Discussing policy solutions to implementation should then follow better monitoring, including down the line the consideration of remedies to compensate member states whose benefits are denied by rogue policies. Arguably, not all issues can be resolved with the same level of ease, but priority should be given to issues relating to the ECOWAS Trade Liberalization Scheme, tariffs, and export and import prohibitions that affect food staples. The willingness of ECOWAS and member states to tackle those issues is the acid test of the true desire to create a regional market.

The transparency and monitoring criteria should also apply to regional initiatives. Information about ECOWAP and PAU policies and programs are not always accessible, which renders the monitoring of progress and evaluation difficult. For instance, common legislation developed under ECOWAP is in many instances not published on the Internet, thus illustrating a general lack of information available on community rules. This lack of information is also a partial explanation for implementation shortcomings by member states: they are not necessarily aware of their implications.

SPS and quality policies should now turn to cereal and vegetable staples, maize in particular. So far, standard policies have been geared toward agroindustrial and export products or inputs. The prevailing strategy has remained to reinforce national systems and production with much less consideration of initiatives that may improve regional trade flows. Questions regarding health and safety of plants are

complex, and a gradual approach is advisable, given the breadth of current community initiatives and the capacity constraints faced by both regional and national institutions. The agenda could be initiated with a focus on agreeing to basic common quality standards and simple forms of control (such as visual inspection), rather than perhaps a full-fledged harmonization agenda.

Facilitating intraregional trade in ECOWAS is not just a matter of ensuring duty-free treatment of goods and member states' broader conformity with existing regional initiatives. Special attention also needs to be paid to the needs of small traders. Currently, most trade that takes place in the region is informal, in part because of the restrictive measures that many ECOWAS member states have put in place. Partly as a consequence of that informality, small traders—typically individuals dealing with very small shipments—play an important role in moving goods within cross-border market sheds. Assuming that reforms of national policies could bring about some level of greater formalization of regional trade in food staples, those small traders would then become the backbone of localized but cross-border movements of food. If duties and prohibitions are eliminated, in line with the ECOWAS single market, the biggest issue for those traders will then be border procedures. Small traders are especially affected by time-consuming, costly, and unreliable border procedures, particularly when they are dealing with perishable goods. The region therefore needs to pay particular attention to the broader issue of trade facilitation—in the sense of reducing the transaction costs associated with imports and exports, particularly those that come from administrative red tape. Given that cumbersome procedures provide an additional reason for trade to flourish on an informal, rather than a formal, basis, trade facilitation is also an important part of the agenda for bringing the regional trade in food staples "above ground." Again, that is an area in which some regional initiatives, such as the development of trade corridors, already exist. Redoubling those efforts—and paying particular attention to such questions as harassment of small traders at border posts and the prevalence of checkpoints—should be a priority for the region as a whole.

ECOWAS's experience with regional initiatives suggests that even when spillovers are evident and the justification for joint action clear, a harmonized approach can be difficult to implement, partly because of differences in national priorities and circumstances. Of course, that explains only part of the implementation gap that has been identified: a tendency to focus on perceived national needs, sometimes at the expense of regional partners, has also been identified in some cases, such as export and import prohibitions. Nonetheless, differences in national circumstances are real and significant and need to be fully considered in the design of regional initiatives. Some kind of variable geometry might make it possible to achieve a greater implementation rate of key regional priorities, without necessarily requiring broad-based harmonization that member states appear to be resistant to in practice in many

areas. Designing regional initiatives with sufficient flexibility for member states with regard to specific implementation while still achieving important regional goals is a very challenging exercise and one that other regional groups, even in developed countries, have found consistently difficult to bring about in practice. Nonetheless, the reality of ECOWAS seems to call for a kind of variable geometry approach in some cases, as long as it is coupled with a genuine commitment to implement agreed commitments.

Notes

1. UEMOA just issued its first regional trade surveillance report, but no surveillance is dedicated to agricultural policies. ECOWAS is planning to adopt a trade-monitoring mechanism with the implementation of the common external tariff (Rolland and Alpha 2011). UEMOA's PAU includes a monitoring and evaluation component, but it will focus on the implementation of regional projects. Monitoring and evaluation have yet to be conducted.

2. Additional Act no. 03/2001.

3. At 2012 exchange rate value (source: World Bank *World Development Indicators).*

4. Cotton is the other sector. See regulation no. 12/2007/CM/UEMOA, Portant création et modalité de fonctionnement du comité consultatif régional des filières agricoles au sein de l'UEMOA, and Regulation no. 06/2007/CM/UEMOA, Portant adoption du plan directeur des filières agricoles prioritaires dans l'espace UEMOA.

5. We discuss the latter in the section "Reconciling Food Security and Protection Objectives in a Common External Tariff".

6. UEMOA Regulation no. 12/2007/CM/UEMOA.

7. The problem is also acknowledged by the UEMOA Commission (UEMOA 2014).

8. That program is also discussed later in this report.

9. Generating CFAF 700 million in fees.

10. Charter for Food Crisis Prevention and Management in the Sahel and West Africa, http://www.oecd.org/site/rpca/charter/Charter_EN.pdf.

11. Decision A/DEC.11/01/05, adopting an agricultural policy for the Economic Community of West African States and annex to the decision. ECOWAS, January 19, 2005. Regional action plan for implementation of the ECOWAS agricultural policy and New Partnership for Africa's Development's Comprehensive Africa Agriculture Development Programme in West Africa between 2006 and 2010. ECOWAS, June 2005.

12. Decision A/Dec. 01/05 to Adopt the ECOWAS Agriculture Policy (ECOWAP).

13. The regional action plan initially focused on six pillars: (a) improved water management, (b) improved management of other natural resources (forestry, transhumance, and rangeland; fisheries), (c) sustainable agricultural development at the farm level, (d) development of agricultural supply chains and promotion of markets, (e) prevention and management of food crises and other natural disasters, and (f) institution building.

14. Article 3.2(j) of the 1975 treaty.

15. http://unidoptc.org/?q=content/tcb_projects.

16. Decision A/DEC.5/10/98, regulating transhumance between ECOWAS member states.

17. An advisory committee composed of representatives of regional institutions, member states, the ECOWAS Parliament, and donors.

18. The fund will be managed by the ECOWAS Bank for Investment and Development.

19. The agency is expected to work on a contract basis with technical agencies and companies (van Seters, Afun-Ogidan, and Rampa 2012). See also ECOWAS (2013).

20. See, for instance, the comment by Gergely, Daré, and Kanatiah (2013).

21. WTO definition.

22. The 1 percent statistical levy and the 1 percent community levy must be added to the tariff.

23. Some agricultural tools, however, are subject to higher duties, up to 20 percent.

24. Calculated at the Harmonized System six-digit level (Gourdon and Maur 2014), the average tariff for animal and meat products under the ECOWAS CET increases to 17.8 percent from 15.4 percent. The average tariff for vegetables increases slightly to 14.6 percent from 14.4 percent, because potatoes, tomatoes, and onions will receive a greater protection.

25. With the value added being low at international prices, the effective protection rate is magnified.

26. The antiexport bias is for exports outside of ECOWAS in the case of tariffs as products circulate freely in the ECOWAS space.

27. The TCI is also applied on other products: oil for consumption, sugar, juices, and concentrate of tomatoes.

28. ECOWAS members agreed to exempt basic food staples from a VAT in 2009 (Additional Act). In UEMOA, agriculture is excluded, in principle, from the scope of VAT (note Additional Act no. 03/2001).

29. The list is defined in Directive no. 02/2009/CM/UEMOA and covers cereals (corn, millet, sorghum, wheat, fonio, rice [except luxury rice], and other cereals); tubers; legumes; eggs in the shell; fresh meat; fresh, smoked, salted, or frozen (but unprocessed) fish; and unprocessed milk.

30. According to USAID (2013), Senegal has been collecting a VAT on imports of livestock and cereals at the Diboli border crossing. Traders report having to pay a VAT to import cereals into Burkina Faso and Mali.

31. We do not know whether the prohibition is still applied today.

32. Nigerian Customs Service, Import Prohibition List, https://www.customs.gov.ng/ProhibitionList/import.php.

33. The regulations were passed in 2005 and 2006.

34. Ministry of Internal Affairs, Republic of Liberia, "Can Liberia Feed Itself?" http://mia.gov.lr/2press.php?news_id=93&related=7&pg=sp.

35. Burkina Faso, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, and Togo.

36. This finding contrasts with the earlier recommendations by Deebs and Humado (2007), therefore suggesting that progress has been made.

37. Although a number of meanings can be given to the term "trade facilitation," its broadest usage—and the one most applicable here—refers to the full set of policies and other measures that reduce international trade costs. Examples of trade costs include (a) transport and insurance costs; (b) costs associated with delays at border crossings; (c) the uncertainty created by an inability to accurately track and trace consignments; (d) the lack of timely or complete delivery of merchandise because of delays, spoilage, theft, or loss; and (e) informal payments made to police and customs officers to facilitate passage of goods ("speed money").

38. The overall LPI score covers six dimensions of performance: (a) efficiency of the border clearance process, (b) quality of trade- and transport-related infrastructure, (c) ease of arranging competitively priced shipments, (d) competence and quality of logistics services, (e) ability to track and trace consignments, and (f) timeliness of delivery.

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3 An Integrated Market in Seeds and Fertilizers for a More Competitive Food Staples Sector

KEY POINTS

- Despite high spending on subsidy programs, many of the inputs given or sold to farmers by these programs are of poor quality. Private agrodealers are expanding in some locations, but most farmers still have little or no access to improved inputs for food staples other than through subsidies.
- To improve quality and regional marketing, West African policy makers have been working for many years to develop harmonized trade rules for seed and fertilizer. The Economic Community of West African States (ECOWAS) enacted a set of harmonized trade rules for seed in 2008. In 2012, ECOWAS and the West African Economic and Monetary Union (Union Economique et Monétaire Ouest Africaine, or UEMOA) countries agreed on a similar set of harmonized trade rules and quality control procedures for fertilizer. Both systems are now in the process of being made operational.
- These new regulations are already helping guide quality improvements at the national level. Nevertheless, before the agreed regional regulations can be brought into operation, many legal processes need to be finalized at the national and regional levels. Capacity improvements and institutional upgrades are also needed.
- Limitations on private ownership of plant varieties and requirements for the state to supply all breeding material are a particular threat to private competition and free trade objectives expressed in the regional regulations. Proposals by UEMOA for regional procurement of harmonized fertilizer types would also be a significant departure from the approach agreed with ECOWAS based on truth in labeling.
- Beyond the completion and operationalization of the harmonization process, a need exists for complementary steps that improve trade conditions, promote private competition, and help farmers gain access to quality inputs in the near term. Fortunately, several simple steps are available that individual countries or small groups of countries could implement right away.

Access to Quality Inputs Is a Necessary Condition for Improved Farm Productivity

When the Economic Community of West African States (ECOWAS) launched its regional Agriculture Policy in 2005, the ECOWAS Commission noted that 70 percent of production gains since 1985 had been obtained by putting more farmland under production with little improvement in yield. The use of certified seeds and fertilizers barely figured in most producers' operations, particularly among small-scale farmers. The ECOWAS Commission said this model of growth was unsustainable and insufficient to keep pace with rapidly growing urban demand for food. It observed that dependence on area

expansion was contributing to a dramatic decline in soil productivity; increasingly degraded natural resources; and heightened conflicts over land use, particularly between farmers and herders (ECOWAS 2005b). With average yields of less than 1.5 tons per hectare for major cereals (maize, rice, millet, and sorghum), less than 1.0 ton per hectare for pulses (beans, groundnuts, and soybeans), and less than 10 tons per hectare for root and tuber crops (cassava, yams, and sweet potatoes), staple crop yields in West Africa are among the lowest in the world and have barely improved in recent years (Nin-Pratt and others 2011).

Contributing to this problem, the majority of farmers in West Africa rely on unimproved seeds, including traditional landraces, and seeds of improved varieties that no longer provide a yield advantage because they have been recycled for many years. Setimela, Badu-Apraku, and Mwangi (2009) compared 2007 adoption rates of improved maize varieties in 14 Sub-Saharan African countries and found that West Africa (represented by Benin, Ghana, Mali, and Nigeria in the sample) had the lowest adoption rates compared with other parts of Africa. Across these countries, the supply of open-pollinated varieties and hybrid seeds from the formal sector was estimated to be only 33 percent of the potential demand, based on the amount of maize cultivated, with variations at country level from zero percent adoption of improved varieties in Benin to 3 percent in Mali, 11 percent in Ghana, and 47 percent in Nigeria.

Fertilizer use is similarly inadequate for high crop yields. At an average of just over 5 kilograms (kg) of nutrients per hectare from 2002 to 2009 (Druilhe and Barreiro-Hurlé 2012), and perhaps 6–7 kg per hectare now because of spending on subsidy programs (NEPAD 2011), fertilizer use in West Africa is less than one-tenth of the world average and well below the 2015 target of 50 kg of nutrients per hectare set by the African Union in its June 2006 Abuja Declaration on Fertilizer for the African Green Revolution (AU 2006). This low level of input use is all the more concerning given that the vast majority of fertilizer in West Africa is used on cotton, cocoa, and other industrial crops and not food staples (UEMOA 2013). Fertilizers are particularly needed in West Africa because of the naturally low nitrogen and phosphorus status of the soils (Bationo, Egulu, and Vargas 2013). Continued cultivation without fertilizer additions leads to soil nutrient depletion. Henao and Baanante (2006) estimate that West Africa lost an average of 55 kg of nitrogen, phosphorous, and potassium (NPK) annually per hectare cultivated from 2002 to 2004.

Fortunately, with correct use of improved seeds and fertilizer, West African farmers could easily double or triple their yields of most major crops (Nin-Pratt and others 2011; World Bank 2012a). In other parts of the world, use of improved inputs contributed to vast productivity gains. During the Green Revolution in Asia, for example, improved seeds and fertilizer were responsible for an estimated 23 percent and 25 percent, respectively, of the extra 117 million tons of rice produced

from 1965 to 1980 (Conway 2011). Similarly, policy reforms in the early 1980s in Turkey that increased farmer access to privately owned seed varieties led to an increase in average maize yields of 1.4 tons per hectare over a 10-year period, adding an estimated $97 million per year to farmer income, with similar gains in production of soybeans, wheat, and potatoes (Gisselquist and Pray 1999). Traditional landraces that are well adapted to local conditions also have many important roles to play, particularly as a foundation of farmer household food security. However, they are unlikely to provide the transformational improvement that West Africa needs to meet its growing demand for food staples.

In a search for strategies to facilitate use of improved inputs in ECOWAS countries, the physical nature of West Africa's agroecological zones provides a powerful argument for regional collaboration. Soil types and rainfall patterns cut across countries mainly in east-to-west bands, meaning that multicountry zones often share more similarities in crops, soil fertility, and nutrient status than do zones within the same country (Eilittä 2014). As a result, neighboring countries are potentially the nearest source of supply or best market outlet for adapted seeds and appropriate fertilizer types. Therefore, expanding input markets across national borders could be of significant direct benefit in achieving the economies of scale and savings on transport costs needed to reduce prices and improve farm-level choice and availability.

As in other parts of Africa, one of the main ways West Africa governments have sought to improve input supply has been through the adoption of harmonized trade rules designed to improve quality and make regional transactions easier, faster, and low cost.[1] After extensive consultations involving the West African Economic and Monetary Union (Union Economique et Monétaire Ouest Africaine, or UEMOA) and the Permanent Interstates Committee for Drought Control in the Sahel (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, or CILSS), ECOWAS (2008) enacted a set of harmonized trade rules for seed in 2008 that member states are now in the process of making operational. In 2012, ECOWAS enacted a similar set of harmonized trade rules and quality control procedures for fertilizer that is also in the process of being made operational in partnership with UEMOA.

In recognition of the importance of improving farmer access to inputs, this chapter looks at the strengths and limitations of regional trade reform efforts. The analysis is based on a desk review of the requirements for regional trade of seed and fertilizer, recent performance of input markets in West Africa, and specific provisions of the new harmonized regulations. The analysis also builds on a series of country case studies carried out during January and February 2014 in Burkina Faso, Liberia, Mali, and Nigeria. They were selected because of their varying levels of development in input supply and because of other differences in market size, proximity to the sea, language and legal background, and progress with implementation of the harmonized regulations. For example, Burkina Faso and Mali

are inland francophone countries that are regarded by development projects supporting the harmonization process as having made good progress toward implementation of the new regulations (WAFP 2014; WASP 2014). In contrast, Nigeria was selected because of the massive size of its economy and for representation as an anglophone country where some institutional development and progress toward harmonization has been achieved. Liberia, meanwhile, was selected as a coastal anglophone country with relatively undeveloped markets for seed and fertilizer and few of the institutions needed to support regional harmonization. To the extent possible, examples from other countries in the region and around Africa are also included to support the analysis and illustrate the practical challenges and opportunities for improved input trade.

Taken together, the desk analysis and case study work show that harmonization has many potential benefits and is already helping guide some countries in making important improvements to their quality control systems. Equally, the analysis also finds that harmonization is a demanding approach to trade facilitation that needs to be supported by multiple types of capacity improvement and other institutional reforms at the domestic and regional levels to be truly successful in breaking down trade barriers, improving farmer choice, and stimulating private sector investment. Rather than rely exclusively on harmonization and efforts to make the regional rules operational, therefore, the analysis points to a need for simple, complementary actions that individual countries or groups of countries can undertake in the near term while longer-term work toward full harmonization continues.

Markets for Seeds and Fertilizers in ECOWAS

Apart from industrial cash crops for which inputs are often provided by processing companies, most farmers in West Africa have little or no access to improved inputs for food staples. For food crops, farmers typically must travel long distances to find improved seed and fertilizer and then face problems of little choice, high prices, and uncertain quality. Farmer demand is also limited by lack of prior experience using improved seed and fertilizer for food staples and by poor availability of extension services to promote the benefits and correct use of these inputs. Compounding the problem, local markets for food staples in West Africa are often thin and uncompetitive while regional markets are highly fragmented with many costs and risks, including the threat of outright trade bans, that undermine competitiveness and give farmers little reason to produce surplus food for market sale (World Bank 2012a, 2012b; Keyser 2013a).

Problems with the emergence of competitive markets for seed and fertilizer are not unusual in developing countries and can even be expected in the absence of effective regulatory support. Without

oversight, the quality of farm inputs may become apparent only long after they are used, and even then with some degree of uncertainty because of intervening factors such as rainfall, soil type, and timeliness of use that ultimately affect how well each input performs. Commercial marketing of inputs also involves considerable risk for traders given that farmers may delay their purchases until they see how the rains develop whereas input companies must make purchases and decide on marketing strategies months in advance.

Despite these longstanding constraints, new opportunities for input supply are opening up in West Africa with the reemergence of government spending on input subsidies that began in the wake of the 2008 global food crisis. In Ghana and Nigeria, for instance, the state is actively promoting private sector involvement in the procurement and distribution of subsidized seed and fertilizer. Mali and Burkina Faso are also moving to a private sector approach in their subsidy programs, at least for fertilizer distribution. Thus far, however, private companies have made few efforts to promote their inputs through demonstration plots, farmer field days, and other such activities as is common in other developing countries, including many parts of eastern and southern Africa. Private sector involvement in seed research and variety maintenance also remains extremely limited. Several West African countries have imposed outright bans on private ownership of seed technology and private supply of breeder and foundation seed. Côte d'Ivoire is reportedly an exception and allows private variety maintenance,[2] but many other countries, including Burkina Faso, Ghana, Mali, and Nigeria, do not and instead require the state to supply 100 percent of breeder seed.

Donor support for professional agrodealer associations is also helping promote private competition and improve farm-level input supply in some countries, including Burkina Faso, Ghana, Mali, and Nigeria. Nevertheless, agrodealer density varies greatly in these countries. Input suppliers across all West Africa range from well-trained operators of large shops to small tabletop dealers in the markets, who have had no training in inputs and often sell from open bags (Eilittä 2014).

Of further importance, inherent differences exist between seed and fertilizer as commodities that shape the opportunities for regional trade and private competition. First, fertilizer is a bulk commodity traded in the world market that is subject to economies of scale at virtually every stage of the supply chain. For example, an ammonia–urea production facility can cost upward of $1 billion to establish. Second, fertilizer production plants can be established only in areas with sufficient supply of quality raw material, such as natural gas, phosphate rock, or potash. Blending plants that produce fertilizer from imported or local raw materials can be established for much less, but fertilizer is still a business that favors large firms and can easily result in monopolies and oligopolies in places such as West Africa where market demand is limited (Bumb, Johnson, and Fuentes 2012). Third, the bulkiness of fertilizer

also means that transport costs are a major factor in determining its final price. Road freight costs in West Africa are among the highest in the world (Bromley and others, 2011). Various studies show that transportation from coastal ports to inland locations easily accounts for 20 to 40 percent or more of total value excluding distribution to the farm gate (Bumb, Johnson, and Fuentes 2012; Diakité and others 2013; Wanzala and Groot 2013). Taken together, these factors provide a strong argument for producing or blending fertilizer as close as possible to where it is needed, but can also mean that well-established global companies with low-cost structures may be the most competitive source of supply, particularly in coastal areas.

Seed supply, in contrast, does not involve the same massive economies of scale. Small farmers can even multiply very good quality planting material if they follow the correct procedures, including required isolation distances for open-pollinated crops. Seed production, however, is arguably more complicated compared with fertilizer because years of adaptive research are required to develop effective varieties. Seed supply also requires reliable systems for maintaining each variety's parental germplasm and for replicating true copies of the variety for farmer use. The greater the number of seed crops and varieties that need to be multiplied, the more expensive and laborious the process becomes (Rohrbach, Minde, and Howard 2003; Keyser 2013b).

Regional Seed Trade Is Extremely Limited and Complicated by Many Factors

Seed trade is inherently complicated and requires overcoming multiple challenges at nearly every stage of the supply chain beginning with variety development and maintenance, through to seed multiplication, certification, marketing, and distribution. Production requirements vary from crop to crop and by the type of seed but generally involve several generations of multiplication. Beginning from parental germplasm, these generations typically include *breeder seed* (sometimes known as pre-basic seed) from which *foundation seed* (also called basic seed) is produced and, in turn, is used to multiply *certified seed*, which is the generation of seed that farmers plant.

Most improved seeds in West Africa bred for specific characteristics were developed within the region by public bodies such as national agriculture research institutes (NARIs); universities; and international Consultative Group for International Agricultural Research (CGIAR) Consortium research centers such as AfricaRice in Cotonou, the International Institute of Tropical Agriculture in Ibadan, and the International Crops Research Institute for the Semi-Arid Tropics in Bamako. These research institutes have proved themselves to be very effective in developing new varieties, but not in making

the bridge to commercialization; many of the very good varieties bred in West Africa have never been brought to market or otherwise made available for farmer use (Nin-Pratt and others, 2011). With recent government spending on input subsidies, an upsurge has occurred in the number of private companies doing seed multiplication, often involving smallholder farmers. However, there is still very little private involvement in seed breeding or variety maintenance, including production of breeder seed and foundation seed.

With respect to variety development, the supply of new and improved types of seed is constrained by the fact that most countries have very few plant breeders and limited resources to support their work. Even in Burkina Faso, which has a relatively large public sector agricultural research system, only one or two plant breeders handle major food crops, including maize, millet, and sorghum. Rice and cowpeas do somewhat better with four state breeders each, but even for these crops, researchers face serious resource constraints (Sène 2014). Small countries like Liberia, in contrast, typically have little or no domestic breeding capacity and depend almost entirely on partnerships with CGIAR Consortium research centers for crop research and access to improved germplasm.

Access to new varieties is also constrained by national requirements for variety testing and release. Even if a variety is a known good performer in a neighboring country with similar growing conditions, each country currently requires its own series of domestic trials before the variety can be made available to farmers. Registration procedures vary from country to country. However, in international systems, they involve a series of trials for distinctiveness, uniformity, and stability (DUS) and value for cultivation and use (VCU) carried out by the national seed authority in which data needed to measure different traits are collected in various locations around the country. Developing a variety can easily take plant breeders 7 to 10 years or more, and, with few exceptions, registration trials in West Africa take a minimum of 2 years but often require much longer. Then, after the tests are complete, national variety release committees are usually required to review the results and make a formal decision on whether to allow the seed to be registered and sold within the country's borders. Ideally, variety release committees should meet at least once a year, but in some countries, these committees may not meet for several years because of lack of resources.

Because of these factors, the release of new varieties in West Africa has been limited overall. Some countries have done better than others in meeting their own variety release requirements. Yet Gisselquist and others (2013) observe that in 11 western and central Africa countries, just 0.75 new varieties of maize were released per country per year from 1965 to 2006, with only 0.24 new varieties coming from the private sector per year versus 0.51 new varieties coming from public institutions per year. Even in Burkina Faso, where public agriculture research is relatively advanced, just 8.0 yellow maize varieties

and 9.0 sorghum varieties have been released in the past five years, equaling 1.6 and 1.8 new varieties per year, respectively (Sène 2104).

Seed supply is also complicated by the need to maintain the parental germplasm of each variety and multiply reliable copies for farmer use. In West Africa, these functions have traditionally been the responsibility of the NARIs and other public bodies. Breeder seed production, including the maintenance of inbred lines for hybrids and families of selected seeds for open-pollinated varieties, needs to be supervised by trained plant breeders and is particularly demanding. As Tripp and Mensah-Bonsu (2013) observe, yields at this stage of the seed chain are low because of the need for rigorous selection of acceptable plants and because inbred lines have little vigor on their own. The production of breeder and foundation seed is also expensive because seeds must be stored under carefully controlled conditions. Excess production is wasteful, but insufficient supply can shut down the entire production chain. When variety maintenance is managed by the private sector, the firm is naturally responsible for coordinating the production process and for matching the supply of different generations of seed against its own medium-term sales projections. When state bodies manage breeder and foundation seed production, an organized system also needs to exist for coordinating the supply of genetic material to private companies or others doing seed multiplication.

To date, few such systems exist. Even in Ghana, where private involvement in the seed industry is relatively advanced, requests for breeder seed are handled by directors of breeding programs who may or may not have the resources or incentives to act. First, no system exists for paying deposits for breeder seed, and thus the breeding program faces a serious risk of noncollection and nonpayment by the seed company. Second, provisions for sanctions against the breeding program for failure to deliver are lacking, thereby putting the seed company at risk of not being able to multiply the product it wants to sell. As a result, according to Tripp and Mensah-Bonsu (2013), only a few varieties of each crop are produced and marketed as seed in Ghana in any year, one or two varieties for each crop generally dominate. In the case of maize, a single variety—Obatanpa, released in 1992—has accounted for more than 95 percent of certified seed production in Ghana for the past decade. Obatanpa is an excellent variety, but is now more than 20 years old and so widely grown that it is unlikely to contribute further to national yield gains by itself or to growth of the commercial seed industry more generally.

Certification procedures to ensure that each seed lot is true to type are another demanding part of seed supply. Depending on the crop, type of seed, and generation of seed being produced, full certification requires two to four field visits performed by qualified seed inspectors at specific stages in the production cycle. During these visits, inspectors need to check the type of crops grown previously on the seed plot, verify minimum isolation distances, measure maximum percentage of off-types and presence

of noxious weeds, and confirm that the field is free from specific diseases. Inspectors must also check that required actions such as tassel removal are performed at the correct time and thus need to visit the field just before the start of flowering to check for purity and immediately after flowering to check the level of male sterility. After field inspections, certification also requires laboratory analysis of the seed crop to measure genetic purity, germination capacity, moisture content, and other variables.

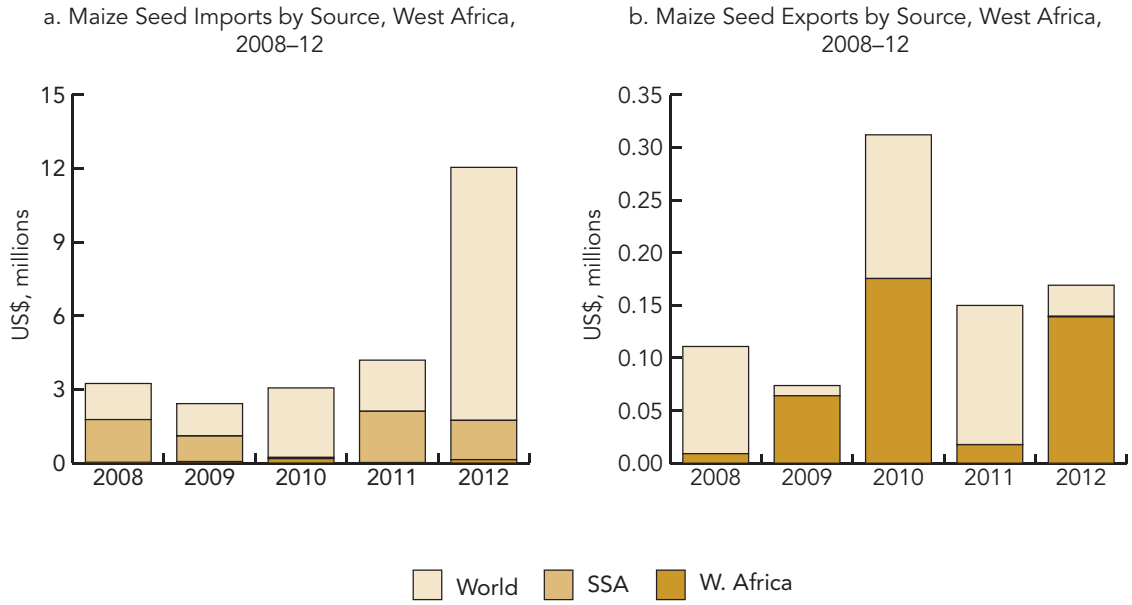
Seed certification thus requires significant resources, including an adequate number of trained inspectors, reliable transportation, and professionally staffed and well-equipped laboratories. Without these elements, various mistakes can easily happen such as poor quality seed being allowed onto the market as certified seed and perfectly good quality seed being rejected because inspectors are unable to strictly follow procedures (Tripp and Mensah-Bonsu 2013). When large quantities of seed are produced in a small area, the cost of these inspections is much more manageable than when production is widely dispersed across groups of small farmers (Rohrbach, Minde, and Howard 2003; Keyser 2013b).

At present, very few countries in West Africa have the capacity to implement these requirements and, at best, only manage to certify part of their annual seed crop, leaving most farmers little choice other than to rely on uncertified seed and recycled landraces. Where improved seed is sold, both in commercial markets and under government subsidy programs, there are frequent complaints of poor quality and of outright counterfeiting, with ordinary grain being disguised as certified seed. From a regional perspective, this circumstance reduces the confidence of importing countries to the point that governments often perform their own tests before allowing imported seed onto the market and sometimes insist on sending their own inspectors to visit foreign seed plots. Nigeria has even required importers to pay for its national seed inspectors to visit countries, such as Brazil and South Africa, that have internationally accredited seed certification systems before allowing imported seed from these countries to be sold to farmers (Ayoola 2014).

Beyond the requirements for variety release and seed certification, other challenges arise with international seed trade with respect to phytosanitary control. Under the terms of the International Plant Protection Convention, exporters of plant products are required to obtain a phytosanitary certificate from their national plant protection office to verify that the product is free of pests and plant disease and otherwise meets the importing country's phytosanitary import requirements.[3] Common pest lists for seed trade in West Africa do not exist, and as a result, various tests and inspection visits by plant health officers (who differ from seed inspectors) are typically required before a phytosanitary certificate can be issued.

