1
Introduction

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1.1 Introduction

Economic growth accelerated across much of sub-Saharan African (hereinafter called Africa) during 2005–15 (Badiane and Makombe 2014; Rodrik 2018). Although outpaced by Asia, the rates of growth achieved were nevertheless unprecedented for many African countries and led to a period of euphoria among many experts who believed African economies seemed finally to be taking off. During this period, a number of African countries graduated to "lower-middle-income" status and excitement grew about the rise of Africa's expanding middle class (Ncube and Lufumpa 2015; Shimeles and Ncube 2015). As should be expected, this growth was accompanied by structural changes in the composition of national economies (Rodrik 2018). Agriculture shrank as a share of both national GDP and the total labor force, and urbanization proceeded rapidly. Already, nearly 40 percent of the population in Africa is urbanized, and the UN projects that by 2050 the urban population share will reach 56 percent (UN 2014).

However, unlike most of today's rich countries, and many Asian and Latin American countries, this growth was not driven by workers moving into industry. Rather, in much of Africa, industry at large, including manufacturing, has remained flat while workers have moved into a burgeoning services sector. The services sector is now the largest sector in Africa, and already accounts for over half of Africa's total GDP (Figure 1.1). Yet an economic transformation based predominantly on services is problematic because much of the sector comprises informal, labor-intensive activities, with labor productivity that is little, if any, better than traditional agriculture. These kinds of services do not offer realistic pathways to creating the number and types of productive jobs needed to raise living standards for most Africans (McMillan, Rodrik, and Sepúlveda 2017). For that, it is necessary to grow the industrial sector, ideally export manufacturing, which can absorb large numbers of semi-skilled workers,

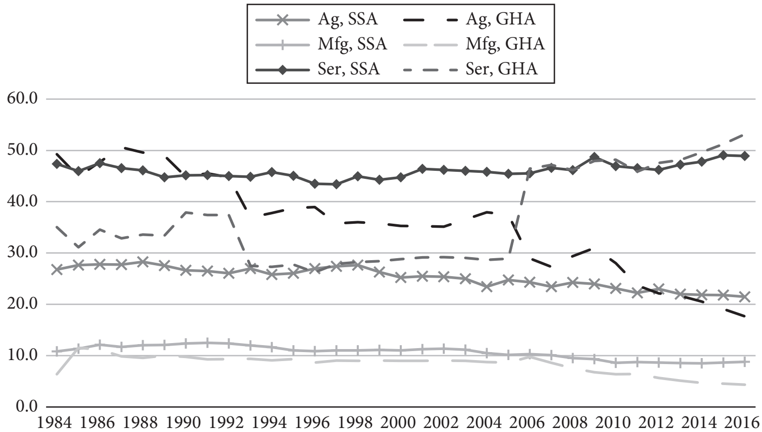

Figure 1.1a. GDP shares of agriculture, manufacturing, and services in the national economy, Africa averages and Ghana (%)

Note: SSA is a simple average of shares for thirty-three SSA countries with data available in all years for all the three sectors in World Development Indicators, excluding South Africa.

Source: Authors' calculation using data from World Development Indicators.

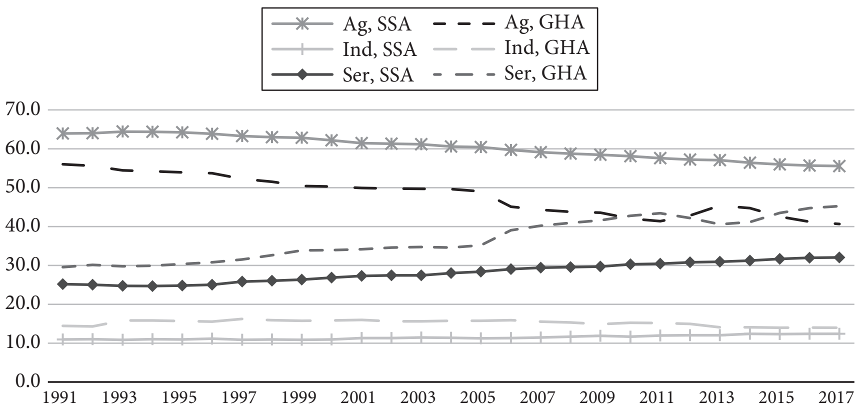

Figure 1.1b. Employment shares of agriculture, industry, and services in total employment, Africa averages and Ghana (%)

