



CHAPTER 1

Introduction: Accelerating Policy Progress in Uncertain Times

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African agriculture is at an important crossroads. On the one hand, the role of agriculture in the process of economic transformation is widely recognized (Diao, Hazell, and Thurlow 2010; Diao and McMillan 2018), and there have been important achievements in African agricultural performance and productivity growth in recent years. For instance, between 2005 and 2012, agricultural value-added growth and total factor productivity growth were robust and positive for many countries in the region (IFAD 2016). Although more progress is still needed, long-standing structural reforms have contributed to a more conducive environment for private sector participation in African agriculture, particularly in input value chains (AGRA 2019). At the same time, governments are experimenting with a variety of policy interventions to accelerate agricultural transformation, including the creation of agro-industrial parks, agro-corridors, and special economic zones in more than two dozen countries across the continent (Gálvez Nogales and Webber 2017). These initiatives aim to create economies of scale by coordinating investments in transport, communications, power, and storage to foster linkages between farmers and agribusiness enterprises. There is enormous potential for these and other initiatives to enable agriculture to contribute to larger agrifood system transformation; in fact, evidence suggests that African agribusiness, inclusive of all aspects of the agrifood system except on-farm production, could be a US\$1 trillion market by 2030 (Byerlee et al. 2013).

On the other hand, if agriculture is to foster sustainable agrifood system transformation, a number of policy trade-offs need to be reconciled across poverty reduction, food security, nutrition, and environmental goals. This is no easy task. For instance, Picard, Coulibaly, and Smaller (2017) found that agro-based clusters and corridors can have negative impacts on natural resource management and exacerbate inequalities within communities if not accompanied by relevant laws, regulations, and oversight capacity. Furthermore, some African countries are reverting to policies of previous eras that undermine more recent efforts to build resilient, healthier, sustainable food systems. The resurgence of fertilizer input subsidies is one example; although the current generation of subsidies are better targeted, they still are slanted toward grain commodities (Pingali 2015) and are found to disincentivize more sustainable land intensification practices (Morgan et al. 2019). Despite commitments to free trade and the launch of the operational phase of the African Continental Free

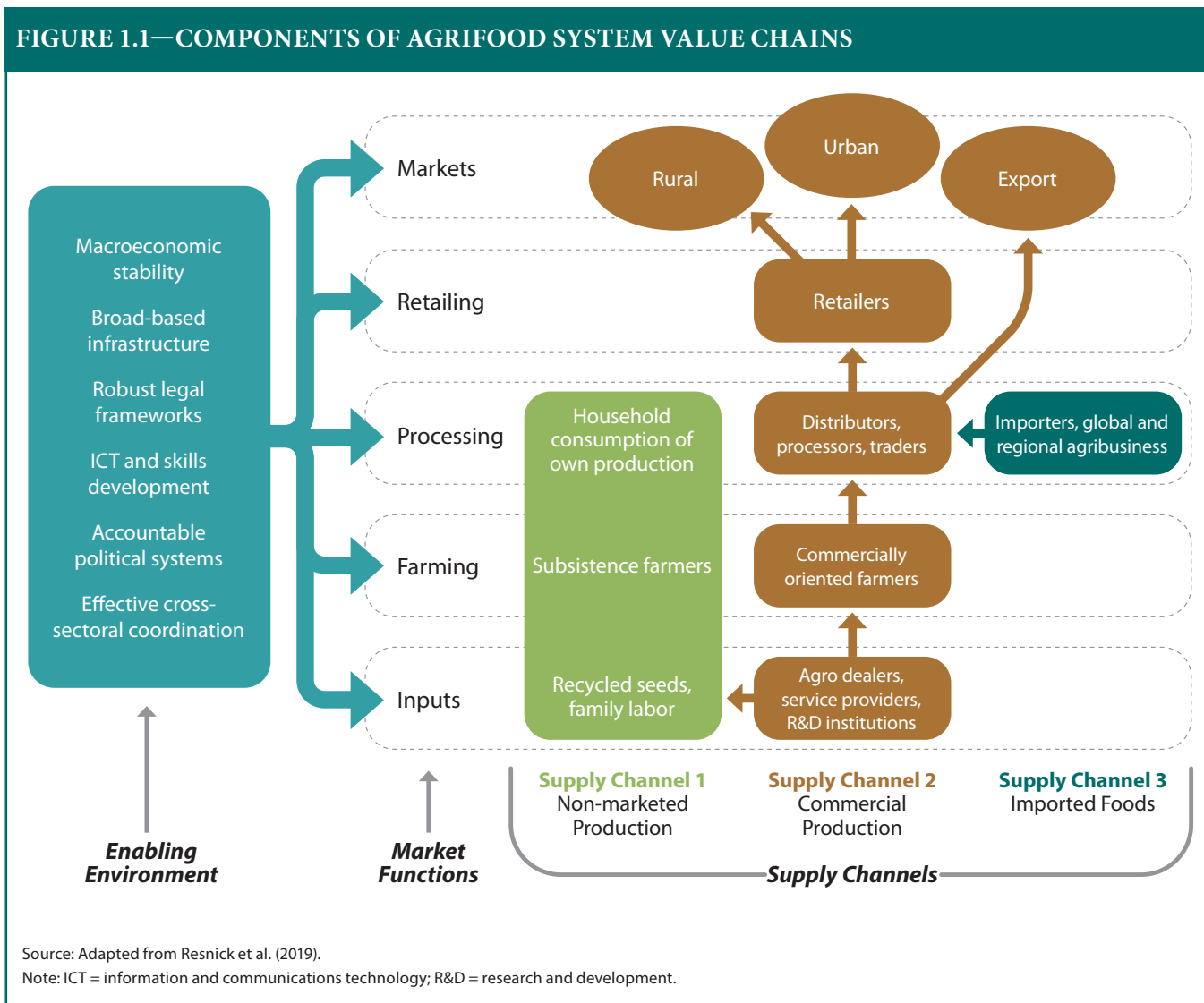
Trade Agreement, export bans have become more frequent and particularly concentrated around commodities that are important for meeting domestic agro-processing objectives (Porteous 2017; Schulz 2020).