Figure 3.1, panels a and b show the overall nature of West Africa's seed trade by showing the source of maize seed imports and the destination of maize seed exports in value terms. Although data for other seed crops are not available, maize seed is by far the most commonly traded seed crop in Africa. Fig-

Figure 3.1 Directions of West Africa's Maize Seed Imports and Exports



Source: UN Comtrade data (accessed July 3, 2014).

Note: Data query was for 15 countries of the Economic Community of West African States (ECOWAS) plus Mauritania and Chad, which are parties to the ECOWAS regional seed agreement through the Permanent Interstates Committee for Drought Control in the Sahel (CILSS). Analysis was prepared using mirror data (that is, imports reported by ECOWAS and CILSS countries from world, Sub-Saharan Africa (SSA), and fellow ECOWAS and CILSS members for imports and imports reported by world, SSA, and fellow ECOWAS and CILSS members from ECOWAS and CILSS for exports. In other words, panel a on imports and imports reported by ECOWAS and CILSS from world, SSA, and fellow ECOWAS and CILSS members. Panel b on exports used imports from ECOWAS and CILSS reported by world, SSA, and fellow ECOWAS and CILSS members.

ure 3.1, panel a shows that West Africa's maize seed imports have been very low at less than $4 million per year except in 2012, when Nigeria imported $8 million of seed from Argentina for its subsidy program. Other than Nigeria, in fact, only Ghana and Senegal reported significant maize seed imports over the period covered, meaning that most countries were almost completely reliant on their own domestic supply.

Figure 3.1, panel b shows that West Africa's maize seed exports have been extremely limited. During the five years covered, countries participating in the ECOWAS harmonization agreement reported a combined total of just $816,000 of maize seed exports with average total exports of only $143,000 in most years.[4] Data show that about half of the region's maize seed exports went to countries outside

West Africa, and nearly all of these exports went to Mexico, Lebanon, and other countries with CGIAR Consortium research centers.[5] Most intraregional seed exports have likewise been connected with development projects or subsidy programs rather than private initiatives. Nigeria has occasionally allowed seed to be imported for its subsidy program from AfricaRice in Benin together with small quantities from private companies doing seed multiplication in Burkina Faso and Mali (Ayoola 2014). The Food and Agriculture Organization of the United Nations (FAO) similarly reports that breeder seed used for its West Africa Rice Project in Niger was exported by Mali and Senegal.[6]

Fertilizer Use Remains Low Amid Signs of Increasing Regional Trade

Compared with seed, fertilizer trade is relatively straightforward and primarily revolves around quality control procedures, including the verification of container weights and declared chemical components. Soil analysis is needed to determine optimal formulations for farmer use on different crops, and good storage conditions are required to avoid caking, water damage, and other types of loss. Nevertheless, fertilizer trade does not involve complicated procedures for variety maintenance and multiplication as described earlier for seed. Moreover, because inorganic fertilizer is not a food, animal, or plant product, a phytosanitary certificate should not be required for international trade as done for seed.

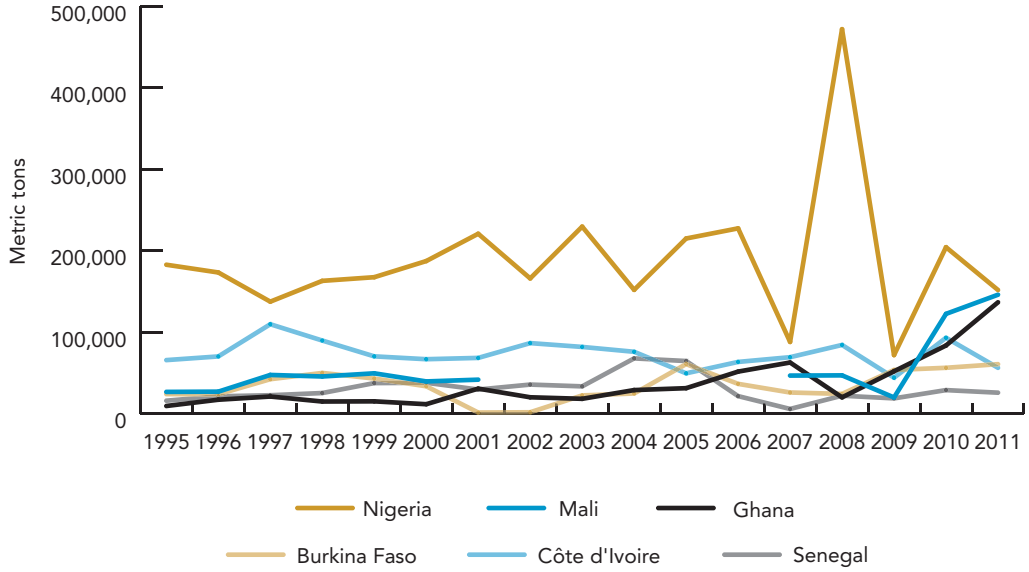
Rather, the main challenge with fertilizer trade is that quality problems can arise anywhere along the supply chain. During the case study investigations for this chapter, numerous complaints were heard in each country visited of problems with underweight bags and with grossly adulterated products that included ash and pure sand sometimes being sold as fertilizer (Ayoola 2014; Eilittä 2014). As occurs with seed, therefore, enforcing fertilizer standards in West Africa is a great challenge. International test certificates and inspections at seaports or inland border crossings, place of manufacture, or even in local warehouses may give little indication of the quality of the product sold in the market or distributed to farmers through a subsidy program. For example, an assessment of fertilizer quality in Côte d'Ivoire, Ghana, Nigeria, and Togo commissioned by the ECOWAS Commission as it embarked on the harmonization process (Sanabria, Dimithe, and Alognikou 2013) found serious problems with the quality of blended fertilizers and granular compounds in all countries covered. Of the blended products, 51 to 96 percent of the samples analyzed did not comply with tolerance limits for nutrient content set by ECOWAS. Compound fertilizers manufactured by global suppliers did better; only 15 percent of the samples were found to be deficient in nutrients, although problems with underweight bags and inadequate storage were still common. In Nigeria, 41 percent of the bags sampled did not meet the ECOWAS tolerance limits for weight.

Although fertilizer procurement in West Africa has often been marred with corruption, large producers such as manufacturers and blending companies that trade on their reputation generally have a strong underlying incentive to ensure the quality of their products, and most have their own laboratory facilities to test production runs. In Nigeria, large manufacturers reported they have begun drawing samples from affiliated distributors and retailers to check for the quality of their products at these levels too (Ayoola 2014). In contrast, smaller blending companies usually do not have the same capacity. Instead, they must depend on assurances from their suppliers for the quality of raw materials they use together with simple physical inspections that help ensure products are being blended at the correct ratios. When these companies desire laboratory analysis, samples must be sent to the national fertilizer laboratory if it has capacity or to a private laboratory somewhere within the region or offshore.

In 2011, total NPK consumption in the ECOWAS region was 608,000 tons of nutrients, equal to 13.00 percent of total consumption in Africa (4.8 million tons) and 0.35 percent of global consumption (173.0 million tons).[7] Compared with the late 1990s when fertilizer consumption in West Africa was about 525,000 tons of nutrients, the 2011 figure is an increase of about 16 percent. When this apparent increase is set against the increase in total cropped area of about 25 percent from the late 1990s to 2011, however, the region clearly has not advanced and even has gone backward in per hectare application rates. To put these numbers in a wider context, average fertilizer use in West Africa from 2002 to 2009 was barely above 5 kg of NPK nutrients per hectare of arable and permanent cropland versus 7.1 kg per hectare for all Sub-Saharan Africa and 12 kg per hectare in eastern Africa. In southern Africa, Malawi, Zambia, and Zimbabwe each consumed 29 to 35 kg of nutrients per hectare over the same 2002 to 2009 period (Druilhe and Barreiro-Hurlé 2012).

Some recent gains have been recorded in West Africa because of spending on subsidy programs, yet total nutrient use remains well below the level needed to transform agriculture production (NEPAD 2011). The overall stagnation in fertilizer consumption in West Africa is illustrated in figure 3.2, which shows total NPK use in the top-six fertilizer-using countries from 1995 to 2011. From a regional perspective, these data also show that fertilizer consumption is heavily skewed in favor of just a few countries. Of the 608,000 tons of nutrients consumed in 2011, for instance, Nigeria, Mali, and Ghana accounted for 72 percent of the region's total fertilizer use. When Burkina Faso and Côte d'Ivoire are added, these five countries accounted for 91 percent of West Africa's total consumption. Three West African countries (The Gambia, Guinea, and Togo) consumed less than 5,000 tons each in 2011, while Benin and Senegal consumed from 10,000 to 30,000 tons each.[8] The spike for Nigeria in 2008 is explained largely by a surge in distribution of subsidized fertilizer.

Figure 3.2 Fertilizer Nutrients (NPK) Consumed by Top-Six West African Fertilizer-Consuming Countries, 1995–2011



Source: http://classic.AfricaFertilizers.org (accessed May 20, 2014).

Although the overall regional picture is bleak, close examination of the data for Mali, Ghana, and Burkina Faso reveals that these countries have made very large gains in fertilizer consumption since 2008. These gains are mostly a result of each country's input subsidy program and so may not be sustainable if farmers are required to pay commercial prices. As shown, Burkina Faso experienced a rise in fertilizer consumption in the early 2000s only to give up its gains until consumption started to rise again from 2008 because of spending on subsidies. Many of the fertilizer companies interviewed for this study complained of unpredictable market size and problems with corruption linked to the subsidies. Others, however, pointed to the sharp rise in fertilizer consumption as having helped private importers and local blending companies selling to subsidy programs achieve improved economies of scale. To the extent that farmers who have never before used fertilizer on food crops become aware of and continue to demand the benefits fertilizer offers, spending on subsidies could potentially kick-start a lasting transformation in market size and regional competitiveness in fertilizer production.

Currently, most fertilizer in West Africa is imported through the region's coastal ports and shipped by trucks to its final destination. This is normally done by large importers, who may also act as wholesalers and, in some cases, have their own distribution networks. Some importers such as Yara and Louis

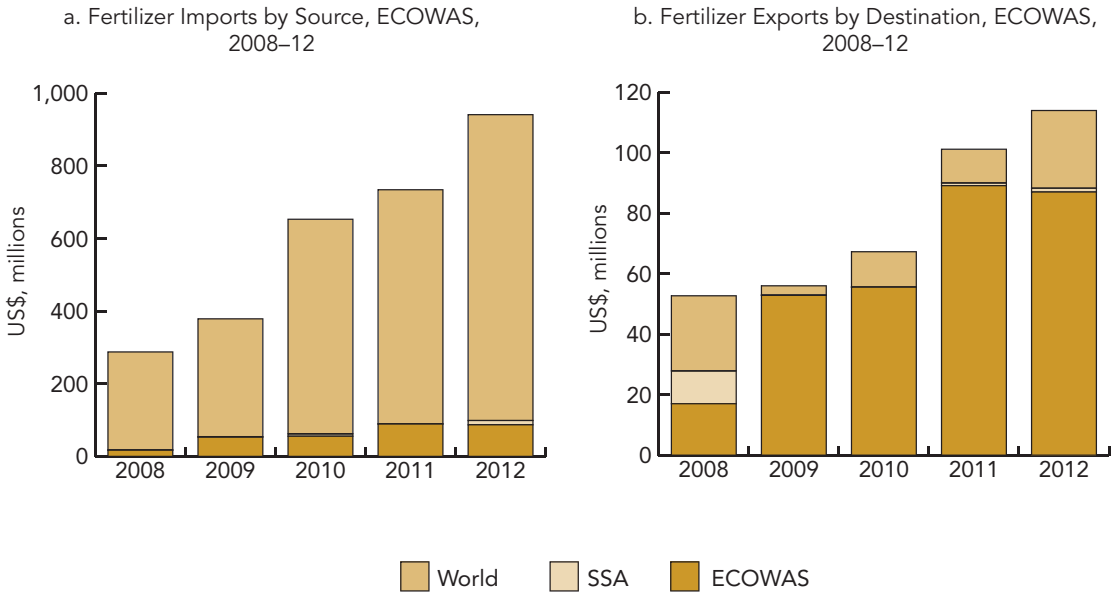
Dreyfus operate regionally in several countries, but a country usually has only a few importers because of the high cost and the difficulties of acquisition of finance and small market size. In comparison to more developed fertilizer markets, importing in West Africa (as is true generally in Sub-Saharan Africa) is expensive because of the high costs of finance, high cost of sea freight to the region, delays and slow operations at the ports, poor bagging operations, and high cost of warehousing. Companies participating in subsidy programs also complain about delays in government payments, which they say greatly increase finance costs and risks of doing business.

Local fertilizer production is growing, but is still very limited and dominated by blending companies that use ingredients imported from outside West Africa. Blending plants with appreciable capacity are installed in Burkina Faso (CIPAM), Côte d'Ivoire (Yara and STEPC), Ghana (Yara, Golden Stork), Mali (Sogefert, Toguna Agro Industries), Nigeria (Notore, Golden Fertilizers, TAC Agro), Togo (WabcoCotia, Sotagri), and Senegal (SENCHIM) (Fuentes, Johnson, and Bumb 2011; UEMOA 2013; Ayoola 2014). Potential also exists to exploit commercial deposits of rock phosphate (most notably in Senegal and Togo), lime, dolomite, gypsum, and pyrite found throughout the region. Natural gas and coal reserves in Côte d'Ivoire, Ghana, Niger, Nigeria, and Senegal can similarly be used for the production of nitrogenous fertilizers. Presently, however, only Nigeria is exploiting this opportunity by producing urea and other forms of nitrogen that are used in blended products made with other imported raw materials (UEMOA 2013; Wanzala and Groot 2013).

Figure 3.3, panels a and b show the source of West Africa's fertilizer imports and destination of its fertilizer exports in value terms. First, with respect to imports to West Africa (figure 3.3, panel a), the data show that total value has grown steadily during the period covered with a small but increasing share of total fertilizer coming from local West Africa suppliers. Given the stagnation in volume of fertilizer used, the value increases primarily reflect increased spending on fertilizer subsidies in a few countries. With regard to exports (figure 3.3, panel b), the data show that regional markets in West Africa are by far the most important destination for locally produced fertilizer. During the period covered, regional sales accounted for 75 percent of West Africa's fertilizer exports, thereby underscoring the importance and potential benefits of efforts to harmonize regional trade policies.

Of the region's exporting countries, Mali has done especially well, growing from a low base to account for slightly more than 50 percent of West Africa's intraregional fertilizer trade and nearly 46 percent of West Africa's total fertilizer exports in recent years. Most of these exports have come from the privately owned firm Toguna Agro-Industries that was established only in 2009. The company manufactures blended products using raw materials imported from global sources and currently supplies the entire 15,000 tons of fertilizer required by Burkina Faso for its subsidy program for cereals and part of

Figure 3.3 Directions of Fertilizer Imports and Exports, West Africa



Source: UN Comtrade data (accessed July 3, 2014).

Note: Data query was for 15 countries of the Economic Community of West African States (ECOWAS) that are party to the ECOWAS fertilizer harmonization agreement. Analysis was prepared using mirror data (that is, imports reported by ECOWAS countries from world, Sub-Saharan Africa [SSA], and fellow ECOWAS members for imports and imports reported by world, SSA, and fellow ECOWAS members from ECOWAS for exports). In other words, panel a on imports used imports reported by ECOWAS countries from world, SSA, and fellow ECOWAS members. Panel b on exports used imports from ECOWAS reported by world, SSA, and fellow ECOWAS members.

Burkina Faso's requirements for cotton. Toguna Agro-Industries has also exported its blended products to Benin, Niger, and Senegal and reports that it expects sales to increase in the near future with the opening of a second blending plant and with the exploitation of domestic rock phosphate mined near Tilemsi, Mali. Fertilizers blended in Côte d'Ivoire, Ghana, and Togo, the three next leading exporters in the region, are also being imported by Burkina Faso and Mali.

Because of the bulkiness of fertilizer, prices tend to be far higher in the landlocked Sahel countries than in coastal countries (see table 3.1). West Africa's transport costs are notoriously high and are estimated to account for almost one-third of the fertilizer retail price in Mali (Diakité and others 2013). An important reason for this cost is the poor system of allocating freight whereby trucks can wait for weeks

Table 3.1 Commercial Retail Prices of Urea, Selected Coastal and Landlocked Countries, 2010–13 (average $ per ton)

Coastal countries	Landlocked countries
Ghana = 466	Niger = 643
Benin = 598	Mali = 706
Nigeria = 604	Burkina Faso = 767
Senegal = 674	
Côte d'Ivoire = 740	

Source: http://classic.AfricaFertilizer.org (accessed May 29, 2014).

in the coastal ports for a load and must then return from the Sahel empty or wait a second time for a return load. Other reasons include poor condition of the trucks and roads, freight delays on the roads and in the borders, and payments demanded by corrupt officials.

Just as transport costs result in high retail prices, they also impose a high cost on government subsidy programs. Since 2008–09, Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Niger, Nigeria, Senegal, and Togo have each been subsidizing fertilizer up to 50 percent of the retail price. Improved seeds are usually also included in these programs. However, because of prices and the sheer bulk of fertilizer involved, this commodity accounts for the vast majority of program expenditure, meaning that any savings on trade costs for fertilizer could be of significant direct benefit to government budgets. As countries look to maximize the efficiency of these programs and eventually move beyond the need for input subsidies, efforts to save on trade costs and promote intraregional trade are fundamentally important.

Toward an ECOWAS Policy for Agricultural Inputs

In an effort to improve quality and create new opportunities for regional trade, West African policy makers have been working for many years to develop harmonized trade rules for seed and fertilizer.[9] Adoption of harmonized trade rules is a well-established and popular approach to trade facilitation that has helped many countries around the world save on trade costs and improve their competitiveness position. The European Union (EU) and Organisation for Economic Cooperation and Development (OECD), for example, already operate well-established harmonized systems for seed trade. Harmonization with international norms, however, is not the only option for improving trade and can potentially

create new bottlenecks if the harmonized rules are set too high for users to afford or if the requirements are too difficult for countries to implement. Therefore, choosing the proper approach to trade facilitation is an important part of improving farmer access to quality inputs and West Africa's prospects for agriculture development more generally.

For both seed and fertilizer, harmonization has required that a vast number of technical, legal, institutional, and other issues be addressed. Efforts in West Africa to formulate regional regulations for seed began by CILSS in the early 2000s for its member states. Then, in 2004, a separate process was started by UEMOA that was joined by ECOWAS in 2005 and finally by CILSS in 2006. With fertilizer, the formal process began more recently in 2010 and has involved ECOWAS and UEMOA only. Through these deliberations, the ECOWAS Council of Ministers enacted detailed regulations setting out specific rules for regional trade and quality control of seed and fertilizer in May 2008 and December 2012, respectively (ECOWAS 2008, 2012f).

In enacting the new trade rules, ECOWAS members agreed to use the powerful legal instrument of *regional regulations*. According to the terms of the Revised Treaty of the Economic Community of West African States of 1993 and the Supplementary Protocol A/SP.1/06/06 of 2006 (ECOWAS 1993, 2006), regional regulations are automatically binding and directly applicable in the entire ECOWAS area when they are enacted. Moreover, in a conflict between national and regional rules, the regional regulations take legal precedence and supersede national legislation in the legislated areas. In the case of seed, Chad and Mauritania had been working on seed harmonization for many years through CILSS and agreed to follow the ECOWAS rules to avoid more than one set of harmonized regulations in West Africa. Despite these landmark achievements, and as powerful as the regional instruments are, a great many hurdles remain before harmonized trade of seed or fertilizer can begin.

First, before the regional regulations can be brought into operation, detailed *implementing regulations* that specify how different aspects of each trade system will work must be adopted by the ECOWAS Commission. These instruments are fully developed and have been validated by regional governments, but to date, only one set of implementing regulations for seed has been adopted. Moreover, even though ECOWAS regional regulations supersede domestic laws, the 2008 and 2012 regional regulations prescribe that member countries adopt various supporting regulations at the national level in areas (such as licensing requirements and licensing procedures) that are not detailed in full by the regional regulations themselves. Conventions between each participating regional body are also required to allow for joint implementation led by ECOWAS. As described in more detail later in this chapter, these legal processes are still ongoing.

Second, a great many capacity improvements and institutional upgrades are needed before the regional rules can be followed. In designing the regional trade rules, ECOWAS members chose to base the

regional regulations on technically advanced international standards. For seed, these standards include (a) variety release procedures determined by the International Union for the Protection of New Varieties of Plants (UPOV) and (b) seed certification procedures set by the OECD for field inspection and by the International Seed Testing Association (ISTA) for laboratory analysis. With regard to fertilizer, regional quality control procedures are based on standards set by AOAC International (formerly the Association of Official Analytical Chemists, or AOAC) and International Organization for Standardization (ISO) with EU regulations as an alternative. These systems are each highly effective as quality control instruments, but require specialist skills, advanced laboratory equipment, and other resources to implement that are generally lacking in most of West Africa.

In light of these realities, the regional regulations stop short of making full accreditation by UPOV, OECD, ISTA, AOAC International, ISO, and other international bodies mandatory. Nevertheless, the ECOWAS regulations still require that all aspects of the agreed standards be complied with for harmonized trade to occur. This compliance, in turn, requires that importers have confidence in the exporter's ability to meet and enforce the standards. Without this confidence, importing governments may continue to insist on performing their own quality tests or impose other mandatory product registration procedures and checks that harmonization seeks to reduce and even eliminate. To avoid this outcome, the ECOWAS regulations provide that oversight of each country's seed and fertilizer system be provided by the West Africa Seed Committee (WASC) and West African Committee for Fertilizer Control (WACoFeC), respectively. At present, both committees still must be established. Thereafter, whether importers will have confidence in the system's ability to produce acceptable results is unknown.

Despite these challenges, and even though neither set of harmonized trade rules is currently operational, several West African governments have already made important changes to their national regulations and begun to invest in capacity upgrades to help meet the harmonized standards with donor support. These moves are important steps in the proper direction and can potentially transform the markets for seed and fertilizer at the domestic and regional levels even before full implementation of the regulations begins. At the same time, however, the complexities of harmonization and requirements for upgrading involved in this approach also generate a fundamental challenge of matching regulatory ambitions with current regulatory resources and regulatory capacities. By choosing to base West African trade rules on advanced international standards, governments face a particular risk of overlooking relatively simple improvements that are less expensive to implement and could potentially have greater effect on trade, private competition, farmer choice, and quality improvement in the near term.

Harmonized Seed Regulations Aim to Improve Variety Choice and Seed Quality

The ECOWAS Council of Ministers enacted the main instrument, "Regulation C/REG.4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification, and Marketing of Plant Seeds and Seedlings in the ECOWAS Region," (ECOWAS 2008) at its 16th Session held in Abuja on May 17–18, 2008. Ten months later, in March 2009, the UEMOA Council of Ministers (UEMOA 2009) enacted its own version of the regulations ("Regulation No 03/2009/CM Related to the Harmonization of the Rules Governing Quality Control, Certification and Trade of Plant Seeds and Seedlings in UEMOA").

In brief, the regional regulation (ECOWAS 2008) and the associated implementing regulations (ECOWAS, 2007a, 2007b, 2012e) together provide a detailed set of procedures for variety release, seed certification, and domestic and regional seed trade. The regulations cover 11 major crops chosen because of their importance to food security and regional trade. The crops include the region's four most important cereals (maize, pearl millet, rice, and sorghum), three important tubers (cassava, Irish potato, and yam), two major pulses (cowpeas and groundnuts), and two very important vegetables (onion and tomato).

Under the harmonized rules, new varieties will need to be tested and registered in only one member country to be entitled to entry in the *West African Catalogue of Plant Species and Varieties*, after which the variety can be multiplied and traded anywhere in the region. Inclusion in the regional variety catalog will be based on procedures for DUS and VCU testing set by UPOV, and the catalog itself will be maintained by WASC when it is operational.[10] The regional regulations also set out specific procedures for seed certification based on OECD and ISTA guidelines intended to improve seed quality in domestic markets and minimize border delays through recognition of seed certificates issued in accordance with the specified procedures. Underpinning these requirements, all seed professionals (including plant breeders, seed producers, wholesalers, retailers, traders, seed packers, brokers, and even transporters involved in seed trade) will need to be licensed according to the procedures and guidelines set by individual member countries. An overview of key provisions in the harmonized seed regulations is given in box 3.1.

With the enactment of the ECOWAS regulation of 2008 and UEMOA regulation of 2009, the ECOWAS and UEMOA commissions finally were in a position to adopt the corresponding enabling regulations with details of the operation of the seed system. However, the first of these regulations was not adopted until almost four years later when the ECOWAS Commission finally

Box 3.1 Key Provisions of the ECOWAS Seed Regulations

Regulation C/REG.4/05/2008 by the Economic Community of West African States (ECOWAS 2008) and associated implementing regulations outline harmonized procedures for variety release and seed certification and provide for mandatory licensing of all operators in the seed supply chain. Key provisions include the following:

- **Requirements for variety registration:** For an improved variety to be released in any country, it must have produced satisfactory distinctiveness, uniformity, and stability (DUS) and value for cultivation and use (VCU) test results from trials carried out under the supervision of the country's national seed committee. The DUS tests may be carried out in a single location whereas the VCU tests must be conducted in several locations and include at least one set of farmer field trials. The criteria to be used for evaluating DUS and VCU data are based on international standards set by International Union for the Protection of New Varieties of Plants (UPOV) where they exist.
- **Regional variety catalog:** A variety that has been tested according to agreed DUS and VCU procedures and duly registered in one country's national variety catalog will be entitled to entry in the *West African Catalogue of Plant Species and Varieties*, after which it can be multiplied and traded anywhere in the region. The listing of a new variety in the regional catalog will be valid for 10 years, renewable for periods of five years thereafter.
- **Three seed categories:** For the 11 species covered, national catalogs and the regional catalog will group the varieties under three lists including List A for improved varieties whose seeds may be multiplied and traded within the region; List B for improved varieties whose seeds may be multiplied within the region for export outside the region; and List C (or "special list") for indigenous varieties or landraces that have been described or characterized by a country's national agriculture research institute. Vegetables included in List A are exempt from VCU trials, and crops in List B require only DUS tests.
- **Requirements for seed certification:** Every seed lot intended for domestic or international sale in ECOWAS shall be certified in accordance with international standards set by the

adopted Enabling Regulation 01/06/12 Relating to the Roles, Organization, and Functioning of the West Africa Seed Committee on June 4, 2012 (ECOWAS 2012b).[11] Rather than adopt the other two sets of enabling regulations at the same time, the president of the ECOWAS Commission considered that WASC should become operational first, after which the other enabling regulations could be adopted. To assist in this regard, the ECOWAS Commission gave the West and Central African Council for Agricultural Research and Development (WECARD), based in Dakar, a five-year mandate to facilitate the establishment of WASC and to undertake other steps, including development of plans for capacity building activities, needed to move forward with harmonization. WECARD's work began in April 2013 under the West Africa Seed Project (WASP) financed by the United

Organisation for Economic Co-operation and Development (OECD) for field inspection and by International Seed Testing Association (ISTA) for laboratory analysis or other OECD- and ISTA-based rules adopted by ECOWAS.

- **Mutual recognition of variety lists and seed certificates:** Each country must permit the importation and sale of varieties registered in the regional catalog that are certified in accordance with the harmonized rules. Licensed traders shall be required to submit only an advance declaration to the importing country's quality control and certification service.
- **Seed sector actors to be licensed professionals:** Licenses are compulsory for all sector participants and must be renewed every three years by the quality control and certification service of each member state. Criteria and fees for licensing are defined by each member state. At the discretion of the member state, production licenses may be issued to private companies for any seed category, including breeder seed and foundation seed.
- **Access to information:** Member states are required to ensure the full participation of seed sector participants in the process of public decision making on seed-related matters and to organize public access to seed-related information available to public authorities.
- **Harmonized definitions and labeling standards:** Countries shall observe standard definitions of seed terms and ensure that standard labels with a minimum set of information are affixed to all seed packs.
- **Oversight and administration:** The West Africa Seed Committee, funded by the ECOWAS Commission, will serve to monitor and facilitate implementation of the regulations and support development of national seed sectors.
- **Right to appeal and confidentiality:** Licensed seed professionals have the right to appeal any decision against them by the national seed authority and to have their information treated confidentially.

Source: ECOWAS 2007a, 2007b, 2008, 2012e.

States Agency for International Development (USAID). An overview of the legal instruments that compose the ECOWAS harmonized seed system and the current legal standing of each instrument is given in table 3.2.

Although the ECOWAS and UEMOA commissions collaborated in the development of the harmonized seed regulations, table 3.2 shows that the efforts of the two economic communities diverged in the final stages and resulted in minor but important differences in each set of regional regulations. One such discrepancy is that the ECOWAS regulations give responsibility to each member state to decide how fees are collected when issuing licenses and charging for seed certification, whereas the UEMOA regulations gives this responsibility to the commission. Another discrepancy is that the ECOWAS regulations define

Table 3.2 Status of ECOWAS Regional Seed Regulations, July 2014

Legal instrument and purpose	Validation status	Adoption status	Remarks
Regulation C/ REG.4/05/2008 Covering instrument sets out main elements of the regional system for seed trade. (ECOWAS 2008)	Done—first by UEMOA member states in November 2004, then by seven non-UEMOA ECOWAS member states in September 2005, and then by all 15 ECOWAS member states plus Mauritania and Chad through CILSS between February and April 2007	Enacted by ECOWAS Council of Ministers, May 2008	UEMOA enacted similar regulations in March 2009 with a few differences from ECOWAS that need to be resolved. Convention between ECOWAS, UEMOA, and CILSS to allow for joint implementation is under review. Implementation of covering regulations is dependent on adoption of enabling regulations.
Enabling Regulation 01/06/12 Regulation sets out the roles and functions of the West Africa Seed Committee (WASC). (ECOWAS 2012e)	As above	Approved by ECOWAS and UEMOA Ministers in charge of agriculture in November 2007; adopted by ECOWAS Commission in June 2012	In March 2013, ECOWAS Commission gave WECARD a 5-year mandate to facilitate establishment of WASC and its operations.
Draft Enabling Regulation related to the West Africa Seed Catalog (ECOWAS 2007a)	As above	Approved by ECOWAS and UEMOA ministers in charge of agriculture in November 2007; not yet adopted by ECOWAS Commission	President of ECOWAS Commission opted to postpone adoption until WASC is operational.
Draft Enabling Regulation related to quality control, certification, and trade (ECOWAS 2007b)	As above	As above	As above

Source: Dimithe 2014.

Note: CILSS = Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (Permanent Interstates Committee for Drought Control in the Sahel); ECOWAS = Economic Community of West African States; UEMOA = Union Économique et Monétaire Ouest Africaine (West African Economic and Monetary Union); WECARD = West and Central African Council for Agricultural Research and Development.

special procedures for inclusion of genetically modified organisms in the regional variety catalog by giving member countries the final decision on admittance according to the biosafety or biosecurity legislation in force in each country, whereas the UEMOA regulations exclude such organisms completely. Both issues are still unresolved. In addition, a convention between ECOWAS, UEMOA, and CILSS needs to

be finalized to allow for joint implementation of the regional framework, including establishment of the regional regulatory committee by ECOWAS.