Note: SSA is a simple average of shares for thirty-seven SSA countries with data available in all years for all the three sectors in World Development Indicators, excluding South Africa.

Source: Authors' calculation using data from World Development Indicators.

and/or grow the more productive parts of the agricultural sector, such as nontraditional exports. Moreover, unlike manufacturing or nontraditional agriculture, whose outputs can be exported, services are mainly consumed in the domestic market and their growth is constrained by growth in national demand.

Thus, service-led transformation can only take African countries so far, and will at best lead to modest rates of national economic growth (Rodrik 2018; McMillan, Rodrik, and Sepúlveda 2017).

Why have African economies developed in this way and why has industrialization been so difficult to achieve? And if industrialization is going to be difficult to achieve for African countries, what viable policy options exist to generate sustainable structural transformations in the region? To tackle these important questions in a tractable manner, this book focuses on the experience of one country—Ghana—and examines the country's overall economic performance since it went through a major Structural Adjustment Program (SAP) in the early 1980s and provides a detailed analysis of the performance of the agricultural sector. In so doing, the book aims to explain why Ghana has not transformed its economy more substantially, why its agriculture sector—beyond cocoa—has not played a greater role, and what it must do in the future if it is to continue with a successful transformation. Addressing these puzzles requires integrating economic and political analyses. Finally, the book considers what the rest of Africa can learn from Ghana's experience.

1.2 Why Agriculture?

If, as much economic opinion suggests, it is going to be a difficult and slow process for Africa to become a major manufacturing hub like Asia (Kormawa and Jerome 2014), then exploiting opportunities for promoting growth of productive jobs outside manufacturing will be essential. One of the more promising options lies in transforming agriculture because it is still the dominant employer in Africa and faces a rapidly growing market at both country and continental levels. Africa's demand for food is growing fast and is projected to more than double by 2050 (Badiane and Ulimwengu 2017), driven by population growth, rising incomes, rapid urbanization, changes in national diets towards greater consumption of higher value fresh and processed foods, and more open intra-regional trade policies. Moreover, agricultural growth helps leverage rapid growth in the larger agri-food system, including agro-processing and trading. The World Bank (2014) estimates that African agribusiness (defined to include all aspects of the agri-food system except on-farm production) could become a $1 trillion market by 2030 (in 2010 prices), and that does not include the value of the additional agricultural production that will be needed to support growth in agribusiness.

Exploiting this potential will require a major shift from traditional to more productive and market-driven farming practices, as well as the development of agricultural value chains and the broader agri-food system. This is an important growth opportunity for Africa but requires that African governments be willing to invest in agriculture and create the enabling environment for a market and private-sector-led transformation of the agri-food system. This manifestly depends on the economic factors driving different options, domestic political forces, donor influences, and institutional capabilities in Africa. Indeed, with few exceptions, African government policies towards agriculture over recent decades have ranged from half-hearted to detrimental, despite enormous opportunities to grow the sector through productivity-enhancing technologies. As such, examining the future prospects for agricultural transformation needs to also consider political economy dynamics shaping the feasibility of available choices.