The direct and indirect impacts of the COVID-19 pandemic on agriculture and food systems further complicate these trade-offs. Restrictions on travel, transport, and business operations have had ripple effects on agricultural value chains and food security in the region. At the outset of the pandemic, one survey across 12 African countries revealed that 80 percent of respondents worried about having sufficient food (Geopoll 2020), and a survey of more than 100 food processors in Africa showed that approximately 60 percent did not feel able to manage the crisis due to effects on supplies, sales, and distribution channels (Technoserve 2020). Even if food supplies appear more resilient than first expected (FAO 2020), the impact of COVID-19 on African economies undoubtedly has narrowed the fiscal space for investing in agriculture.

Therefore, now more than ever, prioritizing investments to enhance agrifood system transformation will be key in order to harmonize the trade-offs and prevent shocks such as COVID-19, as well as the locust plague in East Africa and recurrent invasions of fall armyworm, from leading to an erosion of recent gains and a reversion to unproductive policies of the past. Consequently, the purpose of the 2020 Annual Trends and Outlook Report (ATOR) is to review achievements in agricultural policy in recent decades; identify gaps that the continent's decision-makers still need to address; and discuss the broader institutional, regulatory, and political factors that condition the choice of policies.

In particular, as African countries are scaling up efforts toward the implementation of the African Union's Agenda 2063 and the Malabo Declaration, the 2020 ATOR seeks to answer a number of questions: How have policy regimes evolved during the last two decades of rapid economic growth and agrifood system transformation? To what extent are current policies for agrifood system transformation aligned with the macroeconomic context and changing global trade environment? What possible policy alignments or gaps need to be addressed to sustain and accelerate the recent economic growth? Which institutional and political economy factors are most instrumental in the decision to shape new policy choices rather than revert to old ones?