In formulating the regulations, policy makers also decided to defer deliberations on issues related to phytosanitary control and protection of intellectual property rights (IPRs) to a later date. Phytosanitary harmonization is mainly important when seeds cross international borders and aims to ensure that pest inspections and other quarantine measures are required for only pests and diseases that are not common in all member states. Achieving this level of harmonization requires development of shared quarantine pest lists for each species of plant. It is complicated because many West African countries either lack national pest lists or have outdated lists. In contrast, protection of IPRs is important to private variety introduction. Such protection is complicated by restrictions on private variety ownership in some West African countries. It is further complicated by the need for coordination with international bodies, including the African Intellectual Property Organization (Organisation Africaine de la Propriété Intellectuelle, or OAPI) based in Yaoundé and the African Regional Intellectual Property Organization (ARIPO) based in Harare that are responsible for intellectual property matters in francophone and anglophone countries, respectively.

At the national level, the regional regulations call on member states to undertake improvements and adopt complementary supporting regulations in several areas not fully covered by the regional regulations themselves. Details of these required actions are given in box 3.2 and show that the harmonized rules demand several types of institutional reform and capacity development. For example, qualified seed inspectors and laboratory technicians must be hired, trained, equipped, and funded, and national seed committees need to be established and given resources to operate.

For the regulations to be effective, countries must have broad awareness and understanding of the regulations together with a commitment to regional free trade objectives. As discussed earlier, the regulations grant considerable room for individual countries to set their own procedures, requirements, and fee rates for licensing of seed professionals. This approach is beneficial given the different levels of development and legal traditions in individual countries, but it can have major implications for the way countries partake in regional trade and the extent to which they benefit from the regional trade rules. Whereas the regional regulations allow production licenses to be issued to private firms for any category of seed (for example, breeder seed and foundation seed), governments are not specifically required to issue licenses for these purposes. The requirement to obtain a special license for everyone involved in seed trade, including individual seed growers, seed packers, and seed transporters, may also prove cumbersome. Seed is not a dangerous good, and the reasoning behind requiring truckers to acquire a special license to move this commodity is difficult to understand.

Box 3.2 Actions Required of Member States to Support the Regional Regulations for Seed and Fertilizer

Actions required of member states to benefit from the regional regulations for seed and fertilizer are nearly identical. The major exception is that a national fertilizer catalog cannot be compiled because the fertilizer regulations are based on truth in labeling and state that no product registration is required.

Specifically, to benefit from harmonized trade, member countries are required to adhere to the following Economic Community of West African States (ECOWAS) regulations:

- Publish the regulations in the national gazette within 30 days of being enacted by ECOWAS.
- Institute a national seed catalog (seed only, no approved lists of fertilizer types shall exist).
- Establish national bodies for seed and fertilizer control.
- Specify the conditions and modalities for obtaining a professional card or license or for its renewal, suspension, and withdrawal.
- Appoint well-trained and qualified inspectors and other competent authority, and grant them the necessary powers as well as adequate resources to carry out their mission.
- Determine the fee amounts for seed and fertilizer inspection and analysis.
- Take all appropriate measures to levy penalties for any violation of the provisions of the regulations.

Source: ECOWAS 2008, 2012f.

Even more significant, countries are not required to provide for private ownership of new varieties even though this is allowed by the regional regulations. Thus far, very little private involvement has occurred in seed trade, and governments may not see the need to issue such licenses, particularly if they are concerned about weak private sector capacity or view this as the best or only way to control against potentially deceptive practices. By not issuing such licenses or by making licensing criteria prohibitively difficult, however, governments can prevent private firms from growing into areas where they may have a strategic comparative advantage and could help alleviate some of the demands on overstretched public research and variety maintenance systems. Therefore, specifying the conditions and modalities for obtaining a professional card or license is about much more than establishing an office and setting fee rates for existing types of business. It requires policy makers to be fully aware of what the regional rules offer and to understand the implications of different policy choices the regional system requires them to make.

Harmonized Fertilizer Regulations Focus on Truth in Labeling and Quality Assurance

The formal process of harmonizing national legal frameworks for fertilizer began as a joint ECOWAS and UEMOA initiative in May 2010 with the objective of strengthening quality control and facilitating progress toward a more competitive regional market. Whereas the work on seed harmonization traces back to a 1998 conference hosted by the FAO in Abidjan (Rohrbach and Howard 2004), the work on fertilizer most clearly links to the 2005 ECOWAS Agricultural Policy (ECOWAS 2005a) and the African Union's 2006 Abuja Declaration on Fertilizer that called for improving the institutional, regulatory, and business environments of the African fertilizer market through regional harmonization (AU 2006). Unlike the harmonization process for seed, CILSS has not been a part of the process for fertilizer.

Building on experience gained with seed harmonization, and on national legal frameworks that were being developed for fertilizer in Benin, Burkina Faso, Ghana, Mali, and Nigeria, governments have carried out the process of developing harmonized regulations for fertilizer much faster than for seed. Compared with seed issues, those for fertilizer are relatively straightforward because quality control involves mainly verification of container weights and declared chemical components rather than the more complex matters that are part of seed trade. Thus far, the fertilizer process has involved three technical validation workshops, one task force meeting, one legal review meeting, one meeting of the ministers in charge of agriculture, one meeting of the ECOWAS Council of Ministers, and one meeting of the ECOWAS Commission (Dimithe 2014).[12]

Roughly two and a half years after the start of the process, the ECOWAS Council of Ministers formally enacted Regulation C/REG.13/12/12 Relating to Fertilizer Quality Control in the ECOWAS Region (ECOWAS 2012f) at its ordinary session held in Abidjan on December 2, 2012. In support of the regional regulation, four implementing regulations have also been developed, validated by national experts, and approved by ministers in charge of agriculture. As shown in table 3.3, however, the ECOWAS Commission has yet to adopt any of these implementing regulations needed to make the system operational. Unlike for seed, UEMOA has not developed its own parallel set of regulations for fertilizer and has instead agreed to follow those enacted by ECOWAS. However, a formal convention detailing this arrangement still needs to be drafted and signed.

In essence, the regional regulation (ECOWAS 2012f) and associated implementing regulations (ECOWAS 2012a, 2012b, 2012c, 2012d) provide a detailed set of procedures for the functioning of domestic and regional fertilizer markets based on truth in labeling and harmonized quality control standards. Consistent with the truth in labeling approach, countries must not maintain approved lists of

Table 3.3 Status of Regional Fertilizer Regulations, July 2014

Legal instrument and purpose	Validation status	Adoption status	Remarks
Regulation C/ REG.13/12/12 Covering instrument sets out main elements of the regional system for fertilizer quality control. (ECOWAS 2012f)	Done by all 15 ECOWAS member states in December 2010	Approved by ministers in charge of agriculture in all ECOWAS countries in September 2012 and enacted by ECOWAS Council of Ministers in December 2012	UEMOA and ECOWAS commissions have agreed that ECOWAS should enact regulations and both will implement them jointly. A convention defining this arrangement is still required and not yet drafted. Implementation of covering regulations depends on adoption of enabling regulations.
Draft Enabling Regulation related to the roles and functions of the West African Committee for Fertilizer Control (WACoFeC) (ECOWAS 2012b)	As above	Approved by ECOWAS ministers in charge of agriculture in September 2012; not yet adopted by ECOWAS Commission	In March 2013, ECOWAS Commission gave IFDC a 5-year mandate to facilitate setting up of WACoFeC and its operations.
Draft Enabling Regulation related to labeling and tolerance limits of fertilizers (ECOWAS 2012a)	As above	As above	
Draft Enabling Regulation related to the analysis of fertilizers (ECOWAS, 2012c)	As above	As above	
Draft Enabling Regulation relating to the inspection of fertilizers (ECOWAS 2012d)	Done by all 15 ECOWAS member states in September 2012	As above	

Source: Dimithe 2014.

Note: ECOWAS = Economic Community of West African States; IFDC = International Fertilizer Development Center; UEMOA = Union Économique et Monétaire Ouest Africaine (West African Economic and Monetary Union).

fertilizer types that can be sold to farmers. Governments, of course, may still prepare fertilizer recommendations for dissemination through extension services and specify the types of fertilizer they wish to procure in subsidy programs. However, governments must not otherwise dictate types that can or cannot be sold to farmers or types that may or may not enter their national borders if the products are truthfully labeled and do not contain harmful substances.

To support this approach, the regulations require fertilizer to be sold and transported in bags or other containers printed with clear and conspicuous labels that provide a minimum set of information (including the grade of nutrients when primary nutrients are claimed, guaranteed percentage content of each nutrient, net weight of the container, sources of nutrients, and name and address of manufacturer or repacking agent). The regulations also set out detailed procedures for physical inspection, sampling, and chemical analysis of fertilizer based on AOAC International, ISO, and EU standards together with specific tolerance limits for bag weight, nutrient content shortages, and maximum allowable heavy metal limits. Under this system, inspectors are vested with the power to inspect, during regular business hours, any premises where fertilizers are manufactured, stored, or sold and any vehicle or receptacle used to transport fertilizer. Other details of the regional fertilizer rules are given in box 3.3.

In principle, countries with such harmonized regulations can freely trade fertilizer between one another with imported fertilizer being subject to the same quality control procedures and level of inspections as in the country of origin. In practical terms, however, issues soon arise over the capacity of different countries to implement the required inspections and types of analysis needed to have confidence in the system. Because inspections are relatively easy to carry out at border posts, a risk arises of inspectors treating foreign fertilizer differently from domestic production by insisting on full inspection of every consignment before allowing entry of foreign fertilizer. Therefore, whether or not the harmonized trade rules will speed international trade is something of an open-ended question. The answer is likely to depend on measures that build confidence between countries in each other's quality control procedures. As described earlier, quality control of fertilizer has been a significant problem in West Africa and is a difficult task because adulteration can easily happen anywhere along the supply chain. Use of the same mandatory labeling standards and maximum allowable limits on nutrient deficiencies together with licensing of fertilizer professionals will help, but they are only part of what is required to address a much larger trade facilitation challenge.

Similar to the seed system, therefore, much remains to be done to make the fertilizer system operational at the regional and national levels. As for seed, the regulations call on member states to undertake a number of specific actions in order to benefit from harmonized trade, including developing licensing procedures, establishing a national fertilizer quality control body, and appointing and equipping qualified fertilizer inspectors and fertilizer analysts, that will all take time and money to achieve (see box 3.2). Just as the ECOWAS Commission gave WECARD a five-year mandate to facilitate the harmonization process for seed, the West Africa Fertilizer Program (WAFP)—implemented by the International Fertilizer Development Center and funded by USAID—was given a five-year mandate in March 2013 to facilitate the process for fertilizer.

Box 3.3 Key Provisions of the ECOWAS Fertilizer Regulations

The Economic Community of West African States (ECOWAS 2012f) Regulation C/REG.13/12/12 for fertilizer and associated implementing regulations lay out a professional system for the functioning of domestic and regional fertilizer markets based on harmonized quality control standards and labeling requirements. Key provisions include the following:

- **No product registration:** The regional framework for fertilizer is built around the principle of truth in labeling. Therefore, countries must not maintain approved lists of fertilizer types that can be sold to farmers or require product registration tests.
- **Free movement of fertilizers:** Fertilizers that comply with the prescribed quality standards shall be entitled to free movement throughout the ECOWAS region. Prior notification to the competent authority in the concerned countries should be the only requirement to import or export fertilizer.
- **Standard quality definitions and labeling requirements:** Countries shall observe standard definitions of fertilizer terms and ensure that all fertilizer containers are clearly labeled with a minimum set of information, including guaranteed nutrient content.
- **Requirements for inspection and analysis:** Member states are required to develop inspection and analysis manuals based on AOAC International, International Organization for Standardization, and European Union standards that describe the modalities and procedures for fertilizer sampling and inspection and business inspection.
- **Tolerance limits:** The regulations set out specific tolerance limits for nutrient deficiency and weight and maximum allowable heavy metal limits. Any product that exceeds the prescribed tolerance limits or contains other materials that are injurious to plant health shall not be allowed for sale.

Progress and Challenges of Harmonized Input Trade

As discussed, harmonization of regional trade rules is a complex process and takes many years to complete. Even in the case of fertilizer, where the process has gone relatively fast, four years have elapsed since the process began, and none of the required implementing regulations needed to support the system have been adopted. In the case of seed, the only implementing regulation adopted to date pertains to the establishment of WASC, and more than two years after its adoption, the committee is not operational.

These observations are not meant to diminish the importance of harmonization work or the significance of the regional agreements. Policy makers can be very proud for having navigated a vast array of technically demanding and politically challenging trade issues. The regional regulations set out detailed

- **Professional licensing requirement for fertilizer producers and traders:** Licenses are compulsory for all fertilizer sector participants, including importers, manufacturers, agro-dealers, and distributors, and must be renewed every three years by the official quality control and certification service of each member state. Every agrodealer or person selling fertilizer shall display his or her license in a conspicuous location.
- **Manufacture and importation:** The conditions and modalities to manufacture and import fertilizer will continue to be governed at the national level by regulations in each member state.
- **Warehouse storage conditions:** Any warehouse used to store fertilizer intended for sale must be adequately ventilated and tidy and have adequate temperature and moisture levels.
- **Biannual reporting:** All manufacturers, importers, and distributors of fertilizer are required to file biannual reports about the quantities imported or produced during the semester with their national fertilizer regulatory authority.
- **Access to information:** Member states are required to ensure the full participation of fertilizer sector participants in public decision making on fertilizer-related matters and organize public access to fertilizer-related information available to public authorities.
- **Oversight and administration: West African Committee for Fertilizer Control**, funded by the ECOWAS Commission, shall serve to monitor and facilitate the implementation of the regulations and support development of the national fertilizer sectors in the region.
- **Right to appeal and confidentiality:** Manufacturers, importers, and distributors will have the right to appeal any decision taken against them by licensing authority and to have their information treated confidentially.

Source: ECOWAS 2012a, 2012b, 2012c, 2012d, and 2012f.

systems that stand to transform domestic and international marketing of seed and fertilizer in West Africa, and the work done so far is a clear and considerable achievement. Even before the rules are operational, the process of harmonization has helped focus attention on important quality issues and led to tangible improvements reaching the farm level. In Burkina Faso, Mali, and Nigeria, seed inspectors are already implementing the ECOWAS certification guidelines albeit on a limited scale. Similarly, licensed fertilizer inspectors in Mali are now sampling at least some supplies of subsidized fertilizer all the way to the distributor level, and newly trained inspectors in Burkina Faso report they expect to begin comparable work soon.

Despite the many advantages of harmonization, successful policy reform clearly depends on much more than writing official documents and gaining formal approvals. Improving trade at the domestic and regional levels requires a sustained commitment to institutional development backed by ongoing

dialogue with a wide range of stakeholders to build support for the new systems and to avoid unexpected negative outcomes. Routine monitoring of the effect on trade costs, volumes and values traded, farm gate prices, quality, and choice is also needed to track progress and measure whether the changes really make a difference to sector performance. Attention to these issues is particularly relevant in the context of West Africa's decision to base its harmonized rules on high-level international standards and the risk of countries being unable to meet the standards. With these challenges in mind, the next part of the chapter looks at the progress being made by individual countries in improving their quality control systems and at other fundamental issues that need to be addressed to support harmonization and improve trade flows in the near and long term.

Much Remains to Be Done

Much remains to be done at the regional and national levels to make the harmonized trade rules operational. As discussed, regional committees for both seed and fertilizer need to be established before trade according to the harmonized rules can begin. This is especially important for seed because WASC is required to establish the regional variety list. However, setting up these committees will not be easy because WASC and WACoFeC are meant to consist of representatives of each country's national seed and fertilizer committee, respectively, and several countries do not yet have these committees. With regard to fertilizer, the ECOWAS Commission has not adopted the implementing regulation pertaining to the establishment of WACoFeC. A joint convention between ECOWAS and UEMOA also must be drafted, validated, and signed for ECOWAS to lead implementation of the fertilizer agreement. In addition, a joint convention between ECOWAS, UEMOA, and CILSS must be validated and signed for ECOWAS to lead implementation of the seed agreement. With regard to seed, issues about IPRs and quarantine pest lists also need to be addressed to make the system complete.

Table 3.4 summarizes an analysis by WASP of the overall progress with national-level seed reforms needed to support the harmonization process. As shown, progress has been spotty; Cabo Verde and Guinea-Bissau have not undertaken any of the required actions identified by WASP whereas Benin, Ghana, Nigeria, and Senegal have apparently made good progress in all but a few areas.[13] Taken together, progress appears to have been most consistent with respect to capital improvements (lab facilities, research stations, and so on) and with issuing of decrees calling for the establishment of a national seed committee, which as noted, is an important requirement for establishment of WASC. In contrast, table 3.4 shows that to date, only 8 of the 17 participating countries have published the 2008 regional regulation in their national gazette. Furthermore, none of the countries published the regulation within 30

Table 3.4 Implementation of Seed Reforms at the National Level According to WASP

	Publication in National Gazette	Legal Framework					Procedural Manuals			Strengthening of Capacities		
		National seed law	Decree on national variety catalog	Decree on national seed committee	Decree on seed production, quality control, and certification	Decree on seed sect of support fund	Variety release	Seed certification	Phyto certification	Human	Capital	Financial
Benin	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	
Burkina Faso	Y			Y		Y				Y	Y	Y
Cabo Verde												
Chad												
Côte d'Ivoire	Y			Y	Y					Y	Y	
Gambia, The				Y	Y		Y	Y	Y		Y	
Ghana		Y	Y	Y	Y		Y	Y		Y	Y	Y
Guinea	Y			Y						Y		
Guinea-Bissau												
Liberia											Y	
Mali		Y	Y	Y	Y		Y	Y		Y	Y	
Mauritania				Y							Y	
Niger	Y			Y						Y	Y	
Nigeria	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y
Senegal	Y	Y	Y	Y	Y	Y				Y	Y	Y
Sierra Leone				Y							Y	
Togo	Y	Y	Y	Y	Y	Y				Y	Y	Y
Total	**8**	**6**	**6**	**13**	**8**	**5**	**5**	**5**	**2**	**9**	**13**	**4**

Source: WASP 2014 (data from early January 2014, updated for Senegal, which published the Economic Community of West African States regulations in its national gazette on January 25, 2014, and for Burkina Faso, which published on February 25, 2014); others may have published since then.

Note: WASP = West Africa Seed Project. Chad and Mauritania are participating in the Economic Community of West African States (ECOWAS) harmonization agreement through the Permanent Interstates Committee for Drought Control in the Sahel (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, or CILSS).

days of adoption as required by the ECOWAS Commission, thereby calling into question the political will of member states to adhere to agreed-upon procedures.[14]

Moreover, on close inspection, a number of divergences between the data in table 3.4 and the actual requirements of the ECOWAS regulations soon emerge. According to the table, six countries have instituted a national variety catalog, yet in Ghana, Mali, and Nigeria, at least, the national catalogs have no provision for Lists A, B, and C as specified by ECOWAS. Likewise, although Burkina Faso, Mali, and Nigeria have each taken steps to establish a national body for seed control, the committee in Mali is not operational because of a lack of funding and the one in Burkina Faso has only dealt with organizational issues. Similarly, with regard to capital improvement, the seed laboratory in Liberia has received donated equipment, but the equipment is not operational because of lack of electricity supply.

Despite the many challenges, good progress has been made in Burkina Faso, Mali, and Nigeria with training and equipping of at least some seed inspectors. In these countries, inspectors are now carrying out a number of certification visits using field manuals based on the ECOWAS guidelines. In Nigeria, the procedures for variety release have similarly been formalized with details of DUS and VCU requirements for each crop covered by the regional system and published by the National Agricultural Seeds Council (NASC 2012a).

With donor support, good progress also has been made in Burkina Faso and Mali with building the knowledge of the new regulations across a broad section of seed stakeholders. However, in Nigeria, country investigations found only rudimentary knowledge of the regulations in many key institutions, including the Ministry of Industry, Trade, and Investment. During most interviews, in fact, public and private stakeholders in Nigeria expressed deep distrust for regional trade, stating that importing from other West Africa countries would be undesirable because of the unreliable quality of their neighbor's products. In Liberia, the case study investigations found that knowledge of the seed regulations is virtually nonexistent at every level of the supply chain. Only in Burkina Faso have cases (two) been brought against alleged violators of seed regulations, and in Nigeria, no apparent effort has been made to prosecute cases of counterfeiting despite widespread reports of grain being sold as "certified seed" through commercial and state subsidy channels.

With regard to national-level fertilizer reforms, table 3.5 summarizes the progress made according to an analysis prepared by WAFP. As shown in that table, WAFP places 11 of 15 ECOWAS countries in the "much to be done" category, whereas only 4 countries are classified as having made "some progress" or "almost there."

Similar to the seed situation, a number of divergences from the regional picture provided in table 3.5 and the actual requirements for harmonized trade of fertilizer were discovered. The classification

Table 3.5 Implementation of Fertilizer Reforms at the National Level According to WAFP

Countries by tier	Broad characteristics
Tier 1: Much to be done 11 countries: Benin, Côte d'Ivoire, Cabo Verde, The Gambia, Guinea, Guinea-Bissau, Liberia, Niger, Sierra Leone, Senegal, Togo	▶ Formal regulatory system for fertilizer is not in place. ▶ Registration and licensing sometimes are done by a ministry of agriculture or ministry of commerce and trade. ▶ Quality control sometimes is done by standard board or environmental agency. ▶ Limited awareness of the regional regulations exists among key stakeholders, including many government officials.
Tier 2: Some progress 3 countries: Burkina Faso, Mali, Nigeria	▶ Legal framework consistent with ECOWAS rules is in place (Burkina Faso and Mali) or finalized and awaiting approval (Nigeria). ▶ Limited implementation occurs of some aspects of the regulations, including quality inspections. ▶ Most regulatory staff members are appointed, but not all are trained or operational. ▶ National laboratory is designated with some capacity for fertilizer analysis. ▶ Good progress has been made with sensitization of key stakeholders (Burkina Faso, Mali).
Tier 3: Almost there 1 country: Ghana	▶ Legal framework is consistent with ECOWAS regulations already in place. ▶ National laboratory is appointed and staffed; capacity improvements are ongoing. ▶ Web- and mobile phone–based tracking system has been developed with facilities for inspection and general compliance of input shops (license validity, packaging, labeling, bag weights). ▶ Online systems are operational for registration, import, and license renewal.

Source: Abridged from WAFP 2014.

Note: ECOWAS = Economic Community of West African States; WAFP = West Africa Fertilizer Program.

of Ghana as "almost there," for instance, may be somewhat generous. Little evidence exists to suggest the fertilizer lab in Ghana is markedly superior to the National Bureau of Soils lab in Burkina Faso that has also been conducting fertilizer analysis for many years and that has ongoing similar capacity improvements (Eilittä 2014). Both facilities still require significant material and staff upgrades to meet the country's quality control demands together with improved capacity to draw samples from places where fertilizer is sold to farmers and other strategic locations. Ghana seems more advanced mainly with respect to the creation of online systems for licensing and compliance with general regulatory requirements, which is not actually a requirement of ECOWAS. Likewise, although table 3.5 indicates that the pending legal framework for fertilizer in Nigeria is consistent with ECOWAS rules, Nigeria's current and pending legislation requires testing and registration of all fertilizer types sold to farmers, which is directly inconsistent with the ECOWAS approach of truth in labeling (Ayoola 2014). Ghana's Plants and

Fertilizer Act, 2010 (Government of Ghana 2010) also contradicts the regional regulations by providing for a registry of fertilizer types.

With respect to its five-year mandate from the ECOWAS Commission to facilitate progress toward harmonized fertilizer trade, WAFP proposed a long list of activities in its 2014 regional work program (see box 3.4). Although some countries have already made good progress in certain areas, the long list of activities proposed by WAFP, together with WAFP's categorization of most countries as having "much to be done," gives an idea of the immense task ahead.

Box 3.4 Actions Proposed by WAFP to Support Implementation of the ECOWAS Fertilizer Regulations

The West African Fertilizer Program (WAFP), funded by the U.S. Agency for International Development and managed by the International Fertilizer Development Center, was given a five-year mandate by the Economic Community of West African States (ECOWAS) Commission in March 2013 to facilitate implementation of the regional regulations. Toward that end, the center is expected to help establish a national committee for fertilizer control in each member country as building blocks for the establishment of the West African Committee for Fertilizer Control. Other actions to support the harmonization process identified by WAFP in its project work plan are as follows:

- Assess the requirements for establishing a national fertilizer quality control regulatory system.
- Draft and enact supporting fertilizer regulations aligned to ECOWAS regulations.
- Develop a fertilizer quality control organizational structure.
- Prepare job descriptions of the National Fertilizer Regulatory Chief and all staff members; hire or nominate staff members.
- Adapt the ECOWAS fertilizer inspection and analytical manuals to country needs.
- Develop or adapt all required administrative forms corresponding to prescribed action procedures.
- Identify a designated fertilizer analytical laboratory.
- Specify and procure laboratory equipment and materials as well as those for inspection and sampling.
- Train fertilizer inspectors, chemists, technicians, and administrative personnel.
- Organize registration of fertilizer manufacturers, blenders, importers, and distributors.
- Assist in conducting a baseline assessment of quality of fertilizer traded in the countries.
- Review implementation of the fertilizer regulatory system two to three years after implementation.

Source: WAFP 2014.

Therefore, the long list of actions proposed by WAFP also points to a need to be strategic. In the proposal to develop new laboratory infrastructure and inspection capacity in each country, for example, questions of investment costs and recurrent funding requirements immediately arise and need to be weighed against other urgent items that governments and donors need to fund. For example, if a country currently uses little fertilizer and has little or no production of its own, it could potentially be much better served in the near to medium term by investing in capacity to carry out spot checks and draw samples at different stages of the distribution chain to be sent for analysis to a regional lab than by developing its own AOAC International–and ISO-compatible facility that is difficult and expensive to maintain.

Likewise, for seed, some ECOWAS countries could reasonably decide they want to rely on seed research done in other countries without having to invest in their own capacity to undertake DUS and VCU trials based on UPOV guidelines. Alternatively, if a country were confident that adequate amounts of certified seed would be supplied by exporting ECOWAS countries, or indeed any world supplier, then their own certification system may not have to be very large or elaborate. These points are not to suggest that modern laboratories and comprehensive variety release and seed certification systems are unimportant, but instead that individual countries, ECOWAS as a region, donors, and other stakeholders need to have a well-defined and balanced set of priorities to move forward with harmonization in a meaningful way. Ultimately, harmonization itself is not the goal, but rather is a way to improve farmer access to quality inputs.

Divergences between Regional and National Regulations May Cause Problems and Become Obstacles to Trade

As West Africa looks to move forward with harmonization, another set of considerations relates to potential divergences between the regional regulations and national laws. In legal terms, the relationship between regional regulations and national legislation is unambiguous. Because ECOWAS countries agreed to use the powerful legal instrument of regional regulations, the harmonized instruments supersede national legislation in relevant areas. They do so automatically and do not require domestication.

In practice, however, this approach is not always well understood, especially by frontline border officials, seed inspectors, and other quality control agents who naturally point to their own national laws as the basis of their enforcement work. Therefore, countries often choose to domesticate regional regulations by having the rules go through their own national legislative process. Although well intentioned, this process can sometimes lead to divergences from the regional regulations. For example, Nigeria cur-

rently has national seed and fertilizer legislation pending that follows the ECOWAS regulations in many respects, but departs from agreed principles in important areas such as recognition of regional variety lists and mandatory registration of fertilizer types (Ayoola 2014). Ghana's Plants and Fertilizer Act, 2010 (Government of Ghana 2010) similarly requires all seed importers to submit physical samples to the local seed authority for testing in an apparent contradiction of ECOWAS provisions for recognition of regional seed certificates. Moreover, member states will need considerable time and resources to achieve many of the regional regulations' requirements. As a result, a mixture of the previous systems for seed and fertilizer control and the new harmonized ones is likely to exist for some time.

Therefore, countries' passage of their own seed and fertilizer laws and continued adherence to those laws even when they exclude conditions set by the regional regulations are much more worrisome issues for the long term. For example, Burkina Faso passed new seed and fertilizer legislation in 2006 and 2007, respectively, while Mali did so in 2010 and 2006, respectively. During the case study visits to these countries, public and private sector stakeholders referred to the national laws as those governing their operations and assumed that the national laws were fully consistent with the regional regulations. However, a number of discrepancies exist. Most of the differences are minor, but in some instances, they may become obstacles to trade, especially when one considers the possibility of 15 national fertilizer laws and 17 national seed laws, each slightly different from the regional ones (Eilittä 2014).

In the case of Mali, for example, the national fertilizer law specifies different maximum variations in nutrient content and in heavy metals than does ECOWAS. The Malian framework also includes chrome as a controlled heavy metal that is not listed by ECOWAS, meaning that the law could block foreign fertilizer at the border, but then allow for much higher concentrations of cobalt than does ECOWAS, which could cause difficulty in export of its own product. Similarly, although acceptance of uniform and recognizable labels can greatly facilitate trade, Malian regulations dictate different and less specific requirements for labeling of nutrient content than does ECOWAS. Likewise, the national requirements for seed labels do not fully follow the regional ones. Neither Burkinabe nor Malian fertilizer law mention the link between the national committees for quality control and the regional ones, and in Burkina Faso, biannual reporting is not required of fertilizer companies as specified in the 2012 ECOWAS Regulation (ECOWAS 2012f; Eilittä 2014).

An even more significant break with the ECOWAS approach occurs in Nigeria where current legislation and the new Fertilizer (Control) Act Bill of 2013 each require field tests and committee approval of all new types of fertilizer and fertilizer formulas sold to farmers, which is directly inconsistent with the regional approach of truth in labeling. Fertilizer authorities in Nigeria say they have a responsibility to ensure that the fertilizer is effective and that farmers use correct types for different crops and soil types

(Ayoola 2014). Although this rationale would appear sound, in an open economy these matters should be left to extension services and not be dictated by trade law. In Mali and Burkina Faso, subsidized fertilizers are similarly required to undergo field tests, resulting in allowance of only certain approved types under the program (Eilittä 2014). This approach is different from Nigeria's de facto ban on nonapproved types because a buyer (in this case, the government subsidy program rather than the farmer) is free to specify any kind of fertilizer. However, because virtually all fertilizer used on food crops in these countries is subsidized, the effect on farmer choice and private competition is arguably the same.

With regard to seed, major discrepancies between domestic law and regional regulations also exist in Nigeria whereby the National Agricultural Seeds Council (NASC) insists that all varieties intended for sale to farmers must be tested domestically and registered in the national seed catalog. According to NASC officials, recognition of varieties listed in the West Africa regional catalog will end at the point of international trade and apply to only varieties imported for direct use on an importer's farm and not to seed intended for sale to farmers. In defense of their position, NASC officials say that regional variety acceptance would expose Nigeria to dumping unless they do their own DUS and VCU tests first (Ayoola 2014). Although the ECOWAS catalog is not yet operational and Nigeria is not currently obligated to accept regional varieties, these views contradict both the spirit of regional free trade agreements and the letter of the regional regulations, which requires Nigeria and all other countries to allow the free movement and marketing of all seeds that meet the community's standards within the entire territory of ECOWAS.