1.3 Why Ghana?

Since Africa is a diverse continent, richer insights about future transformation trajectories are more likely from country case studies than continent-wide analyses. Therefore, this book focuses in depth on Ghana, which has been viewed as one of Africa's success stories in terms of growth in per capita income (PCI), agricultural output, the achievement of middle-income status, reductions in poverty, and the maintenance of peace and social cohesion (Fosu 2009; McKay et al. 2016; Aryeetey and Baah-Boateng 2016; Aryeetey and Kanbur 2017). This success should not be surprising given that by many standards Ghana has it all: a rich mineral base (particularly bauxite, gold, diamonds, phosphates, and oil); a robust and consolidated democracy; generous amounts of agricultural land per capita; a generally favorable climate for agriculture; and a well-developed coastal city and port with direct access to international shipping lanes. It is a country with multiple options and has had the potential to become an agriculture-led, minerals-led, or manufacturing-led economy. Moreover, in developing its manufacturing base, Ghana could choose between industries that add value to domestic agriculture and minerals outputs, or develop entrepôt industries that add value to imported materials. And in developing an agriculture-led strategy, Ghana has sufficient land that it could choose between a small or large farm-led agricultural development strategy.

Despite this exceptionalism, Ghana demonstrates many shared characteristics with other countries on the continent. Like most other African countries, Ghana underwent a painful but much-needed structural adjustment period in the 1980s that required the state to retrench from much of the economy rather than take a proactive role. In the 1990s, Ghana was part of the "third wave" of democratization (Huntington 1991) that swept the region, which elevated the role of voter preferences and non-state actors, including civil society organizations, in the policy arena. Around the same time, Ghana also embraced decentralization and, like Kenya, Zambia, and other countries, increasingly has devolved subnational agricultural functions to locally elected governments. Collectively, these processes have resulted in more pressures and actors involved in the broader economy and the agricultural sector.

In addition, just as unemployment is one of the most pressing concerns for Africa, the lack of productive jobs for a large share of workers is problematic in Ghana, especially as there are growing concerns about its future growth prospects (Aryeetey and Kanbur 2017). Per capita incomes have grown consistently since the mid-1980s; but, at 2.8 percent per year on average, its growth is much lower than achieved in many Asian countries that started at similar levels of per capita incomes in the 1960s. Moreover, despite all of Ghana's latent advantages, the structural changes in the national economy have been typical of much of Africa, with "urbanization without industrialization" (Gollin et al. 2016), and a rapidly growing services sector (see Figure 1.1 again). Although Ghana has done well with its minerals and cocoa exports, it has been less effective at producing more manufactured and nontraditional agricultural exports for the world and West African regional markets. In fact, the country seems unable to compete more effectively with imports like rice, poultry, processed foods, or manufactured consumer goods that are taking large shares of its rapidly growing domestic markets. Enhancing exports or import substitutes in these areas promise to create many jobs, boost national per capita income, absorb a growing labor force, and enable more workers to shift out of traditional agriculture.

In other words, the Ghanaian experience is typical of the broader African struggle for sustainable structural change. Agriculture offers options for improving transformation, and this book contextualizes the viability of those options given political economy constraints, past investment decisions, and the broader global environment in which Ghana, and much of Africa, must now compete.

1.4 Overview

The book is organized in two parts. Part I focuses on Ghana's overall economic development, describing the economic transformation that has occurred since Independence in 1957, the political forces that have shaped it, and the prospects for future growth. Part II is concerned with the role played by the agricultural sector in Ghana's transformation, the reasons why the sector has not been more of a driving force in Ghana's economic transformation, and again the prospects for future growth.

1.4.1 The National Economic Transformation

Following Independence, Ghana launched a state-led program of industrialization and large-scale state-owned farming, and a series of heavily subsidized programs of support for smallholder production of prioritized food staples. Most of these initiatives failed or became financially unsustainable, contributing to a turbulent period of economic and political crises, during which time the economy shrank by nearly one third. In 1984, a new revolutionary government led by Jerry Rawlings began to implement a series of major economic reforms as part of a Structural Adjustment Program (SAP) supported by the IMF and World Bank. Together with a return to democratically elected government in 1992, the SAP helped turn the economy around and embed a basic market-led development strategy in which the government focused primarily on creating an enabling economic environment rather than trying to promote specific lines of economic activity. While many other countries also adopted a similar SAP, Ghana implemented its reform program more comprehensively than most. The economy began to grow almost immediately after the SAP was launched, and Ghana has succeeded in achieving uninterrupted growth in annual per capita income (PCI) for more than thirty years, an achievement matched by only five other developing countries in the developing world, including just two in Africa (Botswana and Mauritius).