These questions are addressed by adopting a holistic framework that captures many, though not all, of the multiple dimensions of agrifood systems (Figure 1.1).¹ At the base of this framework are specific inputs that are essential to improve productivity on the farm, including seeds, fertilizer, mechanization, and irrigation. At the center of the framework lie a number of interventions needed for inclusive development of modern food value chains, including support for small and medium-size enterprises in the distribution, processing, and retailing segments of value chains. Beyond finance and infrastructure, value chain actors need access to cutting-edge training and vocational education, technology to improve their competitiveness, and viable export markets. Domestic small and medium-size enterprises (SMEs) are estimated to supply more than 60 percent of all food consumed in rural and urban markets in Africa (AGRA 2019), and these SMEs can play an important role in supplying consumers with nutritious foods (Demmler 2020). However, their potential can be thwarted by lax food safety standards, which thus far in Africa have been more rigorously



¹ Due to space constraints, many topics central to agrifood systems in Africa—including land governance, youth employment, and gender equality—are not given adequate attention in this ATOR. However, there are many recent publications on these topics for the interested reader, including Kosec and colleagues (2018); Mueller and Thurlow (2019); and Quisumbing, Meinzen-Dick, and Njuki (2019).

applied and regulated with respect to export rather than domestic markets (see chapter 10 of this volume).

At the left of the framework are enabling conditions that contextualize the concurrent set of investments required to support well-functioning and effective agriculture and agrifood value chains. These include, among others, a stable macroeconomic foundation; strong and well-regulated information and communications technology (ICT) and digitalization services; coordinating mechanisms with ministries outside agriculture and at the subnational level; and mutual accountability among citizens, governments, and the donor community.

Agrifood System Transformation: A Holistic Agenda

The chapters in this ATOR are organized according to the different aspects of the agrifood system presented in Figure 1.1 while also accounting for current opportunities and historical actions by African policymakers. Specifically, in chapter 2, Badiane, Collins, and Ulimwengu help situate the importance of policy decisions by providing an expansive historical overview of African agricultural decisions since the 1960s. They note that in contrast to the lackluster performance of the 1980s and 1990s, economic and agricultural growth rebounded in the 2000s, which they attribute to an improved regulatory environment, macroeconomic stability, and reforms within the agricultural sector of many countries. Although they attribute some of these developments to the long-term effects of painful structural adjustment programs (SAPs) adopted in the late 1980s and early 1990s, the authors also recognize the role of the Comprehensive Africa Agriculture Development Programme (CAADP) in shifting the priority accorded to agriculture in African and global policy agendas. Importantly, CAADP stresses improving overall policy systems, with an emphasis on accountability, inclusivity, and evidence-based policymaking, whereas SAPs were more narrowly focused on reforming specific policy instruments. At the same time, the authors observe that with a new generation of leaders, a lack of institutional memory, and ongoing mistrust of markets, there is a likelihood of reverting to some of the deleterious agricultural policies of the past. The authors present some evidence of renewed government support for policies shown to be problematic for food security and producer incomes, such

as export bans, price setting for certain commodities, and restrictions on the importation of certain inputs. Instead of such options, the authors recommend increased government attention on enabling investments for the agro-processing sector, technology and innovation policy, and productive social protection programs.

Subsequently, chapters 3 through 6 provide a more in-depth analysis of specific issues with respect to agricultural inputs. In chapter 3, Spielman focuses on Africa's seed systems, which have evolved rapidly since the 2000s, with recent data initiatives revealing the release of many new cultivars. Nonetheless, Spielman argues that Africa suffers from a lack of comprehensive seed policy regimes that encompass, inter alia, public research and development priorities, varietal registration and release procedures, seed quality assurance regulations, and genetic resource policies. To address this challenge, he suggests several areas for intervention by governments, including according more attention to how the design of input subsidy programs influences the uptake of cultivar adoption and varietal turnover by farmers. In addition, complementary efforts are needed to ensure that regional seed trade provisions are incorporated into national legislation, and that African governments can navigate the implications of recent global conventions on biodiversity conservation and genetic resource policies for their own investments in seed system development. Above all, Spielman points to some of the political economy dynamics and contested narratives that bedevil progress in seed system development, including mismatched incentives across government agencies, among donors, and between civil society and private industry.

Chapter 4 assesses the incidence of global, continental, and regional fertilizer policies in the past that are aimed at promoting increased use of fertilizers in Africa. Abate, Abay, and Spielman review the pros and cons of fertilizer promotion policies and programs in Africa, ranging from state-controlled procurement and distribution systems to wholly private sector-led systems, and look at their implications for fertilizer use and agricultural productivity. The chapter also reviews the general trends of fertilizer consumption and application rates in Africa, the marginal returns on fertilizer use, trends in tailored nutrient recommendations based on soil tests, and emerging concerns about the unbalanced use of fertilizer in fragile regions of the continent. In addition, the chapter highlights the focus of national fertilizer policies and regulations on the formulation

of instruments that can reduce farmgate fertilizer prices and increase fertilizer application rates, the mixed evidence base on the efficacy and impact of these policies (such as subsidies), and the political economy of fertilizer subsidies. The chapter recommends drawing policy attention toward reducing transport and transaction costs to render lower output and fertilizer prices, and revitalizing the existing and mostly poorly funded research and extension systems.