As shown in tables 3.4 and 3.5, many less developed countries in West Africa do not have dedicated national seed or fertilizer legislation. Discrepancies between national laws and the regional regulations are unlikely to be an issue in these countries per se, except that countries at a very low level of institutional development are more likely to have different systems, and even a need for different systems, than the very advanced ones called for by ECOWAS. A good example of this situation is Liberia, where the Central Agricultural Research Institute has been working in collaboration with AfricaRice, FAO, and other development organizations to develop procedures for the production of "good quality seed," which are now being adopted by seed companies and associated seed farmers to good effect. These procedures are much less demanding than the OECD- and ISTA-based procedures called for by ECOWAS but are a much more realistic and meaningful way for Liberia to improve on seed quality in the near term than by aiming for very advanced standards. Liberia is not alone in West Africa in having a long path to achieve the ECOWAS standards. Expanding the regulations to explicitly recognize different levels of upgrading could do much to improve quality assurance in individual countries and throughout the region.

National Quality Control Systems Are Improved but Greatly Overstretched

As described, various national-level efforts are underway to improve quality control for seed and fertilizer that directly relate to the regional harmonization work. In Nigeria, details of the procedures for variety release based on DUS and VCU criteria adopted by ECOWAS have been published (NASC 2012a). In Burkina Faso, Mali, and Nigeria, seed inspectors now carry out at least some certification visits using field manuals that follow the ECOWAS guidelines. Licensed fertilizer inspectors in Mali have similarly started to draw samples of subsidized product at border posts, in central warehouses, and sometimes all the way to the distributor level. Also in Mali, new tender rules for subsidized fertilizer that specify tolerance limits for nutrient defect are being developed. In Burkina Faso, fertilizer inspectors were recently trained in the ECOWAS guidelines and say they expect to start drawing samples soon.

Various efforts are also underway to upgrade laboratory capacity. In Mali, the Central Laboratory for Plant Seeds (Laboratoire Central des Semences Végétales) received equipment through the World Bank–financed West Africa Agricultural Productivity Program. In Burkina Faso, the seed laboratory at the Institute for Environment and Agriculture Research (Institut de l'Environnement et de Recherches Agricoles, INERA) was similarly equipped with help from the FAO. The fertilizer laboratory at the National Bureau of Soils in Burkina Faso likewise has plans to procure equipment with funds that have already been awarded by the Alliance for a Green Revolution in Africa.

Despite these and other ongoing improvements, West Africa's emerging quality control systems are greatly overstretched. This is particularly true in the context of expanding input subsidy programs that aim to distribute certified seeds and fertilizer to thousands, if not millions, of small farmers in some countries. Input subsidies can greatly transform the incentives for agriculture production and introduce farmers who have never used improved inputs on food crops to the benefits of certified seed and fertilizer. At the same time, however, an important risk exists of farmers not only misusing the inputs because of lack of adequate extension advice and but also supplying bad inputs because of inadequate quality control. Unless ambitions to supply subsidized inputs are matched with other institutional capacities, therefore, farmers could potentially be put off from using improved inputs in the future, especially if they are required to pay full commercial prices.

In Nigeria, for instance, the Growth Enhancement Support (GES) program was launched in 2012 with the intention of targeting five million additional farmers per year for four years. Originally, each farmer was meant to receive 25 kg of certified rice seed or 20 kg of certified maize seed at no cost plus two 50 kg bags of fertilizer at 50 percent subsidy for the duration of their four-year involvement in the

GES. In just the second year of operation, however, the seed component was reduced to 12.5 kg per farmer because of a supply shortage. In response to the GES demand, many new seed companies have emerged for the purpose of seed multiplication. According to the Seed Association of Nigeria, however, many of these companies and the growers they support have little or no experience in seed production and lack the specialized skills this business requires. Consequently, and because of the large amounts of money being spent on the GES, reports of companies buying grain in the market to disguise as certified seed are common, which is a worse outcome than using self-selected landraces as before.

Against the immense demand for GES seed, NASC currently employs 56 seed inspectors. To meet only the GES's first year goal of supplying 20 to 25 kg of certified seed to five million farmers (100,000 to 125,000 tons), each inspector would have had to visit about 600 to 745 hectares, excluding breeder and foundation seed plots needed to sustain future production.[15] Moreover, the ECOWAS standards for certified maize and rice seed call for three inspections per plot at specific stages in the growing cycle. Given that most seed plots in Nigeria are relatively small, full inspection is not only a gargantuan task, but also completely impossible for only 56 inspectors, even without the usual transport constraints and other challenges of working in a developing country setting. In light of this, NASC recently employed 100 first-year agriculture graduates through the Youth Corps to work under the supervision of full-time seed inspectors. Although this approach may not be perfect because the graduates have not been fully trained in seed certification, it is a still a useful and practical way to improve on a difficult situation. Even so, NASC recognizes that this level of coverage is insufficient and says it is considering allowing accredited private firms to engage in seed certification as an alternative to state certification. This approach would be similar to the EU system, which has allowed private certification for years.[16]

With regard to fertilizer, Nigeria's quality control systems are similarly overstretched, and numerous reports note bad quality and underweight products being sold through the GES and private channels. Unlike the seed system, where quality control rests squarely with NASC, three agencies in Nigeria, including the Federal Fertilizer Department (FFD), the National Agency for Food and Drug Administration and Control (NAFDAC), and Standards Organisation of Nigeria (SON), each claim responsibility for different and sometimes overlapping aspects of fertilizer control. NAFDAC, for instance, has a broad mandate to control all types of food and chemical products. NAFDAC is primarily responsible for inspecting fertilizer at the port of entry but does not have any inspectors trained in fertilizer analysis. The FFD inspects manufacturing plants and blending facilities, but does not have inspectors working at the distribution or retail levels. The FFD also does not have authority to levy penalties as required by ECOWAS. The National Fertilizer Development Centre in Kaduna is the reference laboratory for checking that the products comply with SON standards, but is currently not operational.

Burkina Faso has subsidized seed and fertilizer since 2008. It faces a situation similar to that of Nigeria, where the demand for quality inputs greatly exceeds current capacity for seed certification and fertilizer inspection and analysis. The country currently has 35 seed inspectors who were recently trained by the Alliance for a Green Revolution in Africa. With about 4,900 mainly small seed producers, however, each inspector in Burkina Faso must cover an average of 140 seed producers who need to be visited at three specific times in the crop cycle to meet the OECD-based requirements for field inspection set by ECOWAS. To help inspectors cope, the country requires seed producers with less than 5 hectares to be part of a seed producer group. Like Nigeria's approach of using first-year graduates, this is another practical way of using limited resources to meet the demands of the ECOWAS system and support quality improvements in a challenging context.

Another practical alternative to advanced OECD- and ISTA-based rules is the FAO's Quality Declared Seed (QDS) system. Originally developed for use in emergency situations, the QDS system involves a less-demanding set of protocols in which field inspections and laboratory analysis are required for only 10 percent of QDS seed offered for sale. In addition, according to the FAO (2006), the QDS protocols are well suited to commercial applications on a wide range of crops in which seed suppliers, including local cooperatives, farmer groups, nongovernmental organizations, and even large private firms, find the requirements of full quality control difficult or cost prohibitive. Something similar to the QDS approach is already being used in Liberia, where the aim is to produce "good quality seed" based on an even lighter set of production and inspection guidelines than the FAO's rules for QDS seed. Given that most other national seed systems in West Africa are greatly overstretched with little ability to meet high-level certification standards, allowing for truthfully labeled QDS seed (or even truthfully labeled "good quality seed") to be traded under the regional system could be a practical way to manage the problem of resource limitations.

In Mali, the approach to date has been to train 80 of 200 phytosanitary inspectors to be seed inspectors. Although this step is important to improving quality control, seed certification is fundamentally different from phytosanitary inspection, which itself is a challenging task without the additional burden of visiting many dispersed seed plots. Nevertheless, seed stakeholders in Mali report that quality control has improved recently and that seed inspections are now occurring, although not necessarily for the correct number of times or at the required stage in the growing cycle. With regard to fertilizer, the national laboratory in Mali is functioning. However, it can analyze for only nitrogen, phosphorus, and potassium and not for other macro- or micronutrients such as boron and sulfur, which are important elements in fertilizer for cotton. Liberia has no fertilizer laboratory, and its seed laboratory can perform only basic tests for germination and purity.

Opportunities for Private Competition Remain Constrained on Many Fronts

In addition to quality improvements, the harmonized regulations seek to facilitate progress toward a more competitive trading environment needed for private sector growth and expansion. As with quality improvements, there are hopeful signs of increasing private sector involvement in seed multiplication, procurement and distribution of subsidized fertilizer, and expansion of private agrodealer networks more generally. Nevertheless, much remains to be done to eliminate fundamental business constraints and promote competition in higher-level areas of input supply, including seed breeding and variety maintenance, marketing of improved technologies, and fertilizer supply outside of subsidy programs and other state-managed channels.

Removing barriers to private seed supply

In the fundamental area of seed variety release, West African countries continue to be overwhelmingly dependent on their own NARIs and regional CGIAR centers for new germplasm with little or no room for private participation in seed breeding and variety maintenance. Even after the regional variety catalog is operational, this dependence is unlikely to change because of the lack of protection for intellectual property rights and national-level restrictions on private participation in seed supply. In Burkina Faso, for instance, the 2006 seed law gives the public sector the exclusive mandate for seed breeding and explicitly prohibits patenting of seed technology (Sène 2014). In Nigeria, privately owned varieties are allowed, yet NASC requires seed companies to hand over parental germplasm to the state as part of the registration process (Ayoola 2014). According to NASC, this method facilitates DUS and VCU evaluation, but in international seed systems, the only generation of seed that needs to be evaluated is the generation sold to farmers as certified seed. The inbred lines and other parent stock from which certified seed is produced do not need to be tested according to UPOV guidelines. Moreover, even after approval, NASC does not allow private companies to maintain their own varieties for commercial purposes and insists that all breeder seed must be produced by NARIs.[17]

The production and maintenance of breeder seed is indeed a technically demanding task and is likely well beyond the capacity of most private seed companies in West Africa at present. However, the region's NARIs are also severely underresourced and have little capacity to produce large amounts of the different types of breeder seed needed to improve variety choice in a meaningful way. In Nigeria, more than 110 varieties of maize are listed in the national catalog, including 38 new varieties registered since 2009

(NASC 2013). In reality, however, seed companies report that only about five varieties are currently in production, including some relatively old varieties registered in the 1990s and early 2000s. Similarly, with rice, seven new varieties have been registered in Nigeria since 2005, yet actual choice of planting material is narrow with just two main varieties in production for farmer use (Ayoola 2014).

In Burkina Faso, government has an ambitious goal to increase annual production of foundation seed for rice from 22 tons to 975 tons by 2018, but even at 22 tons, problems have arisen with quality and with seed companies not collecting the material produced by INERA and thereby leading INERA to reduce production. In Mali, private companies also complain about the difficulty accessing foundation seed from the state breeding institute and report that the quality of supply is unreliable.

Support for private variety research and maintenance therefore has many potential advantages. Private companies have a direct incentive to build markets for their varieties through demonstration plots and outreach activities that NARIs and even public extension services are not always well placed or well equipped to deliver. Owners of private seed technology also have a much stronger incentive to ensure the quality of their seeds and to prevent counterfeiting than do companies that are engaged in only seed multiplication. Allowing qualified firms to maintain their own varieties and produce all different generations of seed could also alleviate pressure on overstretched public systems and enable state breeders to focus on neglected crops that are important to food security.

Even in Nigeria, where privately bred varieties are allowed to be registered, much more needs to be done to open seed supply to private sector participation. At first look, Nigeria appears to have enjoyed good success in private competition; seven varieties of maize listed in the national catalog since 2009 have been developed by private firms (NASC 2013). On closer inspection, however, none of these varieties has been made available for farmer use because of limited protection of IPRs and restrictions on variety ownership and maintenance. For example, one large international seed company released a new variety of maize that is resistant to a chemical used to kill the weed striga (which is a widespread threat to cereal production in West Africa). However, it was granted full ownership for only five years, after which the variety will become public property with a 5 percent royalty paid to the company. The same company has a similar variety of sorghum pending approval and reports that the question of future ownership has become a serious concern. Not only does the short five-year window give little time to undertake promotional work needed to build demand for the new variety, but NASC also has directed that the seed be multiplied domestically using breeder seed supplied by the Institute of Agricultural Research and Training (IART). IART is the NARI responsible for maize, thus giving rise to another set of practical challenges.

According to NASC, the policy of insisting on local production is intended to create jobs for local seed growers and to allow its inspectors to carry out the required certification visits. For its part, the seed

company points out that it first needs to identify and train reliable growers, and from there, at least three to four years will be needed to multiply large-enough volumes of seed before the varieties can be sold to farmers. In the meantime, the company reports that it has not been allowed to import OECD- and ISTA-certified seed of the same variety from Brazil where it already has production capacity. Given that the new variety could potentially benefit millions of farmers immediately and that IART's production capacity and NASC's inspection capacity are greatly overstretched, many strong arguments exist for allowing private variety maintenance and imports of certified seed.

Taken together, this example illustrates how national policies for commercialization of seed can still be a major bottleneck to farmer choice, industry growth, and private competition despite the progress with ECOWAS regional harmonization. The 2008 ECOWAS regulation aims to promote competition by allowing private companies to be licensed for any stage of seed production, but permitting individual member states to set the procedures for licensing and decide whether or not to grant licenses. Because IPR issues have not been addressed by the regional system, decisions on private variety ownership are also left up to member states. In principle, a NARI could serve to maintain varieties on behalf of the private sector, but in practice, this is unlikely to be a good solution for the reasons detailed above. Developing a new variety can easily take plant breeders 10 years or more and commonly involves many hundreds of thousands of dollars in costs. Until private companies are certain of maintaining permanent ownership and even physical control of their parental germplasm at all stages of the supply chain, including during variety testing, West Africa is likely to continue to lag behind other parts of the world and even other parts of Africa where private variety maintenance is allowed and even encouraged.

When the regional seed regulations were formulated, protection of IPRs to support private variety introduction was considered a more complex matter than variety release and seed certification and so was deferred to a later stage. In a legal sense, IPR issues including plant variety protection are addressed in francophone countries by OAPI and in anglophone countries by ARIPO. In principle, therefore, any variety protected by OAPI is protected in all 17 francophone member countries, while a variety protected by ARIPO is protected in 19 anglophone member countries.[18] However, Nigeria is not a member of ARIPO, and Cabo Verde is lusophone and so is not a member of either organization. For its part, ECOWAS also provides IPR protection through its regional instruments and allows violators to be prosecuted in the ECOWAS Community Court of Justice.

Beyond the context of these legal agreements, however, recognizing that any seed company that engages in private breeding derives its livelihood from the technologies it produces is fundamentally important. This kind of business is very different from multiplying seeds of varieties developed and maintained by CGIAR centers or the NARIs. Companies that engage in private research can hardly afford to

risk having their investment in new technology stolen or mishandled. The promise of being able to file, and even eventually win, legal cases with one or more of the regional intellectual property organizations or the ECOWAS Community Court of Justice therefore provides little practical assurance. The ability to prosecute IPR cases through these channels is still important, but does not need to be, and should not be allowed to be, a precondition for regional seed trade or private competition.

Fortunately, without having to negotiate detailed legal instruments or even having to harmonize the rules for plant variety protection between OAPI and ARIPO, individual countries could find a more direct solution to the IPR problem by allowing private variety ownership and variety maintenance as offered by the 2008 ECOWAS regulation. Firms licensed for this part of the seed business would need to satisfy appropriate criteria and still be subject to oversight through DUS and VCU testing of the varieties they release and through certification of breeder and foundation seed lots as provided for in the ECOWAS regulations. Initially, very few companies may satisfy these criteria. However, such firms can be expected to emerge only with legal space to maintain control over their technology and ability to decide how to multiply and market their own varieties. Patenting by ARIPO and OAPI can still provide legal protection for variety ownership and help with the collection of royalties, but countries could take a much more important step at any time simply by allowing companies to maintain control over their own intellectual property.

Risks of regional fertilizer procurement

With regard to fertilizer, there is a similarly mixed picture. As described by Bumb, Johnson, and Fuentes (2012), the overall market structure for fertilizer in West Africa is oligopolistic or tender controlled at the import level with greater levels of competition at the wholesale and distribution levels. This picture corresponds with the region's heavy reliance on input subsidies and efforts in some countries to promote private involvement in various aspects of fertilizer supply from importation and blending by large firms to local distribution by smaller agrodealers. By design, input subsidies in West Africa tend to involve untargeted, pan-territorial price support as in Burkina Faso, Ghana, Mali, and Senegal (Druilhe and Barreiro-Hurlé 2012). Subsidized fertilizer thus provides a low-cost alternative to market-priced fertilizer, which all types of farmers try to access first. The remaining demand is left for the private sector to meet, except that companies report the size of this market is very difficult to predict, especially that subsidized inputs often arrive late (Druilhe and Barreiro-Hurlé 2012; Eilittä 2014).

The problem of economies of scale is another barrier to private participation in importation and manufacturing of fertilizer. The small size of West Africa's fertilizer market has therefore led to sugges-

tions that this problem could be overcome, at least in part, by harmonizing fertilizer specifications across the region to create a larger fertilizer market and increase the purchasing power of West African countries (Bumb, Johnson, and Fuentes 2012; UEMOA 2013). A similar approach has also been proposed for eastern and southern Africa by the Common Market for Eastern and Southern Africa (COMESA 2012).

In practical terms, however, this strategy for cost savings and market development does not stand up for a variety of reasons. First, little scope exists for economies of scale at the import stage because most fertilizer is already imported to West Africa in full boatloads. West African ports cannot handle super freighters, and even if they could, importing very large amounts of harmonized granular compound through one or two locations would make little sense because of bottlenecks with bagging and regional transport. Any harmonized types would still have to be loaded at the source onto smaller boats. Bulk procurement may provide some savings on many production runs for different types of granular compounds, but it would not lead to savings on transport costs and could possibly lead to higher storage or demurrage costs if the boats (or finance) needed to collect each country's allocation are not on standby. Therefore, a better approach would be to allow free movement of any type of fertilizer and permit suppliers to compete on price as envisioned by ECOWAS regulations already agreed upon by member countries.

Second, purchasing harmonized products at the regional level makes little technical sense. Different soils and different crops each require different types of fertilizer for optimal performance, and much work is now ongoing in West Africa to perform soil mapping and develop site-specific fertilizer recommendations. Local blending companies can, in fact, easily manufacture fertilizer to any specification according to buyer requirements and soil type using local fillers. Unlike granular compounds in which the nutrients and filler are combined in a single pellet, blended fertilizers consist of many small pellets of each component.

Not only can locally blended products be mixed according to any specification, but they also offer a potential for massive savings on the transportation of inert fillers that account for about 50 percent of the bulk of finished products, including imported granular compounds. Segregation of different size ingredients is an important risk with blended fertilizer, but it can be mitigated in various ways, such as by use of raw materials of similar size pellets. Compared with well-made, locally blended fertilizer, therefore, the potential for cost savings from adopting harmonized regional formulations is difficult to envision, particularly in inland locations where transport costs are a major factor. If harmonized specifications elicit no cost savings, then farmers may as well have the option (or at least potential) to use the best type of fertilizer matched to their specific need rather than a harmonized type suited to general need.

Most fundamental of all, however, a regional procurement approach based on harmonized specifications would be conceptually different from the vision set out in the 2012 ECOWAS regional regulation

that gives emphasis to truth in labeling and not preapproved fertilizer types. Of course, the ECOWAS rules allow buyers (including large central buyers) to specify any type of fertilizer they choose, but the rules also seek to promote competition between firms that supply different products. Consolidation of procurement arrangements in the hands of a regional body not only would be financially and logistically challenging, but also would directly undermine the competitive mechanisms that the ECOWAS regulations seek to create and that are now starting to emerge in some countries and can themselves lead to lower prices.

Conclusions and Policy Recommendations

The analysis has shown that efforts to build harmonized trade systems for inputs in West Africa have many potential benefits and are already leading to important improvements in some national quality control systems. Even though West African countries still have a long path to achieve the standards called for by the ECOWAS regulations, discussion of the need for quality improvements and detailing of specific procedures to achieve the desired outcomes have focused attention on important trade matters at the domestic and regional levels. As a result, some countries have now begun to develop new systems for variety release, seed certification, and fertilizer quality control based on the ECOWAS regulations that are already benefitting farmers and stand to make regional trade more competitive and reliable.

Equally, however, the analysis also finds that harmonization is a complex and time-consuming approach to trade facilitation. With regard to both seed and fertilizer, the process of harmonization has been ongoing for many years, and a great many legal and institutional challenges must still be to overcome before either set of trade rules can be considered operational. The challenges of harmonization are particularly evident in West Africa, where countries are at very different stages of development and often have little capacity to implement or even afford international standards that were developed for advanced market economies. Creating competitive markets and improving the quality of input supply in the near to medium term therefore requires much more than enacting formal regulations and establishing new committees and other bodies called for by the regulations. This approach also demands complementary strategies and stepwise improvements in which regulatory ambitions are matched with current realities.

Gaining the Most from the Harmonized Rules

Much to their credit, West Africa's harmonized regulations already go some distance toward providing the needed flexibility. First, the rules require countries to develop quality control systems that

are "based on" UPOV, OECD, ISTA, AOAC International, ISO, and EU standards without necessarily having to achieve full international accreditation for trade to occur. Experts involved in formulating the regulations also report that some standards were lowered from the international ones to make trade easier. In contrast, the regulations still require that all agreed standards and certification procedures be followed in full as a condition for harmonized regional trade. Given that most countries are unlikely to meet these requirements anytime soon, an important risk exists that the rules themselves could become an obstacle to trade. Without international accreditation, the willingness of importing countries to trust in the exporter's system on the basis of oversight by WASC and WACoFeC alone also remains to be seen.

Second, the regional regulations grant considerable scope for countries to set their own licensing procedures, thereby allowing member states to pursue their own development path based on local priorities and local conditions. This approach has many practical advantages in terms of allowing governments at different stages of development to match the regulations to local realities. However, it also entails certain risks, including the potential for some governments inadvertently to shut out private operators from key parts of the seed and fertilizer business. As discussed, few companies in West Africa currently have the capacity to perform original seed breeding and variety maintenance. Unless a secure legal space is provided for these activities to emerge, however, they will never develop, to the detriment of regional trade and regional trade competitiveness.

Therefore, gaining the most from the harmonized regulations at the national and regional levels not only demands a sustained commitment to the free trade objectives that countries expressed through the regulations, but also requires the ability to foresee the implications of different choices allowed by the regulations. For many practical and strategic reasons, insisting on full compliance with every aspect of the new regulations from the beginning is unlikely to be the most productive way to improve regional trade or even advance the cause of harmonization. New quality systems guided by the ECOWAS regulations are emerging in several countries but will take time to complete. Other national systems that provide very useful but less rigorous levels of assurance even now deserve to be recognized.

Expanding the scope of the regulations to accommodate different levels of upgrading tailored to local realities, therefore, could be a very effective way to improve quality assurance throughout the region. In practical terms, this expansion is something the regional seed and fertilizer committees could address when they are operational. Even before then, and without any need to change the already agreed regulations, pairs of countries or small groups of countries could decide to negotiate mutual recognition or equivalency agreements that help facilitate trade when existing standards systems are different. This option has always existed and could still be a practical way to connect poor farmers to markets while other work to achieve the full set of ECOWAS standards continues. When dealing with quality issues as

opposed safety, these agreements are often easier to negotiate and implement than full harmonization and can be used as a stepping stone on the path to harmonization.

Gaining the most from the regional regulations also requires building awareness at all levels of the seed and fertilizer supply chains of what the regional systems seek to achieve, what the regulations entail, and where the process stands. In practical terms, of course, this demands much more than a one-off training of department heads and committee members on the content of the regulations. Large and small seed companies, breeding institutions, seed certification officers, fertilizer importers and blending companies, fertilizer inspectors, frontline border officials, lab technicians, large and small farmers, and political decision makers alike all need to be engaged. They must be kept aware of what is being done to address the input problem and why their support for improved regional trade is important to them and to West Africa as a whole.

Parallel Strategies and Other Simple Steps for the Near Term

Beyond the efforts needed to make the agreed regulations effective, the analysis also points to a need for simple steps that improve regional trade and help farmers gain access to good quality and affordable inputs immediately. Here again, the analysis is encouraging; several examples show pragmatic actions already being taken in case study countries that deserve to be shared throughout the region. In the difficult area of seed quality, for instance, Nigeria is using first-year agriculture graduates to help with seed certification while Burkina Faso requires seed farmers with small plots to be organized in seed producer groups. Although both strategies have their limitations, they are positive, practical ways to address a difficult challenge and achieve higher levels of quality control than would otherwise be possible with limited resources. In Nigeria, plans are also being discussed to allow private companies to undertake seed certification under official supervision, which would be another positive way to alleviate pressure on overstretched public agencies that other countries could explore.

In addition to measures like these, of course, any country could make a unilateral decision to accept proven varieties of seed from neighboring countries at anytime without negotiating any kind of agreement or waiting for the regional seed committee or regional variety catalog to be established. Unilateral decisions could also be made to accept fertilizer from reputable manufacturers and transporters without insisting on full inspection of every consignment at the border. Adopting this type of risk-based approach would allow resources to be used for inspections at other places in the supply chain where quality problems also arise. Compared with mandatory inspections that delay traffic at borders, such an approach would be a far more effective way to manage quality risks and could be introduced immediately by countries.

Another practical strategy to improve input quality would be embracing the FAO's rules for QDS certification. Although QDS standards are less rigorous than the OECD- and ISTA-based ones recognized by ECOWAS, they are much more practical to implement and so would involve less risk of seeds with no quality control slipping into subsidy programs and local markets. Acceptance of these standards could be achieved through a mutual recognition agreement between willing countries or by amendment of the regional regulations themselves. The ECOWAS regulations already allow for the exceptional issuance of certification labels for nonconforming seed lots, but only in emergency situations. In contrast, in southern Africa where seed certification systems are much more advanced than in West Africa, the harmonized rules agreed to by the Southern African Development Community (SADC 2008) allow seed truthfully labeled QDS to be traded at any time, even in commercial situations. To make West Africa's regional standards more relevant to current needs, similar acceptance of QDS standards could be a good choice and is an option the ECOWAS Commission and individual member states may do well to consider.

At the national level, straightforward improvements could also be made to the way breeder seed and foundation seed are supplied by state institutions. Limited variety choice and mismatch between breeder, foundation, and certified seed production are common problems in West Africa. To minimize these outcomes, one practical solution would be development of systems in which companies doing seed multiplication are required to pay a deposit to the breeding institute when they book their seed requirements. If a company fails to pay the balance and collect the seed by a fixed date, it would lose the deposit, or if the breeding agency fails to deliver the amount booked by the same agreed date, the agency would also suffer a financial sanction to compensate the seed company (Tripp and Mensah-Bonsu 2013).

Perhaps more substantively, the analysis also points to many very strong reasons to provide legal space for private companies to engage in variety development, ownership, and maintenance. Lack of protection for IPRs is one factor undermining private sector participation in seed supply in West Africa, but it could be largely overcome by allowing qualified firms to maintain full physical control over the varieties they register. The ECOWAS regulations already allow qualified private companies to be licensed for any stage of seed production. Forcing qualified firms to hand over parental material to the state, as many countries do, is counterproductive. Therefore, changing these policies where they exist at the national level would likely do far more to encourage variety introduction and competition in the near term than would laboring to negotiate new regulations that allow IPR violations to be pursued through OAPI, ARIPO, or even the ECOWAS Community Court of Justice. Private variety owners would still be subject to OECD and ISTA (or even QDS) certification standards to ensure that seeds they market are true copies of registered varieties; that is, no new risk to quality occurs. In contrast, public breeding

institutes would be relieved of at least some of the burden of supplying genetic material for all different crops and could focus more resources on neglected areas that are important to food security.

Similar to the types of direct action proposed for seed, efforts with regard to fertilizer would do well to focus on bringing quality inspections as close as possible to the farm level. Inspections at border posts, manufacturing, and blending plants and in central warehouses have their role, but they are less important from a farmer's point of view than inspections at the distribution and retail levels because adulteration or outright theft from bags can easily happen at any point in the supply chain until they take physical ownership.

Although bag weights can easily be checked with scales, nutrient content is much more difficult to assess and currently requires laboratory analysis. The International Fertilizer Development Center, the International Centre for Research in Agroforestry, and others are reportedly working to develop simple field kits that inspectors could use to obtain a rough indication of chemical composition in the field (Eilittä 2014). Fertilizer analysis is by definition an exact science. However, if the goal is to discourage untruthful practices, then even the appearance of an inspection could help that effort, particularly when rough data can be used to identify problem areas and locations where follow-up and more precise analysis are required. Even without field kits, therefore, collection of samples from many locations could be prioritized now so that samples (or even a selection of samples) can be sent to a national, regional, or international lab for partial or full analysis.

Crosscutting Requirements for Improved Input Trade

Several other crosscutting conclusions on the opportunities to improve input trade have also emerged. For both seed and fertilizer, the analysis shows the importance of being strategic in selecting the types of investment likely to have the greatest effect. This may appear obvious, but sometimes these changes can be simple improvements that make better use of existing resources without revolutionary new systems or expensive investment. For example, upgrading seed and fertilizer laboratories is often a first choice for governments and donors, but it may not be as effective as building the capacity of inspectors to draw samples that can be sent elsewhere for analysis or even developing simple systems for quality control that do not require advanced laboratory techniques.

In addition, efforts to facilitate extraregional imports must not be neglected in the drive to improve local production and regional trade. To support local seed growers, for instance, NASC has stated that all seed should be multiplied domestically in Nigeria. In fact, it could far better serve the millions of farmers who need improved seed now by facilitating extraregional imports from countries that already

have internationally accredited seed systems. Because of capacity limitations and other institutional problems, a great deal of the seed being paid for and given out by the GES is actually recycled grain, an outcome much worse than using self-saved landraces. Therefore, greater acceptance of extraregional imports not only could improve on quality now, but also would allow Nigeria to build its own domestic seed system at a realistic pace, thereby improving on local supply too.

In a similar respect, long-term success also requires avoiding potential pitfalls. As noted earlier, good progress has been made with building awareness of the regional regulations in some countries. However, even in these places, divergences between national policies and the regional regulations exist and could become important trade obstacles. Policies that favor state procurement of subsidized inputs and a possible move toward regional procurement of fertilizer based on harmonized specifications also threaten private sector growth and regional trade ties.

To help raise awareness of these issues and build a constituency for free trade objectives, WASP and WAFP, or even the ECOWAS Commission, could take the very simple step immediately of launching a website (or websites) dedicated to regional input trade. Despite the amount of work devoted to harmonization, the regional regulations and implementing regulations for seed and fertilizer are not available online, which makes the rules unnecessarily difficult for public and private stakeholders to access and discuss. Moreover, although the regulations call for full transparency, some of the implementing regulations for seed have not yet been translated to English and are currently inaccessible to anglophone countries. Likewise, NASC has published many very useful documents with support from Iowa State University, including Nigeria's own national variety catalog and manuals with detailed guidelines for variety release and seed certification (NASC, 2012a, 2012b, 2013). However, none of these documents is available online and can be obtained only in person from NASC Headquarters in Abuja.

At a strategic level, support for a regional knowledge platform on input trade would be another good opportunity for countries to explore. Much more than a website where key documents and news on the harmonization process are posted, such a platform could take the form of an expert working group or think tank that aims to identify key information gaps and practical solutions to important problems. Through ongoing dialogue with governments and other public and private stakeholders, such a platform would also serve to raise awareness of the importance of input trade. In addition, it could provide a conduit for sharing of lessons from around the region on effective and ineffective efforts together with best practices from other parts of the developing world where similar efforts to promote harmonization and improve input trade are ongoing. A regional knowledge platform on inputs would thus serve to complement the work of existing stakeholder forums and to support the regional seed and fertilizer committees with timely information and analysis needed for strategic decision making when they are established.