This growth was accompanied by significant changes in the economic structure of the country. However, as noted above, while agriculture's relative importance in national GDP and employment shrank, it was not replaced in relative importance by a rapidly growing industrial or manufacturing sector. Rather it was the services sector that took off, and today accounts for more than half of national GDP and 45 percent of national employment. At the same time the industrial sector stagnated, and its manufacturing component shrank from 12 percent of national GDP in 1985 to a mere 5 percent in 2014. Ghana has also rapidly urbanized, and today more than half the population lives in urban areas. Gollin et al. (2016) have characterized the rapid growth of Ghana's urban centers with their heavy economic reliance on services as "consumption cities".

What have been the predominant sources of labor productivity growth in Ghana to explain these patterns? And is this productivity growth sustainable? Since labor productivity is a key determinant of national per capita income (PCI), Chapter 2 addresses these questions in detail. Average PCI has grown by 2.8 percent per annum on average since 1984, a rate fast enough to double the PCI every twenty-five years. This correlates highly with the gains in labor productivity over the same period. Using an analytical framework developed by Rodrik (2014), Chapter 2 shows that the predominant source of labor productivity growth in Ghana has come from productivity increases within sectors, with the agricultural sector showing a particularly strong performance. Rodrik attributes this source of growth to what he calls "fundamental capabilities," or the longer-term benefits from investments in better institutions, healthier and better educated workers, technologies, and more enabling policies. Another source of productivity growth arises from the movement of workers from low to higher productivity sectors, (e.g., from traditional agriculture to manufacturing). Rodrik calls this the gains from "structural change," which result from changes in the relative importance of different sectors in national income and employment.

In Ghana, about 75 percent of total growth in labor productivity between 1984 and 2011 was attributable to within-sector labor productivity growth and only 25 percent to structural change. This not only is very different from the pattern observed in many Asian countries, but also is even unusual by African standards, where the movement of workers to higher productivity sectors is usually an important source of labor productivity growth during the early stages of a country's economic transformation. The reason for the low gain in labor productivity from structural change in Ghana is that so many workers have moved from agriculture to the services sector, and the labor productivity of many services is not much higher than in traditional agriculture. In some cases it is even lower, meaning that the movement of a worker from traditional agriculture to such a low-productivity service sector actually detracts from the nation's average labor productivity.

A key challenge for Ghana's ongoing pattern of economic transformation is that it may be hard to sustain, let alone accelerate, growth in PCI. While within-sector labor productivities will continue to benefit from past and ongoing improvements in fundamentals, these promise at best a modest if steady contribution to PCI growth. Their contribution may also slow as some important past sources of past productivity growth run out of steam. For example, growth in labor productivity within the agricultural sector, which Chapter 2 shows accounted for 40 percent of the increase in national labor productivity over 1984–2011, will slow as the land frontier is exploited and future growth will need to come from agricultural intensification.

Ghana will need to do a better job of tapping into the benefits of structural change, and this requires policies that can generate more rapid growth of sectors that can achieve a) high levels of labor productivity relative to traditional agriculture, and b) absorb lots of workers from lower productivity sectors like traditional agriculture. The most promising possibilities for creating productive employment lie in agricultural intensification and the growth of modern industries, such as agro-industries. There is not only a growing national demand that offers market opportunities in these sectors, but also increasing regional economic cooperation, which should allow Ghana to increase its exports into the West Africa regional market. But this will require more effective strategies for overcoming some of the market failure problems along key manufacturing and agricultural value chains, and the eventual uptake of agricultural intensification strategies.