Chapter 5 focuses on Africa's agricultural mechanization policy, including a case study of Ghana's recent mechanization interventions. Takeshima, Diao, and Aboagye review emerging areas of market failures in agricultural mechanization and the risk of new government failures. Ghana's case study shows that recent growth in mechanization service provision is clearly led by private suppliers, many of which are medium-scale farmers. Considering the spatially diverse agroecological and socioeconomic conditions in African countries, African governments should avoid any direct intervention in mechanization service provision to minimize rent-seeking behavior associated with the government's distribution of subsidized machinery. Instead, appropriate government intervention should include enhancement of information, support for the acquisition of knowledge and skills in the operation and maintenance of various machinery, exploration of multiple tractor functions both on and off farm, and demonstration and introduction of low-cost equipment and implements suitable for local conditions. These public engagements will help private machinery investors improve efficiency and increase returns on investment, thereby attracting more private investment in the mechanization services that are increasingly demanded by smallholders.

Like mechanization, irrigation is critical for enhancing the region's transformation. Although irrigation development is generally slow in Africa, extant systems can be developed for different types of crop production. In chapter 6, Ringler, Mekonnen, Xie, and Uzunamure differentiate among three irrigation systems that are covered by the African Union irrigation framework: large-scale irrigation systems, often publicly constructed and supported by governments; community-managed systems; and small-scale, farmer-led irrigation systems. The viability of small-scale irrigation development is associated with development of cash and high-value food crops, whereas its potential for staple crops seems to be limited because of low returns. Development of large-scale irrigation needs to be part of broader infrastructural investment in dams, roads, and

electricity, and it can be justified as reducing import dependency for key staple crops as well as increasing foreign exchange earnings through the expansion of export crops. All three types of irrigation systems in Africa are weakened by insufficient investment and weak institutional and governance capacity. Public investment and policy are critically lacking in a number of domains, including information collection through new remote sensing technology, capacity development to regulate thousands of individual irrigators, groundwater resource governance, oversight to mitigate water pollution, protection of formal and informal water rights, and promotion of private sector-led solar-powered groundwater irrigation systems.

Chapters 7 through 11 are more focused on how to bolster the competitiveness of agriculture along the value chain. Chapter 7 examines Africa's rapidly transforming midstream value chains for traditional staples, which are dominated by SMEs in the processing and trading segments. Tadesse and Badiane take an agricultural transformation approach to reviewing the evolution of value-chain development, its policy options, and the pitfalls associated with the planning and implementation of these policies. Using data from the millet sector in Senegal, they further explore the extent of the transformation occurring among the middle actors engaged in the primary and secondary processing, wholesaling, and retailing segments, as well as the incidence and effectiveness of public support to facilitate business start-ups, skills development, and collective action among secondary processors. The chapter proposes to better nuance and align policy interventions according to the type of value chain and its transformative potential. Specifically, it provides differentiated recommendations for value chains dominated by start-ups compared with those possessing a large share of more mature enterprises, as well as for the value chains of traditional staples, such as millet, cassava, or teff, that are catering to emerging regional and domestic urban consumers, vis-à-vis traditional export value chains, including those for oilseeds, cotton, and tropical beverages, that are targeting more sophisticated global markets.

Chapter 8 also draws on the experience of Senegal to emphasize the importance of institutionalizing collective action in African agriculture based on the experiences of smallholder producers' organizations. Wouterse and Faye discuss the historic evolution and economic importance of collective action in agricultural commercialization, in Africa generally and in Senegal particularly. This is

followed by a quantitative analysis to assess whether membership in producer organizations affects the technical efficiency of smallholders and whether the design and governance of organizations affects their performance. The authors find a strong association between organizational membership and greater efficiency. They also observe a significant relationship between producer organizations' design and governance structure (for instance, established by members with a board and mechanisms for oversight and sanctioning) and the producers' commercial performance. The chapter concludes by recommending smallholder participation in producer organizations and encouraging such organizations to carefully consider how they are structured and ensure the inclusion of female members.