Finally, as West Africa moves forward with market integration, efforts to monitor progress and measure whether changes in seed and fertilizer rules really make a difference to sector performance are also needed. Some of the most obvious variables to track include the number of varieties of seed and fertilizer types available in each country, number of new varieties of seed registered in the regional catalog each year, types of fertilizer available in local markets, seed and fertilizer prices, quality test results, and changes in crop yields. At the producer level, specific efforts to monitor the effect on poor farmers, including what types of seed and fertilizer these growers use, where they obtain their inputs, and whether they are able to access the kinds of inputs they truly desire, would also be highly relevant to tracking the effects of policy reform. New data systems, including crowdsourcing using very simple SMS (short message service)-based questionnaires for farmers, traders, and input dealers, have recently been piloted by the World Bank in various parts of Africa and might be one way to gather this information.

Appendix 3.1

Progress with Specific Actions Required by the ECOWAS Regulations for Seed in Case Study Countries as of July 2014

Required Action	Burkina Faso	Liberia	Mali	Nigeria
(i) Publish 2008 ECOWAS Regulation in National Gazette within 30 days.	Published Feb. 25, 2014.	Not done.	Not done.	Published Sept.11, 2013.
(ii) Institute a national seed catalog.	In progress with FAO support. No provision for Lists A, B, and C.	Not done; recommended by draft seed policy of 2012, but little or no action ocurred since.	Done, but no provision made for Lists A, B, and C.	Done (first edition in 2009; updated in 2013), but without provision for Lists A, B, and C.
(iii) Set up a national body for seed control.	National Seed Committee (CNS) is operational.	Not done. Seed sector coordination currently under donor/gov't task force.	National Seed Committee (CNS) established in 2013 but not operational.	National Agriculture Seed Council (NASC) established 2007 and operational.
(iv) Specify the conditions and modalities for obtaining a professional card or license or for its renewal, suspension, and withdrawal in accordance with the ECOWAS regulations.	Done. Private sector not allowed to produce breeder or foundation seed; private variety ownership not allowed.	Not done. National system for registration of improved seed producers only; no specific system for registration of other seed professionals.	Done. Seed producers, distributors, wholesalers, importers, and exporters need license; all but producers need to pay a fee. No provisions for private production of breeder seed.	Done, but with many conditions that go beyond ECOWAS requirements. No provisions for private production of breeder seed.
(v) Appoint well-trained and qualified inspectors and other competent authorities, and grant them the necessary powers as well as adequate resources to carry out their mission.	Currently 35 seed inspectors recently trained by AGRA, additional skills and access to equipment required.	USAID recently trained 30 seed inspectors for rice only.	80 seed inspectors currently active but require skills development; seed lab equipped with essential equipment but limited training of staff.	Currently 56 seed inspectors + 100 first year graduates of National Youth Service Corps (far from adequate to meet national need)
(vi) Determine the fee amounts for seed inspection and analysis.	Done.	Fee amounts set for improved seed producers only.	Done.	Done.
(vii) Take all appropriate measures to levy penalties for any violation of the provisions of the regulation.	Two cases so far prosecuted, both under appeal.	Little enforcement; no reports of sanctions.	No sanctions yet taken despite reports of counterfeit seed and other violations.	Few if any measures taken; widespread reports of grain being sold as seed, especially under GES.

Note: AGRA = Alliance for a Green Revolution in Africa; ECOWAS = Economic Community of West African States; FAO = Food and Agriculture Organization of the United Nations; GES = Growth Enhancement Support (program); USAID = United States Agency for International Development.

Appendix 3.2

Progress with Specific Actions Required by the ECOWAS Regulations for Fertilizer in Case Study Countries as of July 2014

Required Action	Burkina Faso	Liberia	Mali	Nigeria
(i) Publish 2012 ECOWAS Regulation in National Gazette within 30 days.	Not done.	Not done.	Not done.	Not done.
(ii) Set up a national body for fertilizer control.	Fertilizer law of 2007 created the National Commission of Fertilizer control and 2011 decree specified its function. Still, the Commission has not yet started work.	Not done.	National body exists, three meetings as of January 2014 (mainly addressed organizational issues).	Multiple bodies exist including NAFDAC, SON, and FFD each claiming responsibility for different aspects of quality control.
(iii) Specify the conditions and modalities for obtaining a license or for its renewal, suspension, and withdrawal, in accordance with the relevant provisions of the regulation.	Done.	No specific license determined.	Registration of distributors and wholesalers required by law. Implementation spotty outside subsidy program.	Provisions for licensing according to ECOWAS rules included in Fertilizer Bill; current system involves licenses from multiple agencies.
(iv) Appoint well-trained and qualified Inspectors and other competent authority, and grant them the necessary powers as well as adequate resources to carry out their mission.	Inspectors identified, but not yet sworn in; laboratory upgrades ongoing.	Not done.	Under way. Field inspections being carried out with some positive impact on quality; laboratory capacity still limited.	No inspectors in FFD; NAFDAC inspectors not trained in fertilizer analysis.
(v) Determine the fee amounts for fertilizer inspection and analysis.	Done.	Not done.	Fee amounts determined but not all are aware. To date, cost of fertilizer analysis paid by AGRA.	Done (no fees apply).
(vi) Take all appropriate measures to levy penalties for any violation of the provisions of the regulation.	Penalties identified. Inspection not started yet except for tendered fertilizer at border or warehouse.	Not done.	Penalties identified but no known cases prosecuted. With donor support, currently reviewing how quality sanctions can be included in tender documents for subsidy program.	No efforts made to prosecute known violators selling under grade and/or underweight fertilizer.

Note: AGRA = Alliance for a Green Revolution in Africa; ECOWAS = Economic Community of West African States; FFD = Federal Fertilizer Department; NAFDAC = National Agency for Food and Drug Administration and Control; SON = Standards Organisation of Nigeria.

Notes

1. Other groups of countries in eastern and southern Africa are following a similar approach of harmonizing seed rules through the Southern Africa Development Community, Association for Strengthening Agricultural Research in Eastern and Central Africa, Common Market for Eastern and Southern Africa, and the East African Community.

2. Email exchange June 16, 2014, with Robert Guei, secretary of the Committee on Agriculture, Food and Agriculture Organization of the United Nations.

3. In West Africa, only The Gambia is not contracted to the International Plant Protection Convention. Other African countries not participating in the convention are Angola, the Democratic Republic of Congo, Lesotho, and Somalia. See www.ippc.int.

4. The average excludes the low of 2009 and peak of 2010.

5. The International Maize and Wheat Improvement Center is headquartered in Mexico City. Since 2012, the International Center for Agricultural Research in Dry Areas has been operating temporarily from Beirut.

6. Email exchange June 16, 2014, with Robert Guei, secretary of the Committee on Agriculture, FAO.

7. See http://classic.AfricaFertilizer.org (accessed May 20, 2014).

8. Data are not available for Cabo Verde, Guinea-Bissau, Liberia, or Sierra Leone, all of which are small consumers, AfricaFertilizer.org, http://classic.AfricaFertilizer.org (accessed May 20, 2014).

9. Since 2006, work has also been ongoing to develop harmonized rules for regional trade of pesticides. Although pesticides are useful in grain storage and can help with on-farm production, the majority of these chemicals are used on cotton, cocoa, coffee, and vegetables. Thus, they were not a specific focus of the present study that began as part a project on food staples trade. Side discussions with those involved with pesticide trade, however, found that many of the same issues exist with regard to regional recognition of registration tests, problems with counterfeiting and adulteration, and limited enforcement capacity, among others.

10. A first edition of the regional variety catalog (FAO 2008) was prepared at the time the main ECOWAS regional regulation for seed was enacted and included lists of varieties already registered in West African countries. Notably, several varieties listed in the first edition had been registered in more than one country and so are already eligible for international trade. Many other varieties, however, have just been registered in one country. Because all varieties, including the ones currently registered in multiple countries, were not necessarily tested according to harmonized DUS and VCU criteria in the ECOWAS regulations, this situation leads to an open-ended question of whether all 17 countries participating in the harmonization process will accept existing varieties without retesting according to the actual agreed procedures. In the spirit of countries desiring free trade and already agreeing to harmonize, this may be a nonissue. To date, however, there are no known examples of varieties released in one country being commercialized in another on the basis of the existence of the 2008 first edition catalog. In the next edition of the catalog to be used for actual harmonized trade, agreement was reached that new varieties would have to fulfill all requirements for variety registration before being considered for inclusion in the catalog (email exchange with Robert Guei, secretary of the Committee on Agriculture, FAO).

11. During this four-year period, the ECOWAS and UEMOA commissions experienced a long transition during which a new president and new commissioners were appointed. These appointments contributed to a breakdown in communication between the departments working on seed harmonization and led to multiple delays and postponements of the legal reviews. During this time, however, the ECOWAS and UEMOA commissioners in charge of agriculture eventually agreed that UEMOA no longer needed to adopt parallel regulations for fertilizer after ECOWAS finished the covering sets of 2008 and 2009 regulations for seed.

12. Until 2013, the work on fertilizer was carried out with the technical and financial support of the International Fertilizer Development Center through the Dutch-funded joint ECOWAS-UEMOA Marketing Inputs Regionally Plus project.

13. In addition, Chad, which is participating in the ECOWAS harmonization agreement through CILSS, has not undertaken any of the actions identified by WASP.

14. During fieldwork, authorities in one country told the study team that the 2008 and 2012 regional regulations had not been published because they were sent by ECOWAS in pdf format and were being typed.

15. These are rough estimates based on an ambitious yield of three tons certified seed per hectare.

16. In the United States, seed certification is voluntary. It is done exclusively by private companies.

17. Unlike Burkina Faso, Nigeria allows private companies to produce foundation seed.

18. In 2012, the Institute of Rural Economy in Mali applied for 35 recent varieties of seed to be patented with OAPI but did not have the resources to pay OAPI's fee of about $620 per variety (Sène 2014).

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4 Beyond Trade: Lessons from Food Staple Value Chains

KEY POINTS

- The primary constraints facing West African producers seeking to participate in agricultural value chains are related to domestic supply-side issues in the producing country.
- Access to finance and inadequate infrastructure are among the top hurdles producers face when seeking to participate in value chains.
- More generally, the fragmentation of producers and markets means that the benefits of coordination and economies of scale are not reaped.
- The public sector has traditionally been heavily involved in and focused on the development of national supply chains without considering broader regional and international links. Also, the lack of transparency and the lack of predictability in public sector policies have prevented better private sector participation in food staples value chains.
- Better dialogue with and involvement of the private sector could offer solutions to the better streamlining of value chains and could help provide the key inputs needed for the participation of staple producers in national and regional value chains.

Introduction

Regional trade in staples is determined not only by regional and national policies that govern transport and border crossing. The decisions of public and private agents upstream and downstream matter too, as do actions in neighboring product markets. In this chapter, we draw the lessons for trade in the Economic Community of West African States (ECOWAS) from the detailed analysis of value chains of food staples. Value chain analysis provides a framework for understanding the complete setting for production, processing, and distribution of food staples in the region. It builds on traditional supply chain analysis but focuses on the steps at which the addition of value takes place. Concretely, a value chain is defined as including "the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond. This includes design, production, marketing, distribution, and support to the final consumer."[1] With regard to agrofood such as staple crops, the concept of a value chain incorporates all activities from the distribution of inputs through production and processing to distribution to the final consumer and the use of by-products.

Value chains can be national, regional, or international in focus. Indeed, the emerging internationalization of agrofood value chains is an important issue for producers worldwide; however, as previous

chapters have shown, market internationalization is limited in West Africa, except on a local and often informal level. The study of value chains confirms that fact (for example, Nedelcovych and Mainville 2013). Nonetheless, the potential emergence of at least regional value chains in food staples is likely to be an important issue for policy makers going forward, and so this chapter includes an analysis of the questions that arise in that context.

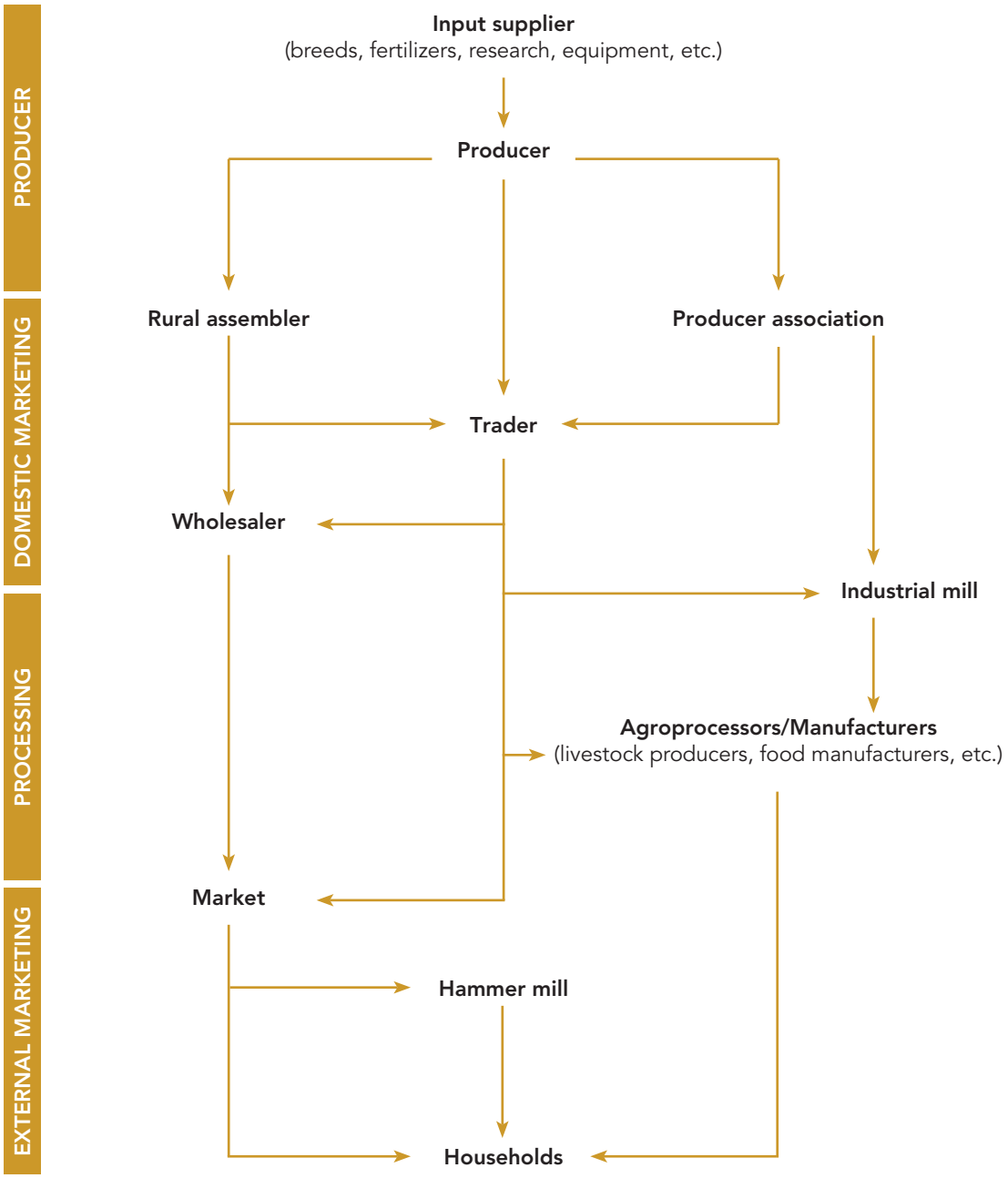
Agrofood Value Chains

Value Chains: The Need for Competitive, Connected, and Organized Markets

The production and distribution of agrofood products, including staples, involve numerous actors and many stages. Coordination of those various processes takes place within value chains, where different actors are distinguished by the role they play in preparing the product for movement to the next stage of the chain, as well as their ability to add—and retain—economic value. Value addition is characterized by the existence of profit margins at different stages of the chain. Competition places pressure on those margins by preventing the accumulation of monopoly or monopsony rents, but it also typically supports more efficient functioning of the value chain as a whole, because agents' incentives line up in a way that is commercially viable. Of course, the potential benefits of competition do not imply that sudden movements from highly regulated or noncompetitive market structures toward more competitive ones should be undertaken. Rather, extensive preparation and gradual reforms should be preferred, as they provide breathing space for the various value chain agents to adjust to the roles and pressures implied by more competitive structures. A gradualist approach also provides time to develop important links and to improve coordination among value chain agents.

In the agrofood context, the value chain as a unit of analysis includes all activities from research and development of inputs, through marketing and distribution, to the final consumer and the use of by-products (figure 4.1). Input suppliers provide producers with seed, fertilizers, irrigation supplies, and other necessary products. Historically, in the context of developing-country agriculture, input suppliers have typically been subject to heavy state involvement because of the underdevelopment of private markets. Another factor that has supported state involvement at that stage of the value chain is the difficulty for producers—often smallholders—to obtain finance to pay for the inputs they need to grow the next season's crop. Most producers depend on returns from future sales to pay for their inputs, which makes

Figure 4.1. The Maize Value Chain



Source: Bromley and others 2011.

some form of bridge financing essential. Input suppliers linked to the state have usually been in a position to extend such financing, often informally, and thereby to help producers overcome the first hurdle they face.

In developing countries—and more on the particularities of the West African context later—producers are typically highly dispersed and are in many cases smallholders. Indeed, some producers work with very small plots and function largely as subsistence farmers, perhaps bringing some small surplus to market in a good year. In contrast, input suppliers have tended to be highly concentrated, in part because of state involvement in the value chain. Parastatals have often operated on either a local or national monopsony basis, although that role has seen significant reforms in recent years in at least some countries and sectors.

With regard to processing, two contradictory trends are notable. In some sectors and countries, processing activities have been relatively concentrated, again because of the historical involvement of the state in some agrofood value chains. In some cases, economies of scale limit entry in the market (flour mills for instance). In others, however, processing takes place on a very small scale, typically locally, which implies a high degree of dispersion and use of methods that cannot capture economies of scale in the way that commercial processing can. That small-scale model, although sometimes inefficient, persists, because of difficulties in accessing the financing required to scale up and the difficulties for larger processors in ensuring constant supplies of the raw product so that the plant can operate near capacity. In both cases, however, the degree of processing that takes place has typically been relatively limited, and problems of standardization and quality persist.

As has been highlighted in previous chapters, the distribution function is extremely difficult to manage effectively in the developing-country context, including in West Africa—more on specific regional examples later. For what is typically observed, a number of problems are apparent. First, basic market infrastructure, such as transport corridors or regional markets, does not exist or is in a state of disrepair that makes use expensive. Second, transport markets are fragmented, which, when combined with insufficiently dense and high-quality infrastructure, leads to relatively high prices for moving goods from producer to processor and on to the final consumer. More broadly, logistics markets are underdeveloped, which again keeps costs high and results in significant spoilage and loss of time-sensitive goods, such as food products. Third, private actors are not always present and are sometimes crowded out by the public sector.

Although many developing countries have had important export crop value chains, they typically have not been food staples. The final consumer for staples has usually been geographically close to the place of production (except for livestock), although that pattern has been changing somewhat

in recent years. As noted in previous chapters, however, the porous nature of national borders and the integrated nature of some production and consumption basins mean that goods in fact cross borders informally and are therefore technically export crops. More typically, though, the final consumer for food staple products is nationally based. Indeed, some countries have historically implemented measures such as export bans as a way of dealing with price spikes, their explicit aim being to keep production and consumption within national borders as part of broader policies dealing with food security.

What Are the Key Constraints on the Development of Agrofood Value Chains?

This chapter will show that value chains for food staples remain relatively underdeveloped in West Africa. In this section, we examine the factors that operate as constraints on the development and extension of agrofood value chains in the developing-country context. The interplay between those factors is often complex, with one constraint reinforcing another. By identifying individual factors that make it more difficult to develop agricultural value chains in the West African context, we are by no means downplaying the importance of a broad-based approach to building them up, which does not address just one constraint but instead leverages an understanding of the complete value chain to bring about genuine, long-lasting improvements, the effects of which are felt by farmers as well as consumers.

One key constraint in the development of agricultural value chains is transport infrastructure and logistics. Uncertainties in the transport sector mean that firms such as input suppliers need to keep large inventories, which in turn increase the cost of financing the business. For farmers, problems with transport make getting goods to market difficult, even through intermediaries. And a large wedge exists between market prices and farm gate prices, which ultimately acts to the disadvantage of both farmers and consumers. Porto, Depetris-Chauvin, and Olarreaga (2012) show that farmers can benefit from efficiency improvements in the transport sector that reduce the overall price wedge. Of course, farmers are not the only people who could benefit from better transport. Processors depend on regular supplies of raw materials, and that process is impeded when transport is irregular. More reliable transport would also help their businesses operate more efficiently.

Access to finance is another constraint that affects many actors in agricultural value chains in West Africa. On the one hand, farmers receive an income at harvest time, but they need to purchase inputs such as seeds and fertilizers at planting time. Some form of finance is necessary to bridge the gap, but

they typically have trouble accessing formal channels.[2] On the other hand, further downstream, processors as well as intermediaries like transporters and wholesalers are prevented from realizing economies of scale by difficulties in accessing the financing required to expand their operations. As a result, many parts of the value chain operate suboptimally and thus at a higher cost. As in the case of poor transport, the result is to drive a wedge between consumer prices and farm gate prices to the disadvantage of farmers as well as consumers.

More broadly than just access to finance, the general business and regulatory environment also affects the ability of value chains to integrate and grow. An uncertain investment climate—including, in some cases, restrictions on foreign direct investment—discourages large firms from making relationship-specific investments that could lead to more efficient value chains. Difficulties in contract enforcement mean that commercial processors find it difficult to have guaranteed access to the constant supplies of the raw materials they need at a consistent price and quality.

In addition to the national factors that are the primary focus of this chapter, one must have an eye to the way in which value chains fit into the regional trading environment. The evidence suggests that significant barriers are hindering the emergence of regional value chains in food staples (for example, Nedelcovych and Mainville 2013; World Bank 2013). The public sector has traditionally focused on the development of national supply chains, and regional and international links have been relatively neglected. In the future, and particularly as the ECOWAS internal market is completed, it will be important to turn attention to the development of regional value chains, which have the scale necessary to compete in global markets. Another reason why a regional approach can be strongly complementary with national efforts is that, as the case studies reviewed in this chapter show, many of the constraints facing value chain actors are broadly similar across countries.

Although external market access, including international trade costs, is also an issue, the primary factors inhibiting the development of national and regional value chains in West African agriculture are on the supply side. Policy actions should focus on those areas. Many of them are primarily national, but some have a regional dimension, particularly when the regionalization of value chains is considered. Of course, the issues raised here are not new; they have been subject to discussion and policy action before. However, they remain relevant on the ground, which suggests that there is a case to be made for expanding the solution set with regard to what has previously been attempted. The particular implications of that suggestion in the context of West African value chains for food staples will be addressed in the final section of this chapter.

Value Chains, Smallholders, and Poverty

The organizational form and characteristics of the value chain can have significant implications for smallholders. Changes at one point in the chain can ripple backward and forward to alter production and consumption decisions, prices, incomes, and poverty rates. The effects of changes to the structure of value chains on smallholder incomes and poverty prevalence are particularly important, given that production in West Africa is highly dispersed, and smallholders—who are usually quite poor—are numerically important. If agriculture is to realize its transformative potential for the regional economy, value chains need to be efficiently organized so that losses and other margins absorbed by intermediaries are limited to a level approaching the competitive equilibrium. The reason for aiming at that level of efficiency is that it brings producer and consumer prices more into line. Indeed, as will be seen in the discussion below, there is considerable scope for both consumers and producers to benefit from more efficient value chains. By reducing the gap between prices at the two end points of the value chain, it is possible for producer prices to rise and consumer prices to fall simultaneously, which represents an improvement in economic welfare for both groups.

Analyzing the relationship between value chain structure and the income of smallholders is a complex exercise. Porto and Depetris-Chauvin (2014) employ a simulation model, linked to detailed household data for a selection of West African countries. They examine the effects of changes in value chain structure on prices, incomes, and poverty rates among producers and consumers.

Results depend on the reality in each country. In general, the simulations highlight the fact that changes to the structure of value chains have different implications for different groups within each country. Increases in competition among intermediaries—at least in the limiting case of perfect competition—tend to have welfare benefits. Changes in international prices have more complex effects: because households are both consumers and producers of the goods in question, they benefit from price rises as producers but lose as consumers. The net effect therefore depends on the particular production and consumption patterns that are prevalent among different groups within each country. The lesson is that reforms need to be carefully analyzed before they are put in place, with an eye to gauging the net effects on households and to ensuring that they are positive. The point is particularly important in light of the fact that reforms can have complex interrelations in their effects: if prices and the level of competition both change at the same time, or if changes in competition are accompanied by improvements in production technology, the net effects can be hard to predict. Detailed analysis of particular cases is therefore required.

The analysis by Porto and Depetris-Chauvin (2014) usefully highlights the complex effects of changes to value chain structure. It is impossible to state a few consistent results from the various simulations, because outcomes depend on the structure of individual markets and economies. Moreover, the simulations that are considered in detail with regard to their welfare implications concern changes to world prices and changes in the competitive structure among intermediaries. Value chain upgrading can potentially imply a range of other changes as well, however. For instance, upgrading production technology by providing inputs such as fertilizers and improved seed varieties has welfare implications at all stages of the value chain. The same is true of changes in transport costs between rural areas and urban centers. The introduction of new processing technologies also has important implications for both producers and consumers. Value chain analysis—in particular, the consideration of value chain upgrading—needs to look at all of those factors and to attempt to identify their net impacts on producers and consumers and on households in poverty as well as those that are not.

The West African Reality

Following those general considerations on the development and operation of agrofood value chains, we now turn to specific issues in the West African context. It is impossible to be comprehensive given the broad range of challenges that staple food value chains face in the region, so this section attempts to identify a range of cross-cutting issues that are relevant to a variety of value chains. The general economic features that affect value chains in one country and sector sometimes carry over to other products and other countries, because the constraints addressed can be systemic in nature.

Inputs and Access to Finance

This report has already considered the issue of inputs extensively, and the analysis will not be repeated here. Rather, the emphasis will be placed on the link between input acquisition and access to finance. In a nutshell, the problem is that farmers need inputs at the beginning of the growing season when their cash reserves are low. Therefore, they need financing to buy inputs so they can grow their crops with the idea of repaying the loan at the end of the season when they have receipts from crop sales. Farmers typically have great difficulties in accessing the financial system: a survey of farmers in Ghana revealed that 96 percent of them considered access to finance to be a very serious or serious constraint (Mulangu and Depetris-Chauvin 2014). A system of warehouse receipts is one way of facilitating the

operation of that kind of transaction in a relatively efficient way (see below). However, it requires an adequate regulatory framework and high-quality storage facilities as well as carefully controlled procedures for the issuance and recognition of receipts by actors elsewhere in the economy, including financial institutions.

More broadly, access to finance is an important constraint for staple food value chains in West Africa. Many producers in the region are caught in a low input–low productivity equilibrium, partly because of their inability to reap scale economies, but also because of their inability to access sufficient finance at the right time and under the right terms. This inability not only constrains their ability to acquire consumable inputs, like seeds and fertilizers, it also constrains their ability to invest in capital equipment that can greatly increase farm productivity.

In part, farmers' inability to access financial markets is symptomatic of a broader systemic issue in West African countries, namely, financial underdevelopment. Farmers are not the only ones to suffer—the corporatized private sector also has difficulties—but because farmers make up a large part of the population and agriculture is still a significant proportion of overall economic activity, the solution to the problem is particularly urgent. Historically, the state has played a significant role in West Africa in financing access to inputs through parastatals designed to structure the value chain for important agrofood crops, including some staples. However, the role of those firms has receded dramatically since liberalization in the 1990s, and many of them have been at least partly privatized.

An example of those dynamics is the cassava value chain in Nigeria (Brunelin 2014a). Credit is potentially available through formal channels, such as commercial banks, microfinance banks, and official credit institutions; semiformal channels, like nongovernmental microfinance institutions and cooperatives; and informal arrangements, including moneylenders, and rotating savings and credit organizations. Conscious of the difficulties that the rural population experiences in accessing the finance it needs, the government established a series of institutions designed to facilitate the flow of capital in the 1970s. However, the efficacy of those schemes seems to have been limited: only 2.5 percent of total commercial bank lending is to agriculture, primarily because banks remain reluctant to lend to farmers because of the risks inherent in their activity. Rural producers also have difficulty accessing finance because the number of bank branches in rural areas is limited, and semiformal and informal channels are relatively more prevalent. Women are particularly disadvantaged, because, in addition to those problems, they do not have access to collateral to support a commercial loan. Vulnerable smallholders therefore rely heavily on moneylenders, who often charge exorbitant interest rates.

Box 4.1 The Ghana Grains Partnership

Yara is a large Norwegian company present in more than 50 countries around the world. Part of its agricultural development business is the sale of fertilizers, which are important inputs for crop production, particularly in countries looking to move from a low-yield equilibrium to a more intensive, high-yield model.

Yara's Ghana Grains Partnership (GGP), initiated in 2008, is one example of the way in which a large, lead firm can help structure the value chain and provide important products and services to farmers, including smallholders. The GGP started operations in 2009, following bottom-up consultations with a variety of groups, including local growers. It is designed to respond to some of the deficiencies in Ghana's grain value chains that prevent growers from realizing higher yields.

Using a public–private partnership model, the GGP's objective is to strengthen the market through improved infrastructure, closer collaboration, and improved efficiency throughout the grain value chain, especially maize. The GGP has initially focused on the downstream section of the value chain, in particular improving transaction efficiency and distribution options. An examination has also been conducted on how maize deliveries to new regional grain markets and a national school meals program could benefit from improved warehousing systems.

Farmers who join the program need to join a farmers' association. Membership in the association comes with a number of benefits, including, in particular, credit for inputs, a guaranteed purchase price for outputs, quality extension services, and training. The farmers' association purchases its members' entire maize crop, for which it pays them an agreed price, less the cost of the inputs previously supplied—a useful form of credit for small farmers. As a result of the GGP's operations, yield levels have risen, and the farmers' association has become Ghana's largest maize producer.

Financing for the GGP has initially come from Yara and Wienco, a Ghanaian inputs trader. Their contributions covered the initial input requirements and logistics. Concretely, a revolving fund for input credits was established, and two long-term loans totaling $3 million were made. Yara also coordinated the supply of fertilizers for the project. Several warehouses have been rented for storage.

The GGP is one example of a positive intervention by a large, lead firm in a West African food staple value chain. It has enjoyed some initial successes, although its long-term effects remain to be seen. Aspects of its experience could perhaps be learned from other regional settings.

Sources: Guyver and MacCarthy 2011; Yara Ghana Grains Partnership webpage, http://www.yara.com/sustainability/how_we_engage/africa_engagement/ghana_grains_partnership/index.aspx.

In an environment of reduced state support to the provision of finance for inputs, what are farmers—particularly smallholders—to do? A number of solutions, often complementary, have been envisaged. Smallholders organized into cooperatives are typically able to muster more collateral than farmers acting individually, and they may be able to access rural financial institutions for bridging loans at the beginning of the growing season. Of course, that solution requires a policy environment that supports the development of financial markets and their extension into rural areas.