Does the government have the incentives and capacity to pursue such strategies? Addressing this question is the main focus of Chapter 3. In other areas of the world, economic transformation has required pro-active interventions by a capable state. Historically, the Asian tigers were guided by a "developmental state" characterized by a well-trained and meritocratic bureaucracy led by leaders with long-term economic strategies operating in authoritarian regimes. This confluence of circumstances briefly occurred in Ghana under Rawlings between 1983 and 1992 when strong national leadership and a cadre of highly competent economists drove the economic reforms under the SAP. A developmental state approach was less viable when Ghana transitioned to democracy in 1992 when responsiveness to citizen demands became a primary concern of the government. Despite several attempts to strengthen Ghana's civil services and public institutions under the Fourth Republic, public sector capacity is a notable weakness among the country's governance successes.

Consequently, the governance setting has been more conducive to providing an enabling investment and policy environment (i.e., Rodrik's "fundamentals"), including in the agricultural sector, than to proactively identifying and implementing state-guided economic activities. Therefore, some areas of the economy that are fraught with market failure problems have remained underdeveloped, and this has contributed to the limited growth of higher productivity sectors, and hence the low gains in productivity growth from structural change. This limitation is especially true of some manufacturing and agricultural value chains, such as those for nontraditional exports like pineapples, and commodities that must compete with imported foods like rice, poultry, tomato paste, processed foods, and many manufactured consumer goods. Several examples are given in Chapter 3, especially of missed opportunities by the state to better support agro-industries. Like many other African countries, a key challenge is how to achieve a more proactive public development role to overcome some of the market failures in key value chains like manufacturing and nontraditional agricultural exports. These issues recur in Part II and in the concluding chapter of the book.

1.4.2 The Agricultural Transformation

Part II of the book is concerned with the role played by the agricultural sector in Ghana's transformation. Overall, the sector has performed successfully since the 1980s in several dimensions, but it has not exploited its potential to become a more important source of export earnings beyond cocoa, or to reduce the country's growing dependence on many imported foods. Given the importance of agriculture in the Ghanaian economy, Chapters 4–9 provide a comprehensive review of the agricultural transformation that has occurred, and seek to answer why it has evolved the way it has, what is holding it back, and identify options for future growth.

Chapter 4 describes the main features of the agricultural transformation that have occurred since the policy reforms of the 1980s, and provides regional as well as national insights. In the north, substantial increases in farm production and incomes have come more from increases in the cropped area and crop mix than from increases in yields. Land productivity has increased only modestly, but labor productivity has increased substantially in line with wages. In the south, farm households have taken advantage of growth in urban–rural linkages to diversify into nonagricultural sources of income, and farms have become smaller and more part-time at the expense of larger farms. These livelihood patterns seem likely to sustain into the future as long as the nonagricultural economy, especially in middle- and small-sized towns, continues to flourish, and as long as farmers can successfully adapt to a shrinking land frontier, especially in the northern region.

Chapter 4 then investigates three underlying factors that explain agricultural performance. One is government policy. While the government has done a good job in creating and sustaining an enabling economic environment for farmers and private investment along agricultural value chains, apart from cocoa it has not done enough on public investment or on supportive policies to help overcome market failures along many value chains, especially those for export crops, import substitutes, and agroprocessing. Rural population growth is a second driver. In many other contexts, this might be expected to lead to more intensive agricultural practices. However, in Ghana, an elastic land frontier, and the pull of higher wages in the nonfarm economy, have eased the pressure of the land constraint. Instead of induced innovation leading to higher land productivity, the pressure has been on farmers to adopt labor-saving technologies that increase labor productivity in line with wages. Third, urbanization has had a major impact on rural livelihood patterns, especially in districts containing urban centers. Urbanization has led to more part-time farming and considerable income diversification, which is the focus of Chapter 5. Yet, despite having greater access to urban markets, services, infrastructure, and an increasing population pressure on the land base, there is little evidence of agricultural intensification leading to higher land productivity even in the more urbanized areas.