Beyond modalities of collective action, those involved in the agricultural and food value chains need relevant skills to increase their productivity and stay competitive in domestic and international markets. This need is particularly relevant to African youth given that without viable skills, their access to the labor market is limited, and many end up in the informal economy. Consequently, chapter 9 examines opportunities for agricultural technical and vocational education and training (ATVET) in Africa and reviews extant initiatives, such as CAADP's ATVET pilot program. Kirui argues that ATVET systems need to go beyond a narrow focus on just actors involved directly in the different stages of an agricultural value chain. Instead, he advocates for a more comprehensive approach that simultaneously incorporates those involved in core professions in the value chain (such as logistics and storage technology), support professions (such as machine technicians for tractors), and cross-sectoral professions whose expertise improves the functioning of the entire value chain (such as accountants, insurance specialists, and the like). Above all, Kirui advocates for ATVET curricula that encourage private sector participation, adapt to emerging ICT innovations, and help transform agriculture into a more entrepreneurial activity that attracts the youth.

Chapter 10 turns to a critical component often overlooked in discussions of improving agricultural value chains: food safety. To sustain a market for higher value-added agricultural commodities, governments and the private sector need to build trust and confidence in the quality of such goods among rural and urban consumers. Unsafe foods can also have negative impacts on health, diets, and poverty alleviation efforts. Recognizing these factors, CAADP adopted

a Food Safety Index in 2019 to complement the other indicators embedded within its biennial review (BR) process. According to Jaffee, Henson, Grace, Ambrosio, and Berthe, such efforts are especially needed in Africa, which, along with Asia, has among the highest burdens of foodborne diseases linked to microbiological pathogens and parasites caused by poor hygiene, lack of clean water, close contact with animals, and intense use of agrochemicals and veterinary drugs. Addressing this multifaceted challenge requires developing comprehensive national policies on food safety, data systems to track food safety problems, effective mechanisms for the accreditation and certification of businesses, and investment in capacity for food safety regulatory oversight that is not only export oriented but also covers domestic markets. Given Africa's dualistic consumer markets, the authors argue that such approaches also need to be varied to account for both informal food channels (for example, street hawking, open-air markets) and modern retail outlets, including supermarkets and e-commerce operations.

Although more attention to food safety is particularly needed with respect to domestically traded foods, the regional and global trade environment plays a key role in shaping the competitiveness of African agriculture. In chapter 11, Bouët and Odjo focus on the competitiveness of African agriculture in regional and global trade. They argue that although trade policy is instrumental for competitiveness, it needs to be accompanied by policies aimed at lowering transaction costs and improving the business environment for private sector actors along different agricultural value chains. Moreover, trade policy is more likely to improve agricultural competitiveness if it is designed in a way that encourages local producers to import new technologies that can enhance their productivity. In other words, competitiveness derives from productivity in farm production and along the entire value chain, and therefore, policies for promoting trade and enhancing productivity should be designed and implemented in an integrated way. In this respect, policies that foster participation in global value chains are increasingly important for competitiveness, because these chains provide opportunities for African countries to attract foreign investment, for local producers and traders to get access to new technologies and know-how, and for the countries to adopt sanitary and phytosanitary standards required by international markets.

Chapters 12 through 15 turn to factors that shape the broader enabling environment for agrifood system transformation. One overriding concern, which is even more pronounced in the wake of COVID-19, is how Africa's macroeconomic conditions will impact investments in and the competitiveness of agriculture. In chapter 12, Mukasa, Ndung'u, and Shimeles document a wide range of macroeconomic policy distortions, including biases in subsidies, taxes, exchange rates, and trade and monetary policies, that have detrimental impact on the agricultural sector. The chapter emphasizes that the disconnect between macroeconomic realities and agricultural aspirations remains a challenge today for many countries. Moreover, with ratios of external debt service to exports and of debt to GDP rising again in many African countries since 2010, there exists a risk for a significant macroeconomic setback among these countries. Such a setback could limit fiscal space for governments, forcing them to reduce support to agriculture. Thus now, as much as in the past, commitments to enhancing agricultural public investments will require a sound and stable macroeconomic foundation in order to succeed.