In some cases, private firms involved in processing and marketing agrofood products have partly taken over the role previously played by the parastatals: they provide inputs on credit to farmer organizations at the beginning of the crop cycle and deduct the cost of those inputs from the payments made to farmers for their crops at the end of the season (box 4.1). Private sector organizations can, in principle, perform that role efficiently if the policy and private sector development environments are right. As Swinnen, Colen, and Maertens (2013) put it, vertical coordination is a financial activity. However, companies need to be relatively large to take on the financial obligations involved. The presence of large companies in the value chain can therefore benefit smallholders from that point of view, but they also need to be strictly regulated to ensure that they do not abuse their buying power or market position.

More broadly, efficiently implemented outgrower schemes—under which farmers contract with large processors to provide all or part of their production in exchange for a guaranteed price and the supply of inputs on credit—can help farmers overcome some of their financing constraints and can increase their incomes in some cases (Minot and Ronchi 2014). Of course, contract enforcement is a serious issue that needs to be addressed. Implementing outgrower schemes in environments where governance is weak and the rule of law is not adequately secured can lead to significant losses for the companies involved; farmers can decide to sell their output on the spot market long after inputs have been delivered by the company. Lack of effective contract enforcement or available alternative dispute resolution methods creates risk for companies, so they refrain from investing in such schemes. Ensuring the proper operation of basic institutions is therefore an important way of helping farmers overcome some of the constraints they face. More generally, efforts in this area need to take account of the existence of various types of risks affecting the different contracting parties, and the need to allocate risk among them in an equitable manner. The occurrence of risk also gives rise to the possibility of disputes, so it could be useful for value chain participants to explore alternative methods of dispute resolution that are easy to access, speedy, and relatively certain (Minot and Ronchi 2014).

Although private sector interventions can help alleviate problems of financial access linked to the acquisition of consumable inputs like seeds and fertilizers, the difficulties posed by large-scale capital investments are somewhat different. For instance, moving farmers to a high input–high productivity equilibrium might require substantial investments in irrigation systems that benefit more than one farm. In that case, collective-action problems may be such that it is not profitable for individual farmers to make the investment, given the difficulties of obtaining finance. In such cases, there may be a continued role for direct state intervention. For instance, Mali has long been engaged in direct investments in irrigation in the Office du Niger region. Those investments have resulted in productivity in the rice value chain that is much higher than in most other regions of the country.

Large-scale irrigation projects are therefore an example of an area in which some kind of public sector intervention may be desirable. That necessity has been recognized in the implementation of ECOWAS Agricultural Policy programs as we saw in chapter 2. The question for governments is how best to modulate that intervention so that it achieves its goals in the most efficient way possible. Typically, an efficient approach will leverage private sector energies and expertise—a point that is elaborated on below.

An alternative to arm's-length financing transactions with large companies is to facilitate vertical integration in the value chain. Under that approach, large companies such as processors can purchase or acquire long-term leases over farmland. They then engage farmers to farm the land, under a system similar to sharecropping, although typically the full amount of production is sold to the processor at an agreed price. That kind of vertical integration allows large firms to provide credit for consumable inputs, and it also favors their engagement in capital investments that boost farm productivity. Although vertical integration needs to be monitored closely to ensure that it benefits farmers and consumers, it can potentially ease some of the finance-related constraints that have been identified in this section. In addition to constant monitoring, of course, a prerequisite for vertical integration in the agricultural sector is a secure system of land rights and tenure, so that those who have an interest in the land can be properly compensated if it is acquired by a large firm. It is important to distinguish efficient vertical integration, which can potentially aid development objectives, from a simple "land grab" by large companies, which can have much more negative effects on producers and consumers.

A fundamental question about the involvement of large private companies is the potential negative effect it may have on smallholders. A debate occurs in the literature on whether private firms' involvement in value chains is actually good. In a recent review, Swinnen, Colen, and Maertens (2013) look at the participation of smallholders in high value added supply chains.[3] When private firms are involved, the decision on whether or not to include smallholders in value chains rests on the reality of markets, and there may be incentives for firms to focus on the largest producers at the expense of smaller ones. A key to private sector participation in value chains with smallholders—the reality of most staples production in West Africa—is the promotion of producer organizations in order to enable smallholders to engage in partnerships with private sector firms. Those partnerships enhance the bargaining power of smallholders, reduce transaction costs between smallholders and the private sector, and also create the necessary economies of scale to overcome some technical constraints.

Transport and Postharvest Logistics

Links between farmers and markets are crucial in ensuring incomes for smallholders and sufficient food staples for consumers. Such links depend on the way transport, logistics, and distribution markets are organized. Typically in West Africa, those areas suffer from intersecting problems of low-quality infrastructure, inefficient markets, and small scale. The result is that farmers remain isolated from major markets, both geographically and, more important, economically. That feature of the West African reality means that a considerable gap exists between farm gate prices and consumer prices, which has negative impacts for producers as well as consumers. To take the Ghanaian maize value chain as one example, the final urban retail price has been estimated to be as much as double the farm gate price, with more than two-thirds of post–farm gate value added related to transport, storage, and handling costs (Depetris-Chauvin and Mulangu 2014).

In many staple food sectors in West Africa, postharvest logistics—including transport and storage—are poor. As a result, losses are high, sometimes on the order of one-quarter or even one-third of the crop. To take just one example, Ghana's maize value chain is estimated to lose about one-third of all maize production with regard to marketable produce (Mulangu and Depetris-Chauvin, 2014), which poses serious problems for farmer income and food availability in the country. Ghanaian maize producers often use on-farm storage in traditional granaries or homes, which does not allow for proper aeration; moreover, technical requirements for fumigation are often not followed. In Ghana, improved storage methods have been shown to increase farmer incomes, by approximately 14 percent in one study cited by Brunelin (2014a). In the rice value chain, the problem is slightly different. Simple processes such as drying rice on the ground introduce impurities and foreign matter that then reduce the quality of the final product and discourage consumers from purchasing local goods: they prefer imports that are perceived to be of higher and more uniform quality.

The problem of postharvest logistics is particularly crucial for crops that are highly perishable in their raw state, such as cassava (box 4.2). In such cases, a limited degree of processing must be undertaken at or very close to the farm in order to make storage and commercialization possible. However, those processes typically take place on an artisanal basis, which results in inefficiencies, as well as significant losses sometimes. The issue of processing and value addition is addressed in more detail below.

Another stage of the logistics function in the value chain at which losses occur is transport. Transport networks in West Africa are well-known to be underdeveloped. Trucking is the crucial mode of transport for moving goods within, as well as between, countries. However, roads are frequently in a poor state of repair, which makes quick and reliable transport impossible to obtain. That problem is

Box 4.2 Cassava in Nigeria

Cassava is an important food security crop in Nigeria. However, it poses particular problems from a logistics and processing point of view, because the fresh roots (that is, the product immediately following harvest) are highly perishable. They are typically unmarketable three or four days after harvest. Moreover, fresh roots contain about 70 percent moisture and are thus difficult to transport over long distances. For those reasons, as well as the need to remove toxins before consumption, cassava needs to be processed quickly after harvest. Most commonly, commercialization occurs either through a traditional value chain making gari and other similar products or through an industrialized value chain making high-quality cassava flour (HQCF).

Because of cassava's particular characteristics, as well as the more general difficulties faced by food staple producers in Nigeria, quantitative and qualitative losses occur at all stages in the postharvest chain (figure B4.2.1). Total losses in the traditional value chain run to about 35 percent, compared with 20 percent for the industrial value chain.

Significant losses (almost 12 percent) occur in the early stages of production, because of inappropriate harvesting technologies and poor soil conditions. Manual harvesting is responsible for about 5 percent of the roots being damaged or left in the field. About 2 percent of what is harvested is thrown away because it is too small. More problematic is the fact that significant quantities of harvested roots are discarded in some years because of supply gluts. One estimate is that 25 percent of the harvest is wasted for that reason every five years.

Even after basic processing to make the product less perishable than in its raw form, storage and transport lead to significant losses. Those losses are attributable to the lack of proper storage facilities and poor transport conditions.

At the processing stage, loses are smaller in the HQCF value chain than in the traditional value chain. One factor is that traditional processing involves hand peeling, with about 10 percent of roots being thrown away, because the peelers consider them too hard to peel by hand. Losses occurring at the processing stage are larger for traditional gari processors than for HQFC factories, especially because gari processors peel tubers by hand. In the industrialized value chain, roots are discarded if they have spoiled or have an insufficient starch content. Because of the nature of the value chain, entire loads can be discarded for those reasons. In addition to

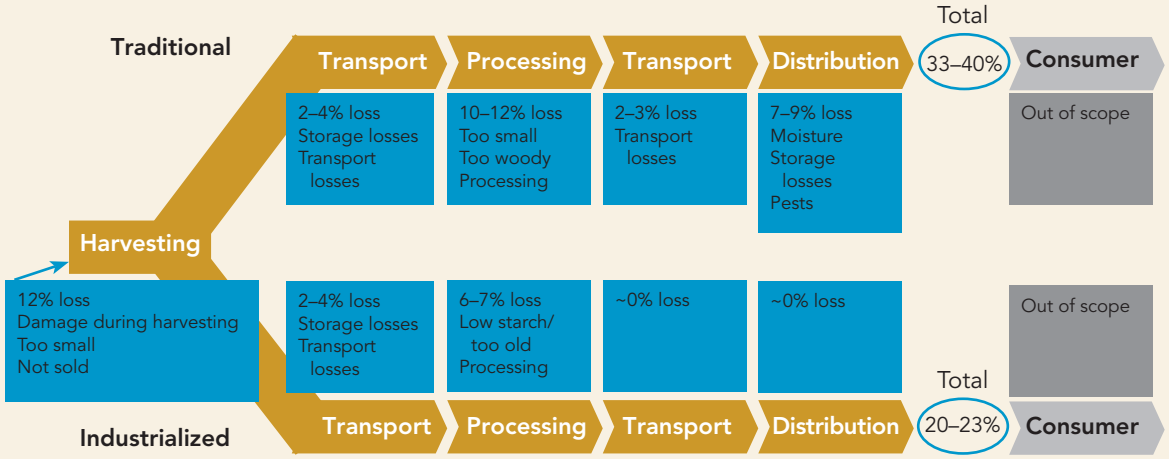
particularly important in the case of sectors like the livestock value chain in Niger: the country has only 10,000 kilometers of roads, and most rural areas are unreachable. Traders and producers therefore suffer from high transport costs (Amadou 2014). In many countries, trucking markets are highly fragmented and often do not operate competitively, as rates are fixed by associations and loads are allocated on a rotating basis. In Burkina Faso, for example, cartels in the trucking sector drive up prices and contribute to an overall environment of high cost and poor quality (Depetris-Chauvin and Mulangu 2014). The trucking fleet in West Africa is old by world standards, which means that it is relatively costly to run,

those losses, processing cassava drives further losses of 1 percent to 2 percent in both value chains.

Transport postprocessing tends to generate higher losses in the traditional value chain than in the industrialized one because of relatively poor packaging and higher moisture content. For distribution, losses occur only in the traditional value chain (7 percent to 9 percent), as HQCF is less vulnerable to spoilage and is better packaged.

As the example makes clear, deficiencies in the operation of the value chain can lead to significant losses of food staple crops. That issue is serious from the points of view of securing income along the value chain as well as of food security. Particularly for food security, it is important to ensure that losses are minimized and that the value chain operates as efficiently as possible.

Figure B4.2.1 Losses in the Nigerian Cassava Value Chain



Sources: Brunelin 2014a; WEF 2014.

and causes significant damage to roads because of overloading to reduce operating costs and to the environment through air pollution and greenhouse gas emissions. In any event, poor infrastructure limits the speed at which vehicles can move and greatly affects reliability. The result of all of those factors is to make transport prices higher than necessary. Consequently, they drive an additional wedge between farm gate prices and consumer prices, which harms both producers and consumers.

As in other sectors, transport conditions in the livestock sector are substandard. Animals are often not inspected at the point of departure to ensure that they are healthy enough to survive the

trip. Sometimes, they are not adequately fed and watered during the trip, rest stops are infrequent, and trucks are not designed for animal transport (box 4.3; see also box 2.9 in chapter 2). As a result, it is not uncommon for animals to die during shipment. Transport by truck tends to be reserved for the last segment of the export supply chain (for instance, from the collection market of Kano to consumer markets in large cities in Nigeria), as traditional pastoralist methods of transhumance are actually more efficient from a cost and quality standpoint than is vehicle transport. Still, vehicle transport represents the most important cost factor when exporting live animals. For instance, several studies of trade between Chad and Nigeria (Bénard, Bonnet, and Guibert 2010; Koussou 2013; World Bank 2014) assess that transport costs represent about 60 percent of the total costs of an animal brought from central Chad to the market in Lagos. Sources of those costs are well-known: formal taxes, informal fees collected at roadblocks, and most likely comfortable profit margins extracted by some intermediaries (such as licensed exporters in Chad). The roadblocks survey of the Comité Permanent Inter-États de Lutte contre la Sécheresse dans le Sahel (CILSS 2014) shows the frequency and costs of roadblocks for agricultural products (see map 2.1 in chapter 2), including for livestock, with the corridor between Burkina Faso and Ghana and the corridor between Mali and Niger subject to particularly high levels of harassment.

In addition to transport, postharvest logistics also depend on distribution markets at the wholesale and retail levels. Most staple crops in West Africa are distributed by different sized operators coexisting

Box 4.3 The Transport of Livestock

Once purchased at the home of the farmer or at the village market, the cattle are walked to collection markets at the expense of the purchaser. Herders' compensation varies, depending on the distance and the time required to make the journey and on the number of animals. The fees are quite variable and are regulated by local habits. Sometimes, farmers bring livestock directly to the collection markets, because they have not found a buyer in the village market. In the collection markets, the shippers (merchants from the Dioula people) will buy cattle to fill a truck, alone or with others, for a shipment to an assembly or consumer market. Local butchers and people grilling meat also attend those markets.

Unsold livestock will stay in place until the next market. Looking after, feeding, and watering the cattle are the owner's responsibility. Shipping is done by trucks, which are often not designed for cattle transport; cattle must remain standing so as not to be trampled by others. People are employed to ensure particularly that does not happen. Transporters looking for return cargo can lead to a lack of available trucks, causing transport delays that are disadvantageous to the animals that remain stranded in markets (as in Guinea).

Source: Institut de l'Elevage 2012.

within the same market. Numerically, small operators are most common. In the Burkina Faso maize value chain, for example, small processors account for nearly half of the total processing market (Depetris-Chauvin and Mulangu 2014). Typically, small processors visit villages at harvest time and collect small quantities of produce. They then either resell the goods to larger operators or sell them directly on a small scale in local markets. Midsize operators buy larger quantities and may ship a significant proportion to urban centers for sale to final consumers. Small and midsize distributors usually handle transactions for smallholders. Large distributors, which are few but handle significant quantities of produce, most often deal with commercial farms. Indeed, commercial farming, distribution, and processing are often vertically linked through the influence of a single lead firm—further discussed later.

Experience with rice shows that significant market potential exists within West Africa. Changing tastes and rising incomes in urban centers have supported the development of a significant market for rice. But in most countries—Mali is a prominent exception—the market for rice is typically accounted for by imports. (See box 4.4.) Putting aside questions of quality and consistency—see further below—imported food staples are often price competitive, partly because of efficient urban distribution processes in addition to the commercial scale of production overseas. Distribution of staples grown in West Africa is more challenging; it is not simply a matter of moving them from a single gateway port to an urban center. Instead, staples must be moved to the urban center from a large number of dispersed production sites in the hinterland. National connectivity and the efficiency of logistics operations are therefore key determinants of the ability of West African food staples to compete with imported products. Performance upgrading in that part of the value chain is particularly important if West African food staples are to be traded successfully both within and between countries in the region.

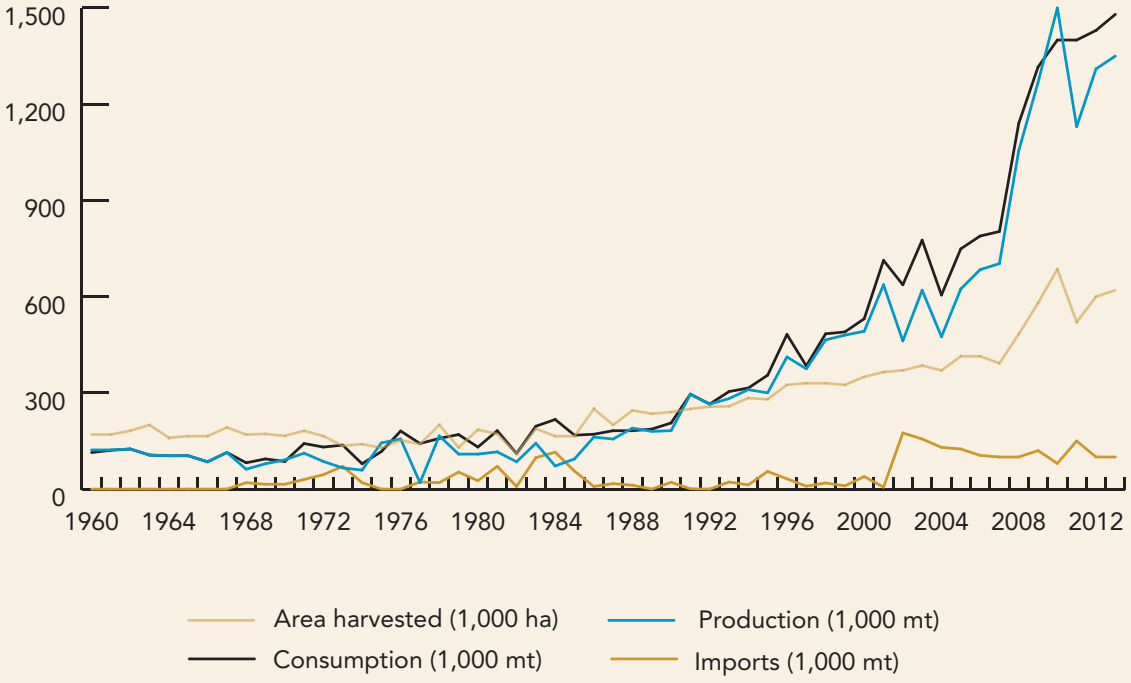
Quality, Standards, and Certification

As has already been noted, quality is a serious concern for urban consumers, who represent a potentially large market for West African staple food producers. However, food staple value chains in West Africa typically have significant difficulty in ensuring a product of high and uniform quality. In the maize value chain in Burkina Faso, for example, the final quality of flour as well as the end products is recognized as being a serious constraint. Issues include taste, nutritional content, conservation attributes, and the presence of impurities (Depetris-Chauvin and Mulangu 2014). Although quality is less of an issue for goods destined for local consumption in towns and villages, the potential of the higher-quality market is significant, given that high-quality rice, for example, sells at a significant premium over lower-quality output. In addition to quality as a product characteristic, consistency as a brand charac-

Box 4.4 Mali's Rice Value Chain

Unlike many countries in the region, Mali has a large and relatively successful rice sector, and recourse to imports is more limited than what is observed in some neighboring countries. That fact partly reflects a consumer preference for fresher rice, which is not shared to the same degree elsewhere in the region. That preference gives local rice an important competitive advantage over the imported product. Moreover, although yields have been stagnant in much of the region over recent years, Mali has seen yield growth of 3.6 percent annually in addition to an expansion of the area under rice cultivation (figure B4.4.1). Producers across the region are working hard to catch up with changing consumer tastes, which are driven by increasing urbanization and higher incomes.

Figure B4.4.1 Milled Rice Production, Consumption, Area Harvested, and Imports in Mali, 1960–2012



Note: ha = hectares; mt = metric tons.

(continued next page)

Although smallholders are important in the context of rice production in Mali, there is also some level of activity by larger, commercial establishments. Such farms typically use mechanization, hold land under formal tenure arrangements, and sell milled, rather than paddy, rice. They sometimes deal directly with retailers or consumers, in contrast to smallholders who most often only commercialize part of their crop through difficult distribution channels.

One of the distinctive features of rice production in Mali is that it relies heavily on irrigation in some regions, using systems originally set up for cotton production. That factor allows growers to achieve higher yields than elsewhere in West Africa, where irrigation use is limited with regard to the area harvested, but it is significant with regard to production. Large-scale irrigation accounts for the largest share of rice production in Mali and involves about one-third of all farms that produce the crop. Irrigated farms are even more productive because they tend to use other inputs as well, such as improved seed varieties and fertilizers. In some cases, however, farmers use fertilizers intended for other crops—particularly cotton—which may not be well adapted to rice. The reason has much to do with distortions introduced by government policies intended to support the cotton sector, which has traditionally been the major cash crop in Mali.

The ability to access good-quality seeds is also a crucial determinant of farm performance, and it depends on credit. Another distinctive feature of Mali's rice value chain, which is not true of others in West Africa, is that an estimated 85 percent of seeds are improved and come from the formal sector. Although the public sector continues to play a role in the seed supply chain, the trend is toward increased private sector involvement. Seed producers' associations and cooperatives sell certified seeds, and a number of businesses are involved in producing and distributing seeds.

Source: Brunelin 2014b.

teristic is also important. When consumers cook with a particular food product, they want to know that the final outcome will be relatively similar from one meal to the next in cooking time, flavor, purity, and appearance.

Import competition from outside the region is a serious issue in many West African food staple markets. Rice is a particularly notable example, but other regions of the world are also major producers of cereals and even "local" products like cassava (for example, Brazil). Farming in exporting countries often takes place at a completely different scale and under very different conditions from those prevailing in West Africa. From the viewpoint of quality, urban consumers tend to perceive imported goods as being of higher and more uniform quality than the local product, particularly in markets such as rice. The reason is that the imported product has more uniform color and cooking properties and is free of impurities; because of poor postharvest treatment, local rice often contains sand and small stones and

Box 4.5 Quality in Mali's Rice Value Chain

As one of the main regional producers, Mali's rice value chain displays distinct characteristics compared with rice value chains elsewhere in the region. However, quality in some parts of the value chain remains a serious issue. Indeed, one of the reasons for the success of imported rice in West Africa is that it is perceived as being of higher and more uniform quality than local production. That perception partly relates to the different characteristics of imported and local rice in relation to flavor and aroma. But it also partly reflects genuine problems in the rice value chain, particularly in relation to processing and postharvest losses. In Mali, the issue is mostly present in the smallholder segment, which represents a large number of producers, even though the quantity produced is less significant in Mali than elsewhere in the region because of the presence there of some large, commercial farms.

Since Mali's partial liberalization in the 1990s, the private sector has become more active in dealing with rice postharvest. However, the sector remains fragmented and inefficient in many respects. Drying often takes place in the sun, on bare ground. That process results in the introduction of impurities, such as sand and stones. More generally, quality assurance and standardization are difficult to implement partly because of poor cultivation practices, such as the use of different varieties in the same field. That problem results in rice of different moisture levels and maturities being aggregated into the same lot, which makes cooking more difficult.

More generally, poor postharvest practices can damage the rice. Stained or discolored grains sell at a significant discount. There is also significant loss during the hulling process. Loss in milling can be reduced by allowing the rice sufficient time to dry after harvest, but that is difficult for many farmers because it requires access to credit in the interim. Many farmers prefer to sell at least part of their crop early to cover expenses and provide some income. That practice results in additional quality issues. Although it provides income in the short term, it is not the optimal strategy from a medium-term perspective. In West Africa more generally, approximately 10 percent of the crop is lost postharvest.

Storage is also a serious issue for rice producers. Stocks can be held by producers, farmers' associations, traders, and public authorities. However, many farmers do not have access to improved storage facilities, so they simply leave their crops on the ground next to the field. As previously mentioned, that approach results in quality-control problems from the introduction of foreign matter. It also causes the grains themselves to deteriorate. Initiatives to improve village-level storage facilities have generally been unsuccessful.

Source: Brunelin 2014b.

can be discolored. (See, for example, box 4.5.) If West African producers are to take advantage of the market opportunities offered by the region's own staple food markets, they need more than a protective barrier of tariffs at the border: even the resulting price differential has not stopped the penetration of imported staple foods. Protection typically does not help any industry, including agrofood, to enhance dynamic efficiency and to become more competitive with goods from elsewhere in the world. More competitive value chains within the region are needed.

One important element of competitiveness comes from producing a high-quality product with uniform characteristics from one batch to the next. An important way of achieving that aim is through standardization and certification. Standardization is the process by which a document is produced that summarizes the qualities a product should have in order to comply with the standard. Certification recognizes that compliance has been achieved, and it is a way of signaling to consumers that norms of quality and uniformity of characteristics are being met on an ongoing basis. In addition to improving product quality, standardization and certification can help facilitate domestic, regional, and international trade, as they provide purchasers with a guarantee that the products being traded meet certain criteria. It is more difficult for suppliers to renege on contractual engagements and supply lower-quality products.[4]

Countries in the region have made varying degrees of progress in the area of standardization. Most have a body that is responsible for promulgating national standards. In addition, there is an evolving regional standards infrastructure built on such concepts as harmonization and mutual recognition. However, as the discussion of those issues in chapter 2 showed, implementation on the ground is often severely lacking. It is not enough to design or promulgate standards as documents; they need to become an element of every producer's commercial reality. Compliance with standards entails the expenditure of significant resources, however, both in the money required for production upgrading and in the human and technical know-how that need to be mobilized. Standardization and certification require a holistic approach to the value chain, as issues that lead to nonstandard goods can intervene at any stage.

Concretely, what can be done from a value chain perspective to put in place appropriate standards and certification systems? First, it must be recognized that the public sector costs of implementing a national standards infrastructure may be prohibitive, particularly in small countries. Pooling resources across countries and making use of facilities such as testing laboratories in other countries—a genuinely regional approach to what is a regional problem—can aid the process significantly, as experience in the poorer countries of Southeast Asia has shown. Second, the presence of large, lead firms in the value chain can be a way both of encouraging standardization and of mobilizing the resources needed to ensure that more national production is compliant. Large firms can provide finance to producers, transporters, and distributors to upgrade their methods. They also already have access to international standards, and thus they can potentially even help upgrade production to the point where it does not just compete successfully with extraregional imports but can be exported to other parts of the world. Of course, large firms need to be dealt with cautiously, because they can also distort markets in the absence of effective competition. That issue is addressed in more detail below.

Processing and Value Addition

West African food staple value chains are characterized by relatively limited processing and value addition. When those processes do take place, they are largely conducted on an artisanal basis, except for a few large processers, such as beer brewers in the case of maize. With regard to number, small processors are far more common than large ones: in the Nigerian cassava value chain, for example, microprocessors employing just one or two people account for 40 percent of the total number (Brunelin 2014a).

Microprocessors operate at the village and town levels. Sometimes, they use portable processing equipment, such as small mills. Typically, they operate at a low level of productivity because they are unable to realize economies of scale. In addition, quality and uniformity are often concerns: their processes do not operate at an industrial scale, so standardization and quality control are often lacking. In many cases, the processed goods are sold locally through small markets, rather than being fed into large distribution chains for use by industrialized agrofood businesses.

Processors of different sizes typically coexist in West African markets (AfDB, ECOWAS, and FAO 2014). The size distribution of firms varies somewhat according to the commodity in question as well as factors such as end use and the existence of segmented markets (with regard to quality, for example). When large-scale processing does take place in the region, it tends to be limited to very few companies in each country, sometimes only one or two. In some cases, they are vertically integrated with large, commercial farms. That approach is a way of ensuring the constant supply they need to be able to operate efficiently and to supply their end markets. Indeed, access to competitively priced inputs of consistent quality is a crucial constraint for West African processors (AfDB, ECOWAS, and FAO 2014).

In general, though, processers both large and small face significant constraints in establishment and operation in West Africa. Finance, which has already been discussed in relation to farmers, is perhaps the number one issue. Development of processing activities requires significant up-front investments, even for a midsize operation. In the Nigerian cassava value chain, for example, establishing a large processing business (that is, one that employs 20 or more people) involves an investment in excess of $600,000—a large sum in the context of that country's rural economy. Because of the up-front investment costs involved in large-scale processing operations, it is not uncommon for large processors in West Africa to be affiliated with multinational companies, thereby giving them access to reliable and competitive finance (AfDB, ECOWAS, and FAO 2014).

Because of that dynamic, entrepreneurs need access to finance for their start-up costs, and perhaps to cover the initial period of operation when the business is coming up to an efficient scale and supply

issues are being resolved. Although the financial constraints facing businesses are different from those facing farmers, access remains a crucial issue. Underdeveloped financial markets make it difficult for potential entrants to access the funds they need to get started and may also pose problems for existing operators in financing ongoing operations. Loosening financial constraints can therefore be an important way of encouraging the growth of processing and value addition activities in the region.

Constraints other than finance also loom large in sectors using food staples as inputs. One is electricity. Processing facilities need a constant supply of electricity to be able to function properly, without undue product losses. But in many countries in the region, that is not a given. The alternative to a reliable public power supply is in-house generators, but their running costs are significantly higher. Another issue is access to a continuous supply of raw products with the right characteristics, especially when high-scale and modern processing is involved (such as flour mills and modern slaughterhouses). Processors typically need raw materials that satisfy certain norms for quality and consistency. Inconsistent or low-quality raw materials can interfere with the production process and cause problems for the quality of the final output. Quality assurance and standardization are problems right through the value chain, but the problems that occur upstream pose particular difficulties for commercial processors. (See box 4.6.)

More generally, the business and investment climate also needs to be addressed. The costs of doing business—including the costs imposed by uncertainty—can be substantial in West Africa, even though some improvements have been made in recent years. Issues such as regulatory transparency, rule of law and governance, and contract enforcement loom large as areas that need attention if processing and value addition activities are to expand. In particular, to operate efficiently, processors need to be sure that they will have a constant supply of raw materials. They therefore rely on contracts with farmers. However, market incentives and lack of contract enforcement sometimes make it profitable for farmers to renege on contracts and sell their product to other parties. Farmers sometimes also complain that processors try to renegotiate agreed prices in times of abundant supply. In the absence of effective contract enforcement mechanisms, processors have little recourse and are left to operate at less than full efficiency.

Although the development of processing and value addition activities should be left largely to the private sector, the public sector has at least two roles to play. The first is, as suggested earlier, in strengthening access to finance and improving the business and investment climate more generally. The second role is in reforming trade policy that protects domestic processors through tariff escalation, but at the expense of encouraging dynamic efficiency gains that come from international competition. Of course, that issue should not be a problem for trade within the ECOWAS region—it is meant to be free. But as

Box 4.6 Maize Processing in Burkina Faso

Like most food staples, maize can be processed into various derivative products. The three main outlets for maize are food processing, animal feed, and commercial beer brewing. Different types of maize are typically preferred for different purposes: white maize is best suited for human consumption and industrial milk, whereas yellow maize is used for animal feed and in making couscous.

Burkina Faso's maize value chain is typical of a number of staple food value chains in the region in that regard, as it has a large number of small, often artisanal, processors; some midsize operators; and a few large, commercial processors. Small-scale processing accounts for nearly half of all processing activity in the country, but the two largest processors have a combined market share of nearly one-quarter.

Small-scale processors (millers) typically operate in rural areas at the town and village levels and process maize for household consumption. They are often run by community groups, including women's groups and nongovernmental organizations. The state has been supportive of that type of processing—despite its difficulties in reaping economies of scale—through partial subsidies and reduced interest rates.