Unlike some other policy domains discussed in this ATOR, digitalization lacks a strong historical precedent in the region. As discussed in chapter 13, digitalization for agriculture (D4Ag) specifically encompasses the use of digital technologies, innovations, and data to address bottlenecks in productivity, postharvest handling, market access, finance, and supply chain management. Baumüller and Addom argue that D4Ag has shown great promise for improving smallholder access to financing, building climate resilience among farmers, and boosting productivity along the value chain. Yet taking full advantage of D4Ag's potential requires a comprehensive set of policies tied to oversight of private sector service providers, as well as digital safety and data privacy; improved data literacy of smallholder farmers, traders, and extension agents; and networking platforms to avoid duplication of scattered knowledge products and resources. Furthermore, D4Ag cannot properly excel in the absence of affordable and equitable access to Internet connectivity and electricity, financing for digital start-ups to make them financially sustainable, and a conducive business environment that is legally predictable and has low levels of corruption. Baumüller and Addom offer a number of examples in Africa where achievements in these different policy domains are already occurring under the guidance of the African Union.

In chapter 14, Resnick provides some perspective about the political economy considerations—particularly the roles of interests, institutions, and ideas—that need to be accounted for to foster agrifood system transformation. She emphasizes that previous “generations” of political economy research have shown how these three factors jointly explain a variety of historical policy thrusts in the African agricultural sector. These include past trade and price distortions; the preference for investments in visible goods, such as subsidized inputs, over those in agricultural research and development; and the reasons why some commodities have been targeted for agro-industrial policy but others have not. She notes that the growing focus on agrifood system transformation entails attention to a new range of political economy concerns, including how to foster interministerial coordination while still ensuring accountability for delivery. Similarly, because agrifood system transformation involves interventions that span multiple administrative boundaries, including those that may be controlled by different political parties, cooperation across different levels of government will also be needed. Resnick reviews some public sector management approaches that have been adopted in Africa and elsewhere to address some of these central coordination issues in the agricultural sector and beyond.

Chapter 15 returns to some of the themes elaborated on in chapter 2, particularly the impact of the CAADP process and its main tenet of mutual accountability on agricultural policymaking processes and decisions. Ulimwengu, Matchaya, Makombe, and Oehmke review the origins of the mutual accountability concept, pointing out that, through the Paris Declaration on Aid Effectiveness, it became synonymous with a process of dialogue and oversight of commitments from donors, governments, the private sector, and civil society. Agriculture joint sector reviews (JSRs) became the mechanism for operationalizing mutual accountability by articulating milestones and targets mutually agreed to by a range of stakeholders and adopted by CAADP for the agricultural sector. Since 2017, countries have used JSR platforms as part of the CAADP BRs to monitor and report on progress toward achieving Malabo Declaration commitments. The authors review instances in which JSRs and the BRs affected the nature of governments' agriculture reforms. In addition, they show that countries that conducted a JSR and participated in the CAADP process were more likely to devote more public expenditures to the agricultural sector. In turn, more public expenditures were associated with greater agricultural growth

through productivity gains. As a result, the authors conclude that those countries that participated in mutual accountability processes were more likely to experience faster agricultural transformation during the 2008–2018 period.

The importance of the JSRs and BRs underlines the need for high-quality, timely, and credible data to track achievements and identify progress toward agrifood system transformation in Africa. Therefore, in chapter 16, Makombe, Tefera, and Ulimwengu review the progress of countries in establishing or strengthening JSRs and in reporting their progress toward meeting Malabo Declaration commitments as part of the second BR. Because the ATOR serves as the official monitoring and evaluation report for CAADP, the chapter assesses progress on CAADP indicators outlined in the CAADP Results Framework. And in keeping with the policy theme of the 2020 ATOR, chapter 16 also reviews policy responses to COVID-19 in a selected group of African countries.

Although there remains much uncertainty related to COVID-19 and other recent shocks facing the continent, there has been substantial learning about the effectiveness of certain policies relevant to agrifood system transformation, and there is a growing body of evidence about where policy gaps exist. This ATOR intends to provide a platform for dialogue on how to prioritize needed interventions for agrifood system transformation and ensure that investments in one area complement, rather than undermine, those in other needed areas.