Medium-scale millers, which can be regarded as semi-industrial in scale and technology, use more modern techniques than small-scale millers. They typically produce such products as cookies, fortified infant food, and maize-based cooking ingredients, such as corn flour, semolina, and couscous. They also sometimes process maize for breweries as well as provide food for animal and human consumption.

Large-scale processors are industrial operations often linked to multinational companies. They produce plain and enriched maize meal or flour, couscous, polenta, beer, and poultry feed. One of the most important differences between that type of processing and the smaller-scale operations is that the processed products have a much longer shelf life, up to two years compared with fewer than six months for midsize operators and even shorter time periods for small millers. In addition, industrial mills have a different client base: they serve the domestic market, as do the other segments of the milling market, but they also export some of their production to neighboring countries.

Processing faces a number of constraints in Burkina Faso, including most notably the following:

- Processing yields from mechanical hulling are weak, and low-quality processing negatively affects the overall quality of end products.
- Flour quality is sometimes inadequate as a result of grain size, metallic contamination, and other impurities. Handling of the processing machinery may also be inadequate.
- Most manual techniques of second-stage processing are painful and lengthy, packaging is sometimes difficult, and the outputs may be highly perishable.
- Maize farmers do not produce a consistent product to serve as the mills' main input, because of the use of different cultivars.
- Inputs suffer from high costs (particularly electricity), and many operators have a weak capital base.

Source: Depetris-Chauvin and Mulangu 2014.

has been highlighted elsewhere in this report, the reality is very different: taxes and charges are often applied to regional trade incorrectly or informally, so barriers are considerable to the free flow of goods, including food staples.

As discussed in chapter 2, the tariffs of the Union Économique et Monétaire Ouest Africaine (UEMOA) and ECOWAS typically contain an element of escalation. One effect of those policies—if applied informally to intraregional trade—is to prevent the emergence of regional processing industries, because businesses cannot effectively harness economies of scale across countries. In addition, a protective barrier against international competition does not usually encourage the protected firms to engage in productivity upgrading. Instead, it allows dynamic inefficiencies to continue without an incentive for change. Although infant industry arguments are frequently used to justify that kind of protection, it is important to find ways in which "infants" can be encouraged to "grow up." The history of food staple processing industries in West Africa has generally not been promising in that regard, as the continued perceived need for tariff protection demonstrates.

Previous subsections have noted the potentially positive role that large, lead firms can play in developing food staple value chains in West Africa. Processing and value addition are one area in which that role is particularly apparent. To be commercially viable in an international sense, processing activities need to take place at scale. Commercial processors therefore need to be relatively large. Lead firms—including, perhaps, those that benefit from some level of foreign investment—may be better able to reach that critical scale than more traditional operators. In addition, their demand for constant supplies of raw materials of uniform quality could help structure relations within the value chain and encourage productivity upgrading at all levels. Again, it is important to emphasize that particularly in environments of relatively weak governance, large, lead firms need to be treated with caution to ensure that they do not engage in anticompetitive behavior that ends up having negative effects on producers, consumers, or both. If an adequate degree of competition can be ensured, however, large processors could potentially play a very positive role in developing food staple value chains in the region.

With regard to particular food staples that show potential for expanding processing activities, AfDB, ECOWAS, and FAO (2014) identify the following candidates:

- Rice milling, targeting improved quality
- Maize and cassava processing, focusing on flours, starch, syrups, and glucose
- Vegetable oil production, including palm oil
- Animal feed, containing maize and other crops
- Meat processing, to take advantage of the projected increase in the demand for meat

Warehouse Receipt Systems

One particular difficulty of solving the challenges of food staple value chains is the interlocking nature of many of those problems. Removing one constraint is dependent on removing others as well: for instance, the provision of finance alone will not be enough without other elements, such as access and connection to markets and an adequate sanitary, health, and quality infrastructure.

In other words, interventions and integrated solutions are needed to help structure the market: scale and the ability to coordinate different aspects of the food staple value chains as opposed to piecemeal solutions. The concept of warehousing receipt systems (WRS) and commodity exchanges (CEs) potentially address several issues simultaneously by creating the infrastructure that allows farmers to participate in markets. In a review of regional experiences in the ECOWAS space, Gross (2014) finds that a range of foundational assets are in place around which WRS and CEs can be developed. We summarize the key findings of that work below.

Several building blocks in place

First, the technical building blocks for WRS and CEs are mostly in place in the region. One issue is whether markets are large enough economically to support WRS and CEs. The transaction volume indeed needs to be high enough to remunerate the services of WRS and CEs. An initial analysis identifies 28 regional commodities with sufficient economic scale, of which up to 22 have a potential quality standard against which they could be financed and traded. Another issue is whether the storage infrastructure exists. The analysis, which was based notably on an inventory by UEMOA, also suggests that sufficient warehousing capacity could be available to finance and trade those commodities. However, that conclusion is heavily qualified given information gaps about the specific location and condition of the warehousing and given comments from stakeholders about significant infrastructure shortages in key locations, particularly in the UEMOA region and in Ghana.

Further, an analysis of commercial sustainability suggests that agriculture-focused WRS and CE spot markets could each be financially feasible on a stand-alone basis at the national (in some countries), regional, and subregional levels. However, the more sophisticated financing option of an agriculture-focused CE for derivatives would not be feasible on a stand-alone basis—even one that would cover the entire region. Rather, such a platform would need to be combined either with an agriculture-focused CE spot market or, potentially—and in line with prevailing global practice—with an exchange offering trade in another sector: commodity sectors (metals, energy, environmental) or

financial products (that is, cash equities and bonds; multi-asset derivatives—currencies, bonds, equity indexes, single stocks).

Potential constraints to WRS and CE development in the region may arise from deficiencies along food staple value chains, shortages in physical warehousing infrastructure and quality standards, and—while also acknowledging the progress being made—legal and regulatory frameworks that remain for now underdeveloped in places. For WRS specifically, information gaps surround the question of whether identified commodities have predictable intraseasonal prices, a crucial prerequisite for farmer financing. For CEs, there are information gaps as to whether identified commodities have scope amid government intervention regimes for a free market to operate for trading or hedging and whether interested parties can reach genuine consensus on a tradable contract specification.

WRS and CEs have the potential for driving West African regional integration. However, in devising a strategic approach for furthering the integration agenda through WRS and CE development, two factors may be considered. First, constraints to regional WRS and CE development appear to lie in the restrictions to cross-border movements of commodities—in particular, tariff and nontariff barriers as well as deficient transportation and trade facilitation infrastructure. Second, uncertainty exists about whether the evolving national legal and regulatory frameworks will facilitate a regional approach to WRS financing and CE trade.

That being said, the regional institution infrastructure could provide a unifying framework starting with ECOWAS itself and its regional policies and sectoral initiatives—including the ECOWAS Agricultural Policy and the ECOWAS Common Investment Market along with the ECOWAS Payment and Settlement System—and, together with industry stakeholders, the West Africa Capital Markets Integration Council as key pillars (see box 4.7).

Other foundational assets are also in place for a regional dimension to WRS and CEs: (a) some of the world's largest production zones for export crops, such as cocoa and cashew; (b) sizable trade in a range of grains, roots, and tubers; (c) some of Africa's most organized farmers' associations, which, through their regional representative body, ROPPA (Réseau des Organisations Paysannes et de Producteurs de l'Afrique de l'Ouest), are enthusiastic about developing homegrown WRS and CEs; (d) WRS, including national ventures and nascent "warrantage" initiatives across the UEMOA region; (e) a nascent regional CE—Afrique Verte—that works according to its context and ambition; (f) the Bourse Régionale des Valeurs Mobilières, the only known truly regional stock exchange in the developing world; (g) UEMOA (and the possible establishment of another economic and monetary union, through the five-country West Africa Monetary Zone); and (h) some of the world's most dynamic banks and microfinance institutions, providing a sufficient banking and brokerage environment.

Box 4.7 Types of Commodity Exchanges

Commodity services platforms: Some platforms in Africa, which are called commodity exchanges (CEs), do not act as a forum for matching buyers and sellers but rather provide services to value chains. The most common are price dissemination platforms, such as the Kenya Agricultural Commodity Exchange and the Malawi Agricultural Commodity Exchange. Another example of this phenomenon is the Uganda Commodity Exchange, which operates a warehousing receipt system but does not facilitate trade.

Commodity spot and forward exchanges: Spot and forward exchanges match buyers and sellers through various kinds of trading structures (for example, auctions, bid–offer markets) on the basis of physical delivery of a commodity immediately or almost immediately (spot) or at a defined time in the future (forward). The simpler spot and forward platforms perform matching services only and may take a form as basic as a bulletin board or a periodic e-mail circular. The more sophisticated spot and forward platforms also offer delivery management services and settlement mechanisms.

Commodity derivatives exchanges: Derivatives exchanges host bid–offer markets trading standardized contracts for future delivery of the commodity (futures) or options to enter into a futures contract on or before a specified time (options). In practice, fewer than 2 percent of futures contracts result in delivery of a physical commodity. Rather, commodity derivatives exchanges function primarily as a means for value chain participants to hedge price risk while allowing investors to speculate on price movements and traders to arbitrage price discrepancies between related markets.

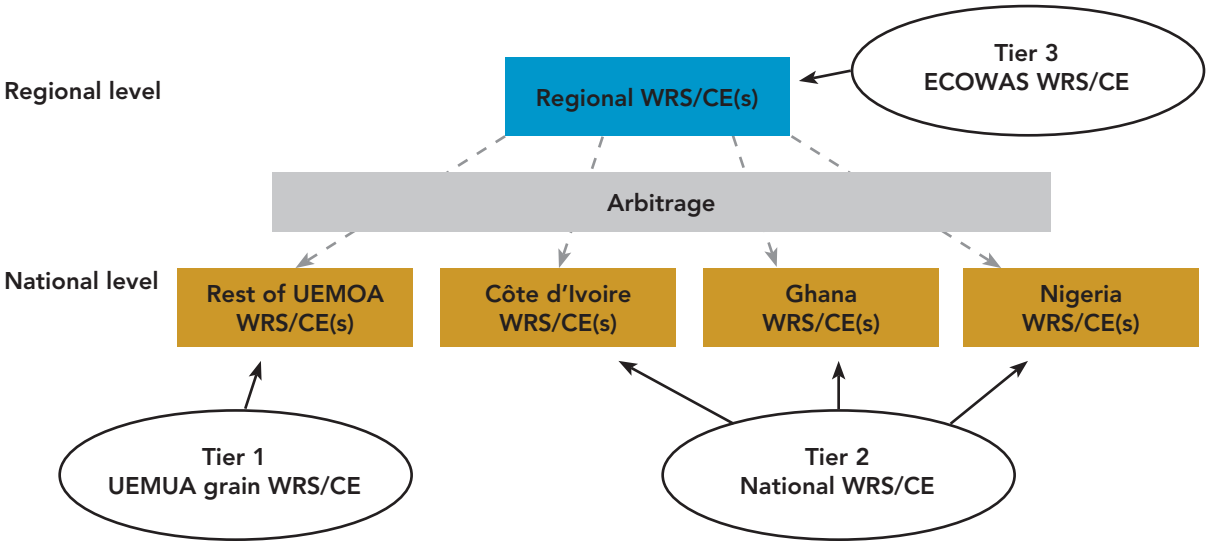
Derivatives exchanges tend to incorporate or to be affiliated with a central counterparty clearinghouse (CCP)—a settlement mechanism by which, through contract novation, the CCP interposes between the buyer and seller to become the legal counterparty to each. CCPs manage a complex array of deposit taking known as margins. CCPs operating in that way have been shown to reduce counterparty credit risk to near zero and to effectively remedy defaults so as to minimize the systemic risk that could otherwise arise if one contract failure were to spark a chain of other contract failures.

Source: Gross 2014.

A suggested approach toward a regional framework

In the ECOWAS region, a range of entities have interest in creating—or being a party to creating—WRS and CEs. At this point, experience suggests that CEs—and perhaps WRS that are a part of those CEs—work better when driven by the private sector, even while emphasizing the importance of support to those efforts from public sector institutions, including regional organizations. On that basis, creating a traditional top-down regional strategy may not be the optimal approach. Furthermore, as noted above, several national initiatives are moving ahead, including national regulatory frameworks in Ghana and Nigeria.

Figure 4.2 Possible Regional Configuration of WRS and CE in the ECOWAS Region



Note: CEs = commodity exchanges; ECOWAS = Economic Community of West African States; UEMOA = Union Économique et Monétaire Ouest Africaine; WRS = warehousing receipt systems.

Therefore, a collaborative bottom-up approach may be preferred, engaging with interested parties to build the enabling environment—regulatory frameworks, infrastructure, quality standards, and capacitated stakeholders—within which an entrepreneurial private sector can enter at any level where it believes a business model can be made to work: subregional, regional, subnational, or national (subject always, of course, to meeting regulatory licensing criteria, in line with prevailing international standards).

WRS and CE development need not wait until all those elements are fully in place; WRS and CE have shown themselves to be powerful catalysts that can themselves drive the evolution of the enabling environment. To simplify the structure and avoid overproliferation of national exchanges, a common "rest of UEMOA" WRS and CE offering African Financial Community franc (CFAF)–denominated trade potentially could sit alongside national exchanges for Ghana, Nigeria, and Côte d'Ivoire—where governments have already expressed their intention to establish national CEs. National CEs may be considered for other non-UEMOA countries in the region, including Cabo Verde, The Gambia, Guinea, Liberia, and Sierra Leone, although a West Africa Monetary Zone solution may also be developed in which Guinea, Liberia, and Sierra Leone could link into the national exchanges of Ghana, Nigeria, or both.

With that in mind, Gross (2014) proposes to focus a three-tier approach toward building WRS and CEs in the region (figure 4.2):

- **Tier 1.** UEMOA grain WRS and CE: Its mission would be first to link farmers to banks and microfinance institutions for finance and second to link traders and buyers across the region for trade—with UEMOA and ROPPA as the institutional champions and technical agencies and donors offering support for stakeholder capacitation, infrastructure, and standards development.
- **Tier 2.** National WRS and CEs: Their mission would be for the regional powerhouse economies—Côte d'Ivoire, Ghana, and Nigeria—to offer finance and trade on their national commodity base. National governments would be the institutional champions on the basis of existing policy commitments, thereby offering support for stakeholder capacitation, infrastructure, and standards development.
- **Tier 3.** Regional multicommodity and financial derivatives exchange, backed by a central counterparty clearinghouse and WRS: Its mission would be to provide hedging for regional agricultural and nonagricultural commodities and financial instruments—with the broad product scope driven by the need to accumulate liquidity and reduce transaction costs. A regional WRS would enable hard-currency financing of regional export and import commodities, so that financial institutions can develop a regional financing portfolio and more efficiently serve large multijurisdictional commercial buyers. Within this tier, a regional freight exchange may also be considered to ease transportation bottlenecks. As institutional champion, ECOWAS could contribute to the development of regional quality standards for priority commodities, facilitate smoother cross-border movement of commodities, and provide the legal and regulatory foundation for regional payments and a central counterparty clearinghouse.

Some key recommendations for the ECOWAS/UEMOA space that arise from the study by Gross (2014) appear to have already been anticipated. One key initiative is the formation of the ECOWAS Common Investment Market and within that market, the West Africa Capital Markets Integration Council. It would be desirable for that council to play a key role in ensuring that the evolving national legal and regulatory frameworks facilitate regional as well as national WRS financing and CE trade. It is also encouraging that moves are already under way to create the ECOWAS Payment and Settlement System. Alongside the existing UEMOA single currency and the potential creation of a West Africa Monetary Zone currency, the ECOWAS system can act as a powerful instrument for integration and as an enabler of WRS and CEs.

An agenda at the regional level

Concretely, one could foresee the following immediate initiatives:

- Address information gaps about existing warehousing in the region, existing quality standards, and the framework for government interventions in each commodity sector.
- Provide (a) a more detailed understanding of UEMOA and ECOWAS frameworks for cross-border movement of commodities and financial flows, taxation and tariffs, and transportation and trade facilitation bottlenecks; (b) detailed pricing information; (c) up-to-date information about the performance of regional warrantage initiatives; (d) information about the location of banks and bank branches in West Africa relative to potential WRS locations; (e) information about the existing commodity financing activities of West African banks; and (f) a comparative assessment of draft WRS legislation in Côte d'Ivoire, Ghana, Nigeria, and Senegal to highlight potential barriers to the pursuit of a regional approach that those bills may contain.
- For UEMOA specifically, create a dialogue between the responsible agencies in Côte d'Ivoire and Senegal to ensure alignment in approach and to examine the potential for legislating a harmonized WRS text into the Organisation for the Harmonization of Business Law in Africa framework.

Private Sector Development and Value Chain Consolidation

A number of the preceding subsections have highlighted the role that large, lead firms can potentially play in West African food staple value chains. In the broadest sense, those firms can (a) structure the value chain, in the sense of helping define relationships among the various actors; (b) move resources (including finance and distribution networks) among them; (c) implement sanitary and quality standards; and (d) generally upgrade productivity all along the complex chain, linking producers, distributors, transporters, and processors. In the past, that structuring role was partly played by governments, through extensive public sector involvement in such areas as input distribution, provision of finance, and processing. However, that level of involvement proved to be both inefficient in some areas and difficult to sustain from a budgetary perspective. There has thus been a considerable shift toward reliance on the private sector since liberalization in the 1990s. However, the difficult environment for private sector development in the region has meant that the benefits of liberalization have generally not been fully realized. In addition, a certain lack of coordination is evident at key points in the value chain,

such as the provision of inputs on credit to small farmers. Dealing with the abundant market failures of that type is crucial for the future of private sector–led food staple markets in the region.

The development of regional private sector value chains suffers from a number of constraints that need to be addressed at the national and regional level. Although there are, of course, country-specific aspects, many of those problems recur to a greater or lesser extent across countries. A number of them are highlighted by the World Bank (2013):

- State interventions in food staple markets often can be erratic and uncoordinated at the regional level. Even the goal of regional free trade has not yet been realized, and beggar-thy-neighbor policies are frequently put in place to deal with domestic shortages. Completion of the regional market and development of a stable food staples policy environment are key conditions for healthy private sector growth and development in the sector.
- Transaction costs along the value chain are often high, and it is important to work on ways of reducing them. Producers and consumers can both benefit from those kinds of measures. Tied to this point, again, is the importance of effectively realizing a regional market for food staples. Although a considerable amount of trade already takes place, it is primarily limited to border regions and does not engage the entire ECOWAS area. Removing internal trade barriers—including, importantly, informal ones—is an important way of encouraging private sector investment in the sector.
- Another factor that is partly linked to poor integration of regional markets—and ad hoc trade policies—is price volatility. By some estimates, staple food price volatility in Africa is twice as high as in Asia. Of course, that finding is partly driven by climate. But that is not the end of the story. An integrated regional market tends to attenuate the effect of unexpected shocks in one country. In the case of a local demand shock, producers can access other regional markets and maintain a reasonable level of income. In the case of a supply shock, consumers can access supplies from elsewhere in the region, which helps keep prices down.

Structuring the value chain in the way envisaged here necessarily implies a certain degree of consolidation at some points in it. Such an effect would flow naturally from the completion of the regional market and the resulting ability of firms to realize scale economies at the level of the entire ECOWAS area. Currently, food staples value chains in West Africa are characterized by a high degree of dispersion: actors at all key stages, from production to processing, are overwhelmingly small and poorly coordinated. Although some larger-scale actors are present too—and deal with important quantities of food

Box 4.8. Intermediaries in Cattle Trade in Niger

Trade in live animals and meat involves many stakeholders, especially when the livestock is intended for export:

- Producers whose main or secondary activity is raising livestock: Herders' associations have been created to defend their interests, but the associations have generally been disorganized and defenseless against well-organized partners (traders, intermediaries, state agents, and so forth).
- Livestock trade intermediaries or *dilali*, whose main duty is to connect buyers and sellers: The use of the dilali is mandatory in the business; it is a profession whose action cuts across the entire livestock and meat marketing system. According to livestock herders, sellers and exporters, and the traders themselves, it is a necessary evil.
- Market leaders play an important role in the resolution of business-related disputes.
- Livestock traders, including the largest, who have made livestock exports their main activity: The major traders-carriers, who rely on very strong family and business relations networks, go from collection points in Niger to border and terminal markets in Nigeria and in other coastal countries. Inadequate freight facilities and tough competition reduce the influence of carriers who are nonetheless organized into unions and have significant financial resources.
- Wholesale butchers supply retailers as part of a credit-based business relationship.
- Livestock drivers accompany the animals on foot or on livestock trucks from collection points to consumer or border markets.

The livestock and meat trade will be improved if the number of market intermediaries is reduced. Although the herder may consider the dilali as guarantors for any animal sold and as moral trustees for any credit transaction, they have acquired a controlling role far in excess of their value added and receive important commissions on cattle sales. Access to credit will be difficult if not impossible if the stakeholders are allowed to remain in the informal sector. Reducing their numbers and their role will increase direct contact between producers and buyers, with the possibility of a better price at the farm level. While recognizing the weight of tradition, one could envisage a conversion of the dilali to other roles in the livestock business (tax and fine collection for the government) or in customs transactions.

It is also necessary to organize stakeholders and professionals: vertical relations like those that exist between herders and dilali and between exporters and dilali are not optimal because each group has conflicting interests. Horizontal relations within the same group of stakeholders are also full of conflicts, magnified by the weaknesses of associations and lack of regulation.

Source: World Bank 2010.

staples because of their size—they have generally been unable to develop activities successfully all the way through the value chain.

Consolidation of the value chain requires action at a number of levels. For farmers, security of land tenure is a key issue. Consolidation of land holdings—not a "land grab"—requires a secure and predictable form of legal title to landholdings for farmers, so that they can either expand if they are successful or be adequately compensated if their land is acquired by others. Indeed, farmers' associations in the region frequently identify uncertain land tenure as a constraint on their members' growth and development. The problem is not just one of equity in an environment of possibly speculative private investment in land, it is also one of efficiency in the sense that uncertain tenure imposes costs on a variety of value chain operators. Restructuring the transport, logistics, and distribution markets around fewer, more efficient actors could have benefits for everyone involved in food staple value chains, including farmers and consumers. Currently, the wedge between farm gate prices and consumer prices is large. It partly represents a (necessary) margin for intermediaries, but it largely is also the outcome of uncompetitive markets and efficiency losses (the two often go together). Efficiency losses are particularly damaging to an economy, because they represent a pure waste of economic resources that could be put to good use. Those losses persist because some of the inefficiencies represent equilibrium behavior, in the sense that no individual actor has an incentive to change course, given the constraints under which he or she is operating. For instance, wholesaling often takes place at a very small scale for transactions not involving the main commercial players, in part because small-scale wholesalers cannot scale up primarily because of difficulties in accessing finance, and large players see no interest in entering that segment of the market. Agents have no incentive to change their behavior, even though the overall implications for the national economy would be strongly positive if wholesalers could reap economies of scale in a competitive environment, where a significant part of the benefit would be transferred to farmers. Of course, developing efficient transport, logistics, and distribution markets is a complex undertaking that will take time to see through. But consolidation could again be useful. Trucking markets, for instance, tend to be highly dispersed. Small-scale distributors are also numerous and cannot operate at an efficient scale or provide farmers with an efficient link to commercial end users (see box 4.8). Putting in place a business environment that allows for some degree of healthy consolidation in markets that are important for moving food staples within value chains could allow countries to reap efficiency gains, with the potential for higher prices for farmers, and lower prices for consumers. The precise reforms that would be necessary differ country by country, but they include improving the investment climate and working on reducing constraints in accessing finance. Further downstream, consolidation could also be beneficial for processors. As previously noted, significant economies of scale exist in processing activities, yet

most food staple processors in the region are very small and operate at the levels of towns and villages. Improving transport, logistics, and distribution systems would favor the emergence of midsize and large processors, as they would be ensured better access to farmers' produce; currently, much of what farmers produce is sold in nearby markets after rudimentary processing either on the farm or nearby.

In addition to efficiency gains, processing on a larger scale also implies the potential for improved quality and increased product standardization. Experience with import competition suggests that those are qualities that urban consumers value and that they are prepared to pay a premium price for them. Those factors suggest that larger-scale processing operations are a way of increasing the value added of food staple sectors in West Africa. Given the importance of agrofood with respect to total economic output, increasing its value added is likely to translate into higher national incomes. Of course, the distribution of those gains is also an important question and one that public policies need to address. But increasing economic activity and growth based on agricultural productivity upgrading is an important policy objective.

Of course, consolidation at any point in the value chain, but particularly in the processing sectors, implies considerable capital expenditure. At the moment, national and regional approaches to trade in food staples create an uncertain environment and thus do not favor significant investments from large operators (Nedelcovych and Mainville 2013). In particular, there is scope for processors to achieve greater economies of scale by operating on a regional basis. However, such an approach is currently difficult because of the barriers to trade in food staples identified in chapter 2. Those barriers should be removed as completion of the regional internal market takes place. But for the moment, potential regional processors have difficulty justifying the scaling up of their investments in a way that could lead to regional consolidation of value chains.

Value Chains and the Public Sector

The public sector has been directly involved in the agricultural sector for two key reasons: (a) from an equity and social perspective, agriculture is an activity closely associated with poverty and fragility levels and (b) public intervention is needed where markets fail to deliver optimal outcomes. The latter has historically been a reason for direct public sector involvement in structuring and operating food staple value chains in West Africa. That history has not, on the whole, been a happy one. However, that emphasis should not be taken to mean that the public sector is simply a bystander in the agricultural development process—far from it: an active and effective public sector is a necessary component of value chain upgrading, but the ways in which that activity is structured are fundamentally different from

the historical approach of direct, operational involvement. Instead, the state has to create a policy and business climate in which private sector actors can undertake the work themselves.

In very general terms, the public sector needs to put in place a policy environment that is conducive to private investment in value chains, which in turn can support production upgrading throughout the system. Investors crave certainty, so developing the rule of law and implementing effective and efficient regulations in areas such as foreign investment, finance, contractual law, and general commercial law are important. Further upstream, as has already been emphasized, reform of land tenure laws is a vital part of ensuring that farmers can maintain and increase their competitiveness in an environment where their property rights are secure and that they can undertake investment decisions, such as the purchase of capital goods like tractors or harvesting equipment. The issue of certainty looms large in both cases, so it is important that the regulatory environment put in place by the state be as robust as possible.

The importance of financial sector development has also already been noted. Access to finance is a constraint at a number of important points in food staple value chains, and difficulties affect all actors from small farmers to large processors. The state can do much to try to alleviate those difficulties and to create an environment in which credit flows more easily. Encouraging smallholders to organize into farmers' associations or cooperatives can help improve their creditworthiness and thus their access to finance. Measures can also be put in place to encourage financial institutions to extend their services into rural areas. Using cell phone technology to facilitate banking is one way of extending service at relatively low cost and could be one way of helping farmers in the hinterland access basic financial services. More generally, removing unnecessary regulatory hurdles affecting entry into the finance business could also help improve service penetration. Measures such as unnecessarily high capital requirements, as well as restrictions on foreign direct investment, can hamper growth of the financial services industry, including in rural areas. Although considerable moves forward have been made in West Africa in that area, there is still room for improvement. Locking in liberalization measures at the regional level and encouraging the development of regional financial services providers could be ways in which countries can work together to develop the industry with the aim of improving access to finance for participants in agrofood value chains, particularly food staples.

Trade policy is also an area in which the public sector can act to encourage the development of competitive value chains (Nedelcovych and Mainville 2013). As seen in chapter 2, many issues of design and implementation of regional trade policy need to be addressed quite independently of issues specific to value chains. But in that more particular context, it is important to refer to at least two additional subjects. The first, as already mentioned, is infant industry protection. Although justifiable on theoreti-

cal grounds as a second-best policy response to a market failure that stops potentially competitive firms from accessing working capital during their growth phase, its implementation in practice has proved highly problematic over the medium- to long-term in all regions of the world. Particularly in the smaller West African countries, the scale of operations that the national market can support in an environment of imperfect regional integration is unlikely to be sufficient to produce world-class operators with regard to quality and efficiency. Tariff escalation in ECOWAS and UEMOA is effectively infant industry protection vis-à-vis the rest of the world, but to date, scant evidence exists that protected firms are indeed becoming more competitive over time. For instance, Nigeria has long protected its food-processing industries and is still not always able to compete at the international level (broiler chicken, for instance). West African economies need to ensure that their trade policies are aligned with broader development objectives for upgrading the production of food staples within the value chain framework.

The second general area in which trade policy can be made more supportive of value chain development is in certainty and implementation and access to information. In principle, goods should be able to move freely within the ECOWAS and UEMOA regional markets. In practice, however, there are many barriers, both formal and informal, to the free movement of goods. The uncertain application of those barriers creates disincentives for large, lead firms to develop production capacity that can serve the region as a whole. As a result, it is difficult to realize the efficiency gains that can come from economies of scale. A priority that is even more urgent than reducing trade barriers vis-à-vis the rest of the world and encouraging the growth of globally competitive producers is the need to ensure completion of at least the basic aspects of an integrated regional market. Value chains grow and prosper in a competitive environment where significant economies of scale can be realized. Concerted regional action to promote implementation of agreed trade policies at the national level, as well as national action to remove unauthorized barriers to the circulation of goods, could help value chain development across West Africa.

In all parts of the public sector agenda, it is important for governments to consult with stakeholders, including the private sector. Although useful engagement with the private sector has occurred at the regional level, experience in individual countries is mixed (van Seters, Afun-Ogidan, and Rampa 2012). Indeed, as noted elsewhere in this report, regional and national initiatives do not often sit well together with regard to objectives, approach, and implementation, partly because of their different approaches to consulting with the private sector. Some ECOWAS countries still adopt a top-down approach, in which the public sector decides on the rules of the game, and the private sector is expected to abide by them. In countries with weak governance, that approach can lead to a mixed record on compliance and enforcement. In other cases, a bottom-up (consultation-based) approach is used, and it has a definite potential for both producing more efficient regulation for supply chain governance and improving compliance behavior.

Conclusions and Policy Recommendations

A first conclusion from this review of staple food value chains is to echo the message of a recent report (World Bank 2013) that says that the role of the private sector in agriculture is not well integrated into the planning process of national and regional authorities. That is true of the process of regional agricultural policies in ECOWAS. Therefore, a need to better articulate the role of the private sector in regional policies exists. The private sector has the ability to help organize and coordinate value chains. For the public sector, that means several things:

- Facilitating investment in the staples sector
- Offering a more predictable environment, starting with more transparency in government interventions, a point made earlier
- Rethinking where governments should intervene or, in other terms, avoid governments' substituting themselves for what private markets would normally do and focus instead on providing infrastructure and a regulatory environment

There are promising examples of public–private partnerships in the region, such as the Ghana Grain Partnership that was inspired by similar initiatives in East Africa, and also examples outside the region, and in other sectors, that could provide useful blueprints for future initiatives. The private sector can indeed play a central role in (a) organizing a supply chain, (b) providing extension services and training, (c) supplying needed infrastructure such as storage, (d) helping mobilize finance, and (e) meeting high standards of production. Private sector involvement is not a panacea, however, and the risk of rent capture is high, thus making the role of transparency, government oversight, and competition (where regional trade can play a positive role) essential aspects of the private sector involvement in performing value chains.

The inclusion and organization of smallholders are another important dimension of food staple value chains, as they represent the major share of production. As we have seen, fragmentation also causes diseconomies of scale, inefficiencies, and missing markets. To the credit of the policies in ECOWAS, the organization of the profession for key food staples has been a priority. That effort must continue, ensuring also that professional associations develop management skills, technical capacity, and expertise to help their members participate in value chains and to represent them efficiently.

Access to finance and logistics (transport, storage) infrastructure remain the key constraints to the development of value chains. Those constraints are not unique to West Africa, but the problem is par-

ticularly acute there. That illustrates again the need for joint public and private actions, as all constraints cannot possibly be removed by a single actor. Innovative solutions, such as the partnerships evoked earlier or the development of WRS, offer promising responses to such challenges. Public sector involvement is thus needed where market failures exist—such as the need to provide public goods infrastructure, such as irrigation or road access to the last mile—and in the provision of a regulatory environment, such as quality and standards infrastructure, contract law enforcement, or management of land rights.

Completing the ECOWAS regional market—which includes removing informal trade barriers—will favor each country's specialization according to its comparative advantage, which in turn will allow greater scope for the activity of regional as opposed to national value chains. In addition to trade policy in the strict sense, governments also need to pay attention to financial sector policies, including approaches to foreign direct investment. They have the capacity to alter the dynamics of agglomeration in segments of the value chain that are relatively more intensive in capital, such as commercial processing. More generally, the shift to the region as the platform for food staple value chains will require a fundamental shift in perspective. Individual countries are not necessarily well served economically by developing all parts of certain value chains domestically. They may do better—in the sense of increasing incomes and improving outcomes for consumers—by specializing at least to some degree in particular activities, while neighboring countries specialize in complementary activities. The challenge of regional value chains is for governments to truly "think regional" in designing and implementing a wide range of relevant policies.

Notes

1. For definition, see https://globalvaluechains.org/concept-tools.
2. In Nigeria, only 2.5 percent of commercial loans are for the agricultural sector (Badiru 2011).
3. Although the supply chains reviewed do not concern staples but rather value added export products, the same lessons hold for staples.
4. In Mali for instance, consumers pay different prices for different rice varieties, such as RM40, BB, or Gambiaka without any certainty that they are purchasing the variety they are paying for (Brunelin 2014b).

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Conclusion:
A Regional Agenda for Action

This report examines food staples trade in West Africa, focusing on its regional dimension. Given its potential and the importance of food staples trade for food security, the sector is considerably underdeveloped. Although food staples trade occurs, it is largely informal. An important regional trade activity confined to border regions where strong complementarities exist between basins of excess supply and excess demand is nearly completely ignored in statistics. Therefore, taking into account that a share of regional trade is actually a highly localized phenomenon is important, thus aiming at building subregional markets in addition to existing efforts in creating a regionwide market. The general picture that emerges of the Economic Community of West African States (ECOWAS) construction of a regional market for staples is one of useful, ambitious steps being taken at the community level, but with defective implementation at the level of individual member states and with no effective monitoring or enforcement. The result is that regional food staples trade is prevented from achieving its full potential for contributing to the twin objectives of food security and poverty reduction.

Many reasons lie behind the gap between regional ambition and national implementation. Lack of capacity is just one of them. In addition, the political economy of the food staples trade is complex; the sector is dominated by public interventionism and characterized by low private sector participation. In the absence of other social safety net programs, governments are under pressure to ensure high prices for farmers but low prices for consumers. This mismatch can often lead to policies that are undesirable from a purely economic point of view, such as import and export bans. In addition, a strong political economy dynamic favors food self-sufficiency at the national level, which undermines a more regional approach of cooperation and trade. Although development of more efficient national social safety nets is a complicated undertaking, it would benefit the region greatly by freeing up political capital to invest in the development of regional food staple markets.

The food staples trade agenda lies at the intersection of two policy areas that are not always fully integrated—agricultural development and regional and international trade. Clearly, food staples trade cannot occur on a large scale without development of the fundamental structures required for a vibrant agricultural sector. Similarly, that sector cannot grow and develop into a regional entity without the ability to move goods relatively easily from one country to another. An important objective of this report has been to integrate the two sets of policies into a single discussion, so that policies promoting both sets of objectives can be implemented going forward.

Trade policy can do much to complement the agricultural development agenda, in particular at the regional level. Open trade policies that reduce the cost of trading and favor the free movement of goods, services, and persons increase the size of markets, offering additional opportunities in the form of higher demand to actors along the food staples value chain. By increasing the size of regional food

staple markets, better regional integration would contribute to lessen the effect of shocks at the origin of food crises, mitigating for both external causes such as rise in international prices and internal causes such as poor local harvest. Integrated markets indeed mean lower prices for the consumers and access to supplies of neighboring countries, but also more stable prices for the producers and cheaper access to demand of neighboring countries. This situation is a natural win-win solution for both suppliers of excess food and food-deficit demanders. Countries in the ECOWAS find themselves regularly in both situations.

This report also shows amply that trade policy matters crucially for inputs as well. Access to high-quality, reasonably priced inputs is imperative for farmers, particularly smallholders. In most sectors in most West African countries, farmers are locked in a low input–low productivity equilibrium. The production growth that has occurred over recent years has been primarily extensive (larger harvested area) rather than intensive (higher yield). To move into a high input–high productivity equilibrium, farmers need fertilizers and improved seed varieties, in addition to capital investments such as irrigation and tractors. In both cases, trade policy can help.

The fertilizer market is global, with strong economies of scale. Establishing an efficient fertilizer plant requires considerable technological know-how, in addition to a very large amount of capital. Such an endeavor is currently impossible for most West African countries. Use of infant industry protection to promote domestic fertilizer production in some of the larger countries clearly has not been fruitful in requiring the sector to evolve to be able to increase quality and productivity. Access to world markets is therefore vital. As a first prerequisite, traditional trade policies need to be liberal with regard to fertilizers to keep prices down and increase variety.

But most important, other trade impediments that are at- and behind-the-border need to be addressed. Port efficiency is one important aspect of the issue. Even more significant, however, is the ability to move fertilizers from international gateways to the hinterland, where most smallholders live and work. The transport sector in West Africa is subject to numerous difficulties, not least of which is the prevalence of road blocks and the need to make informal payments repeatedly during transport of goods.

All of those problems increase the price that smallholders must pay to access fertilizers. Governments have responded by subsidizing certain fertilizers, with the effect that—at least in the short term—many farmers continue to have access to them. As a medium- to long-term proposition, however, the fiscal consequences of such policies, such as fuel subsidies in other developing countries, are potentially very worrying. If the policy is successful and leads to rapid growth in agricultural production, demand for fertilizers will increase even further. The amount of public funds dedicated to subsidies will increase automatically. The potential exists for fertilizer subsidies to become a significant drain on the public

purse. They are a clear example of a second-best policy being used as an effective but costly measure that overlooks the real problem: internal logistics and trade facilitation. In the medium to long term, only attention to such measures can provide farmers with durable access to high-quality, reasonably priced fertilizers that are well suited to their crops.

Unlike with fertilizers, seed development is ongoing in ECOWAS member states. Many improved varieties have been developed, and estimates suggest that they have the potential to significantly increase yields. However, distribution and use remain serious issues, particularly at the regional level. Although logistics and trade facilitation are again difficulties, the more pressing concern is that although regional instruments are in place to facilitate the exchange of seed varieties among member states, certification remains a largely national procedure. As a result, very little intraregional trade occurs. Clear potential exists for trade to boost seed take-up rates by lowering prices and increasing availability. However, member states would need to regulate their seed sectors more effectively and efficiently, with an aim of encouraging the circulation of certified seeds within the ECOWAS zone. In addition, a world market can be tapped. International and intraregional trade could be highly complementary. Such trade would ensure that farmers have access to a wide range of improved varieties from which they can choose the most effective option for their own circumstances.

Regional trade needs to be addressed as a policy issue at two levels: regional and national. To some extent, this has already been happening. However, implementation has been a serious issue, and a real need exists to bring the two parts of the agenda closer together. Little can be gained by agreeing on an ambitious regional framework if member states continue to apply policies that appear to be in their short-term self-interest and that can have negative externalities for other member states and, in turn, can lead to a spiral of policies that effectively inhibit the growth of regional markets. Therefore, the conclusions and recommendations of this report are presented in two sections: those that are relevant at the regional level and those directed to the attention of national governments.

The Regional Agenda

To date, regional work on trade policy and agricultural development has proceeded largely independently. As a result, a large gap looms between the vision of an integrated regional market, including for food staples, and the reality of disjointed national markets that are often concerned with food self-sufficiency rather than trade integration. Considerable scope exists for agricultural development policies and trade policy to complement each other in the creation of a regional market for agricultural products, which would benefit both producers and consumers.

The ECOWAS Agricultural Policy and the development of both regional and national agricultural investment plans are a step in this direction, together with the recognition that a regional approach must complement national ones. The ECOWAS Commission should continue this work with member states to develop an integrated set of policies promoting the development of a regional food staples market.

In West Africa, food security is a paramount consideration, particularly because social safety net structures are underdeveloped. Although food security does not have to mean self-sufficiency, an obvious need exists to maintain a significant level of national production in countries that not only are economically distant from world and regional markets but also have constraints in financial resources and foreign exchange that may make access to global supplies in times of local shortage difficult.

Measures such as export bans are purely nationalist in intent and effect, even though they may have important national political economy calculations behind them: they export instability to trading partners. Those measures are only partly effective in achieving national objectives. Arguably, this approach may be the only option available to governments with low capacity to attempt to secure food security within their borders. Likewise, policies to foster national food production are constrained by the capacity of governments to access and distribute the necessary inputs to farmers, which also translate to suboptimal trade policies, such as import subsidies and exemptions, or the lack of an adequate framework for phytosanitary measures.

Therefore, countries need to move beyond a purely national vision of food security enforced through trade restrictions, which appears to be the dominant force in the region now. A more regional approach toward agricultural trade policy and aspects of food security, combined with a push to help countries develop national social safety nets, could help achieve the twin objectives of food security for West Africa and an integrated regional market for producers and consumers.

A better approach is to shift to a regional vision of food security in which a vigorous trade sector and solidarity mechanisms among countries mean that excess supply in one part of the region can easily connect with excess demand in another region. Self-sufficiency in all food staples for all countries in the region, particularly the smallest and those with serious problems of climate and environment, is neither necessary nor desirable. Reliance on neighbors has the potential to be mutually beneficial, and help-thy-neighbor approaches would certainly be preferable to the spate of beggar-thy-neighbor policies that are typically implemented in times of shortage as a response to domestic political economy considerations, such as the need to keep prices low for urban consumers.

Integration of trade policy issues into the agricultural development agenda could help build a truly regional vision of the food staples market. All steps in the value chain could be considered, from input provision to value added transformation. Effectively—and verifiably—eliminating de jure and de

facto barriers to intraregional trade could help develop the agricultural sector through the realization of economies of scale. At the same time, developing regional agriculture can bring countries the familiar gains from trade: lower prices and increased variety for consumers and, in many cases, higher prices for producers. The instruments of trade liberalization—including issues such as logistics and trade facilitation—can be leveraged to support the development of regional food staples markets without losing sight of the crucial objective of ensuring food security.

Recommendation 1: Maintain Long-Term Vision, but Increase Focus on Achievable Short- and Medium-Term Measures

In a number of areas related to agricultural development, ECOWAS has proven its ability to develop a long-term vision for the region. For example, fertilizer and seed varieties are the subject of ongoing work, with a highly ambitious framework envisioned that includes adherence to sophisticated and regionwide compatible quality control standards. Similarly, regional initiatives around animal health and veterinary standards, the creation of market information systems, the establishment of regional funds to support solidarity mechanisms such as regional buffer stocks and financial aid in case of crisis, and the consideration of a common approach to warehousing are agendas that must continue to move forward.

Although this kind of vision is necessary and useful for the development of food staples trade in the region, it needs to be accompanied by increased attention to measures that member states can commit to implement over the short to medium term.

This report shows that many pressing issues exist in developing a food staples trade in the region. Access to inputs is one of them, particularly when seen through the broader framework of value chain development. Elimination of formal and informal barriers to intraregional trade is another. Trade facilitation and logistics also loom large as key policy issues that link agricultural development and trade. In all of these areas, an urgent need exists for member states to act. In most cases, the regional framework already exists, but implementation has not occurred. The energy of the ECOWAS Commission, as well as that of member state governments, could therefore be usefully directed toward the identification of concrete steps (for instance, by agreeing to issue-specific and actionable roadmaps). Those steps could be taken in the short to medium term to bring about the basic outcomes of both freeing up food staples trade in the region and giving the agricultural sector room to grow into a genuinely regional entity. The idea of roadmaps is in itself not new in the region and often has failed to deliver any progress (such as roadmaps to liberalize regional transit). Therefore, ensuring that such initiatives are not just policy declarations but instead time-bound work plans with detailed and realistic implementation measures and

monitoring mechanisms is important. Ideally and where feasible, some degree of binding mechanism should be associated with roadmaps. Achievement of such roadmaps could also be designed as a necessary condition before future initiatives are taken in the region.

Recommendation 2: Reinforce Variable Geometry in Regional Initiatives

In addition to clear issues of political will and capacity, part of the reason for the gap between regional ambition and national implementation lies in the relatively standardized nature of regional obligations. ECOWAS member states are vastly different in size, geography, and internal food staples markets. A regional approach that more explicitly allows for these differences may be more likely to be implemented at the national level.

As an accommodation to the heterogeneous membership of ECOWAS and in recognition that all 15 ECOWAS members do not need all regional public goods, emphasis could be put on selected regional initiatives that incorporate some level of variable geometry. This approach would allow for the piloting of innovative initiatives while simplifying implementation and thus increasing the chances of national take-up. Examples of variable geometry include existing initiatives such as the Office du Niger or the implementation of the 1998 ECOWAS decision on the regional cross-border framework for transhumance for which several ECOWAS countries have signed bilateral or plurilateral agreements (such as the 2003 agreement between Burkina Faso and Niger).

One must note that variable geometry does not mean an opt-out provision for member states that lack the political will to implement important regional commitments. Instead, it is designed to allow for a margin of appreciation in the way in which regional objectives are achieved by coordinated action among national governments. In some cases, all member states do not need to adopt exactly the same approach, provided that the measures promote the same objectives to the same extent over similar time frames.

A second dimension of the variable geometry approach is to identify agendas for which only a subset of the ECOWAS membership would subscribe initially. Other countries could then opt in when they become ready. First, in light of the importance of trade in border and, in many instances, peripheral regions, a focus on border hotspots of regional trade would be desirable. This focus links with the information highlighting informal trade flows and the recognition that the natural economic market for some regions is a cross-border one. More specifically, border regions could become the focus of increased attention given the important economic links that tie populations in the region on each side

of borders. An important part of regional trade in food staples occurs around border areas and, of course, links up with other border-related issues that are central to agriculture such as the management of common natural resources (for example, water), regional diseases, infrastructure, and security. These dimensions are not well captured by existing policy initiatives and would benefit from further and more comprehensive policy interventions, notably in the context of the 2006 ECOWAS Convention on Cross-Border Cooperation.

Second, some ECOWAS member states may be ready and willing to move forward on specific agendas and able to go deeper than the rest of the membership in trade and policy integration. Common issues on which these members may form an alliance can be defined by commonalities on the production side. To some extent, for example, this alliance is already the case for countries that are strong producers of cattle or for countries around the Niger basin that produce cereals. Interest in specific policy options may be another way in which a small group of countries could take the lead on behalf of the ECOWAS membership, such as countries currently exploring warehousing receipt systems and commodity exchange solutions.

Related to the idea of variable geometry is the need for capacity building. The ECOWAS Commission, backed by the donor community, can play an important role in this area. In some cases, nonimplementation of regional commitments is caused by a lack of understanding or of technical or financial capacity at the level of line ministries and implementing agencies. Building capacity in an environment where the necessary will exists can help promote implementation. Of course, capacity building programs need to be based on needs identified by partner countries themselves and should be tailored to meet those needs in order to give best results. Although capacity building in many cases will be a costly and complex exercise, other cases exist in which the issue may simply be a lack of knowledge of regional obligations. In such cases, the ECOWAS Commission is well placed to build capacity by spreading knowledge and facilitating appropriate training for national officials in areas such as agricultural development and trade policy.

Recommendation 3: Improve Transparency around ECOWAS Legal Texts and Projects

The dynamism in the push for regional initiatives led by regional economic communities has not been reflected in commensurate transparency of information and accessibility to the regional initiatives. This information gap is a source of inefficiencies because member states are not always aware of their exact obligations and economic agents are not informed of their rights, thereby leading to the misap-

plication of agreed regional rules and avoidable transaction costs. Another consequence of the lack of information is the risk of partners who support the regional efforts duplicating efforts.

The first step for ECOWAS should be online provision of the text of existing community instruments that have been agreed on, together with any information needed about interpretation and implementation of the text. This approach also includes providing a point of contact for submission of any issues regarding implementation of community rules. A second step should be reporting community project activities and using community resources for agricultural policies. Eventually, such reporting should include a monitoring and evaluating component that assesses whether the activities contribute to meeting the ECOWAS treaty objectives (see Recommendation 4, that follows). A third step, which links to Recommendation 1 about national policies, below, would be the obligation for ECOWAS members to notify member countries of their policies. Notification increases transparency, thus offering predictability to traders, and naturally invites member states to justify why policies are in place, thus making the upholding of measures that benefit a few at the expense of the majority more difficult. Although the type of policies that would have to be notified needs to be examined, obvious candidates include the notification of trade bans and subsidy policies. In some instances, this notification would require minimal effort because governments already publish the information nationally. This effort could be conducted in parallel to implementing portals for national trade information.

Although elements of transparency already exist for those aspects, access to information and monitoring of ECOWAS activities remains imperfect. An important aspect of the credibility and effectiveness of the ECOWAS process resides in the urgent step-up of these efforts.

Recommendation 4: Develop Regional Monitoring Capacity

A crucial issue that has emerged at numerous points in the report is the gap between regional ambition and national reality with regard to food staples trade. The gap must be closed if food staple markets are to take on a truly regionalized character beyond the largely local, informal exchanges that currently occur. Even more fundamental is obtaining up-to-date information on national policies that could be used to assess their conformity with regional objectives and obligations. Therefore, as a priority, ECOWAS should develop regional monitoring capacity to increase transparency and should contribute to reducing the gap between vision and implementation.

Regional monitoring could take many forms and needs to be adapted to the specific conditions of ECOWAS and its member states. At a minimum, it needs to incorporate two elements: (a) collection of information on national policies and their conformity with regional obligations and (b) publication of

that information in the public domain, preferably through a free access website publication. An important condition is that stakeholders in the region and elsewhere have access to this information for use in building momentum behind reform efforts nationally and regionally. Experience in other regions suggests that writing reports with reference to appropriate information sources is one possible approach, perhaps supported by a simple, easy-to-read scorecard.

Respect for community obligations—whether legally and institutionally feasible—could be used as criteria to allocate regional funds. Allocation would be subject to the recognition of capacity constraints as well, with the understanding that countries that are moving toward helping regional integration should become the champions of projects of regional importance.

Recommendation 5: Build Capacity in the Area of Trade-Related Statistics

Reducing the gap between regional ambition and national implementation through enhanced monitoring is an important aspect of the broader regional transparency agenda. At an even more fundamental level, however, this report shows that significant problems exist in determining the nature, direction, and extent of intraregional trade flows in food staple sectors. Official sources, such as Comtrade (United Nations Commodity Trade Statistics Database) and FAOSTAT (Food and Agriculture Organization Corporate Statistical Database), often disagree by a very wide margin on basic information such as import and export volumes. The problem is compounded by the extent of informal trade that occurs, perhaps 75 percent—or even 90 percent—of total trade.

In the absence of good statistics, implementing sound and predictable policies is a serious challenge. Imperfect information leads to absent—or inadequate at the least—policy responses and, in worse instances, even unsound policy responses, thereby adding another potential source of costs borne by actors on food markets.

Therefore, an important goal for the ECOWAS Commission, supported by the donor community, is to develop capacity in the area of trade statistics for regional food staples. The ECOWAS Agricultural Information System project and, in particular, its market information component will spearhead these efforts, we hope. A review of the first outcomes will help assess the efforts needed to ensure that the reality of regional trade is indeed captured. Initiatives such as the monitoring of markets by FEW SNET (Famine Early Warning Systems Network) and reports on road harassment and trade flows by CILSS (Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel, or Permanent Interstates

Committee for Drought Control in the Sahel) should be expanded to countries not currently covered and integrated in the regional information systems.

On the one hand, official agencies' figures should generally accord closely, although differences in basis and time period always lead to some level of discrepancy. Without doubt, agencies such as customs need to record accurate data on official exports and imports. The fact that this record keeping appears not to be happening suggests not only that problems of informality exist at the border, but also that officers are not properly trained and equipped with appropriate tools to ensure they can perform this task adequately. Therefore, capacity building as part of a broader transparency agenda is an important priority.

On the other hand, increased attention also needs to be given to the issue of informal trade. By its nature, it is hard to measure. An important long-term objective should be to leverage this trade to develop regional agricultural markets by formalizing as much of it as possible. Elimination of intraregional trade barriers, together with trade facilitation, improved logistics, and trade finance services, can be expected to create incentives to *professionalize* trade, as will the provision of quality public services such as an efficient, quality, and sanitary infrastructure. However, the process will take time, and given issues of capacity and governance, it may well not be completely successful. Therefore, a necessary step is to build on useful efforts by regional institutions, such as the Central Bank of West African States, to measure informal trade, focusing in particular on trade in food staples. Some institutions, such as the National Institute of Statistics and Economic Studies in Benin and CILSS, have also used survey methodologies to examine informal trade. Regional structures can facilitate information and experience sharing among such agencies, as well as promote an intensification of regional efforts to better understand this phenomenon. Measuring the extent of informal trade and then understanding its driving forces are key ingredients in developing a durable strategy to move it into the formal sector.

Recommendation 6: Develop Regional Policies Inclusive of Private Sector–Led Value Chains in Food Staples

Traditionally, national governments in West Africa played a strong, direct role in shaping food staples markets, from input provision and extension services to value added transformation. That role has retreated in recent times because of budgetary considerations in part. However, the problem that state intervention was supposed to correct—the absence or dysfunction of private markets—remains a serious concern in relation to food staples. Private actors have been slow to develop at an efficient scale and take over the important functions once played by the state. Regional attention needs to be given to

the promotion of private sector–led value chains, which efficiently perform the main functions of food staple markets, from input provision to value added transformation.

Although the private sector development agenda in food staples has many national aspects, it also takes on a regional character in development of an integrated market for food staples. This integrated market is another area in which agricultural development and trade policy intersect, and both aspects of the issue need to be considered. On the one hand, development of value chains can potentially help move food staples production to a high input–high yield equilibrium. On the other hand, certain parts of the value chain, such as production of processed products with relatively high value added, have strong economies of scale and would thus benefit from being able to access a regional market.

Therefore, development of a regional market for food staples in both their raw and their transformed states should be an important policy goal. To achieve it, member states need to coordinate private sector development policies and to leverage existing regional structures that could help promote the emergence of regional value chains. For example, quality policies are very important incentives for private investment, and access to finance is a crucial constraint at various points in the value chain. Lack of access to financing affects smallholders who cannot purchase inputs. It also affects processors who cannot expand capacity or upgrade production to satisfy changing consumer demands for quality. In the West African Economic and Monetary Union countries, considerable coordination already exists in the area of monetary policy and finance, and it could possibly be built upon to develop a coordinated regional approach to improving access to finance for participants in food staples value chains. The West African Capital Markets Integration Council, which is another example of a variable geometry approach, could also play a key role in developing a regional regulatory framework for warehousing systems, which in turn could help unleash private sector involvement.

Improvement of the business and investment climate is also an important priority, albeit one that primarily relies on action at the national level (see below). Nonetheless, ECOWAS can provide a framework for coordinating national actions aimed at reducing the costs of doing business; improving the rule of law and contract enforcement; and, as appropriate, gradually freeing up restrictions on foreign direct investment. Other regional groupings, such as the Asia-Pacific Economic Cooperation, have found use in coordinating targets to improve the ease of doing business while leaving members free to choose their own set of policy reforms consistent with the overall objective. A clear scope exists for a regional framework to encourage coordinated unilateral reforms by ECOWAS member states with the objective of encouraging private sector development generally and in the food staples sector specifically. Given the number of people involved in food staples markets as producers and the potential benefits that

well-functioning value chains can bring in increased incomes, private sector development in this area should be an important regional priority.

The National Agenda

Recommendation 1: Work to Formalize Intraregional Trade in Food Staples by Eliminating Formal and Informal Trade Barriers

Informal trade in food staples probably accounts for the majority of all intraregional trade in this sector. Available evidence shows that the driving forces are porous borders—linked with weak governance—and the existence of areas of excess supply and excess demand that cross national borders. In such circumstances, traders have a strong incentive to bring producers and consumers into contact, and they are doing exactly that, albeit informally.

Neighboring countries with areas that form part of the same food basin should coordinate with the aim of fostering and, preferably, formalizing trade.

In the face of wide-scale informal trade, one might be tempted to argue that border procedures should be tightened, policing upgraded, and enforcement capacity enhanced with a view to eradicating such trade. In this case, however, a more nuanced approach is required. Informal trade connects producers and consumers across borders and can be seen as the embryo of a regional market in food staples. The priority should be on working toward the formalization of that trade by easing the formal movement of goods between neighboring member states, including reducing the costs of formality. Improved trade facilitation and logistics and less bureaucracy at the border, in particular, decrease traders' incentive to act informally. Such measures can both boost trade—which is the objective of a single market—and help bring it into the light.

One of the reasons that informal trade is so prevalent in the region is that the ECOWAS single market is far from being a reality. Member states continue to apply nonconforming, or gray-area, measures on a wide basis, including in food staple markets. In addition to formal (de jure) barriers to intraregional trade, a variety of informal barriers also exist. The problems of roadblocks and informal payments are particularly salient, and they add considerably to the time, cost, and uncertainty associated with moving food staples from one market to another. Realization of a truly integrated, regionwide production and consumption platform requires member states to eliminate formal and informal barriers to intraregional trade in food staples, as required by regional instruments.

The implementation gap between regional ambition and national reality has already been noted. However, additional regional initiatives can go only so far in closing it. Ultimately, action by all individ-

ual member states is required. In some cases, legislative or formal administrative measures are needed (for example, when existing measures are not in line with regional engagements). Sometimes, however, the laws accurately reflect regional obligations, but implementation by line ministries and government agencies is not in strict accordance with the details of the law. This report has noted the example of border agencies that require a certificate of origin for ECOWAS products, even though no such requirement exists. Therefore, the reality is that a significant amount of food staples trade inside the region is subject to the same tariffs as external trade—a far cry from the vision of an integrated single market.

A particular area of attention for member states is the use of export and import bans. The former are designed to protect domestic consumers from high prices, and the latter are meant to insulate domestic producers from low prices. Both are substitutes for more effective and efficient social safety net policies and are, at most, costly second-best policies. Moreover, in both cases, they are at best partially successful in achieving their aims, particularly in light of the fact that borders in the region are highly porous, governance is sometimes weak, and goods therefore flow informally anyway.

Most important, though, both policies are beggar-thy-neighbor policies: they protect a domestic group at the expense of another group within the region. They are fundamentally incompatible with the idea of a regional single market, especially because their use by one country, particularly a large one, tends to induce a cascading response from other countries as each tries to export instability to the others. As an urgent priority, member states need to agree to a clearer framework around the use of trade bans and, in practice, actually refrain from the use of export and import bans as examples of trade policy measures that are harmful for developing a regional market for food staples.

Recommendation 2: Identify Capacity Building Needs for the Implementation of Regional Commitments

In some cases, the gap between regional aspirations and national reality does not stem from a lack of political will, but from genuine deficiencies in human, technical, administrative, and financial capacity. As noted earlier in the regional recommendations section, capacity building for the implementation of regional obligations needs to be an important part of the agenda going forward. With the aim of facilitating action by the ECOWAS Commission and donor agencies, member states should conduct a comprehensive needs assessment to determine what the capacity building requirements are to implement regional obligations for the single market for food staples.

Capacity building should always be tailored to suit the individual needs of particular countries. Although countries that have similar needs can envisage coordinating activities, the first step must be a

comprehensive needs assessment. In addition to traditional capacity building activities, which tend to focus on technical issues, at least some member states likely would need assistance with administrative issues, specifically ensuring the application within their borders of their own laws and decrees. Therefore, inclusion in capacity building efforts of aspects of governance and public sector management, on the basis of the needs identified by individual member states, may prove important. Of course, the need to build human and technical capacity is a broad one in West Africa; but given the importance of food staples as a source of income for much of the population and food security for all of it, building capacity in this area should be a particular priority.

Recommendation 3: Develop Private Sector–Led Value Chains in the Food Staples Sector

As discussed above in the context of regional recommendations, a crucial factor is that the private sector takes over as much as possible the role previously played by activist states in food staple markets. The development of private markets for inputs, the increased efficiency in the transport and distribution sectors, and the promotion of value added processing activities are all part of the agenda. Member states should take concrete steps to improve the business and investment climate so as to favor the emergence of private sector–led value chains in food staples sectors. The typical food staples value chain in West Africa is relatively unstructured and subject to numerous market failures. The state still intervenes at some important points, such as through the use of fertilizer subsidies.

Developing private markets is a more efficient and more fiscally sustainable path. Of course, this approach is far from a quick or simple task. Shock treatment is not the answer. Instead, a gradual and nuanced approach is needed in which the private sector is encouraged to grow organically by fostering sustainable competitiveness. Regulatory reform focused on the provision of public goods to value chains (such as quality, veterinary, and phytosanitary measures; the framework for professional organization; and information systems), will be an important way for member states to support this objective. Transport is another crucial example: improving the functioning of private transport markets, particularly cross-border ones, has real potential to reduce prices of food staples for consumers while increasing farm gate prices.

More generally, member states need to focus on issues such as the ease of doing business and the investment climate, both of which affect the ability of the private sector (or at least the formal private sector) to grow sustainably. Improving the rule of law and contract enforceability is an important step, as is formalizing and guaranteeing land tenure on a broad basis, so that any consolidation of parcels is

not done at the expense of smallholders. Those kinds of steps create an environment that is more certain for investors and make countries more attractive to foreign companies seeking to gain a foothold in the region. An appropriate stance on foreign direct investment at various points in food staple value chains can be part of the answer for developing private sector capacity. The Ghana Grains Partnership is a good example of cooperation between an international firm and local partners. It has helped structure the value chain and secure both regular supply for industries downstream and easier access to inputs for farmers upstream. Considerable potential exists to learn from this kind of model.

At the same time, however, caution must be exercised with regard to the risks that can come with large firms, namely anticompetitive effects. Competition policies are, at best, in their infancy in the region and cannot be relied on to ensure that big firms enjoying a monopoly or monopsony position do not abuse it. Sequencing the reforms is therefore crucial. Taking a state monopoly and opening it to foreign investment typically results in only limited efficiency gains, while the monopoly rents leave the country: the net effect can often be a welfare loss. The most important reform is to introduce competition—just a few firms of similar size can be enough to ensure a relatively competitive environment—and only then substantially liberalize restrictions on foreign direct investment. To be clear, the regional food staples market can gain much from such investment, but it has to occur under the proper circumstances to ensure that those gains are realized in practice.