Given the powerful impact urbanization has had on agriculture, Chapter 5 explores the issue in more depth and asks how urbanization in Ghana has affected rural employment, farm size distribution, and the use of modern inputs. Recognizing that urbanization has not affected agriculture equally throughout the country, the chapter develops a spatial typology of rural areas by the 2000 and 2010 National Censuses of Population and Housing. Seven types of districts are identified based on their city population size and location in the north or south of the country. In turn, both the 2000 and 2010 Censuses and the two rounds of Ghana Living Standards Surveys' data are used to calculate the share of households employed in agriculture, non-agriculture, or both across these seven different district types. The findings illustrate that urbanization is increasing the share of rural households in the nonfarm economy. It has also contributed to an increase in the share of small, part-time farms in urbanized areas, and a shift towards more medium-sized farms in the agriculturally important areas of the north. The chapter further tests the induced innovation hypothesis, which predicts that urbanization and associated increases in population density and market access should lead to more intensive farming practices. The findings show though that while there has been substantial uptake of fertilizers, herbicides, and mechanization in recent years, there is only limited support that this has been driven by urbanization other than through its influence on rural wages.

To complement the secondary data used in the previous chapters and obtain a deeper understanding of the changes that have occurred at farm and village levels, Chapter 6 draws on primary data collected by authors in four representative villages in the northern part of the country. In doing so, the chapter asks what major changes in farming practices and household livelihood strategies occurred from the 1980s to the present? The chapter also addresses several key questions. What were the key driving factors that drove farmers' adaptation decisions, and why, despite continuing rural population growth, did they generally choose to adopt technologies and farming practices that increase labor productivity relative to land productivity? Also, what happens once options for bringing more land into production become exhausted? As discussed in Chapter 4, how well farmers adjust to increasing land scarcity will be critical for the future sustainability of agricultural growth in Ghana.

The surveyed villages span two agro-ecological zones in the country, namely the transition and savannah zones, which were chosen for study because these zones grow the predominant share of the country's cereal and legume crops, and until recently still had an ample supply of new land available for farming. However, because the land frontier is finally becoming exhausted in some areas, one village was selected in each zone that has reached its land frontier and one that still has virgin land left, in order to obtain insights into how farmers and villages are adjusting to emerging land scarcities. The data collection drew on focus group discussions and individual interviews with selected farmers, village leaders, and local extension and government officials in 2015. The detailed narratives provided in the chapter are complemented by a farm model analysis to better understand the economic factors driving changes on small, medium, and large-sized farms in the villages, and to quantify some of their impacts. The findings show that over the last three decades, farmers have been adept at adjusting to increasing population pressure, changing household needs and expanding market opportunities by increasing the size of their operated farms and growing more market-oriented crops. This adjustment has been complicated by an increasing scarcity of virgin land, which has compelled farmers to reduce fallow periods or acquire land in other more distant communities that still have a virgin land frontier. With shortened fallow periods, there has been a decline in soil fertility, and farmers have had to adjust by using inorganic fertilizer—essentially to maintain rather than increase yields, introduce soil fertility management practices like legume–cereal rotations, and adopt new crops and crop varieties that are more tolerant of less fertile soils and to changing rainfall patterns. Another factor complicating farmers' adaptation has been the increasing cost of labor and difficulties in accessing it at critical times of the agricultural season. Farmers have adjusted to this problem by adopting labor-saving technologies like tractors and herbicides, and by growing crops that require less labor. As a result of all their adaptations, farmers have managed to substantially increase their farm incomes and labor productivity, but land productivity has increased only modestly. A key issue is how far these farmers can go in further adjusting to increasing land and labor scarcities without having to switch to more intensive farming practices.

There are many aspects of the agricultural transformation that might warrant detailed analysis in a book of this nature, but we focus on three topics that emerge as especially important from the discussions in Chapters 2 through 4. One is the crucial role of public investment in agriculture. Another is the problem of market and institutional failures along key agricultural value chains, and the need for more proactive public sector solutions. A third is the need for more effective public–private partnerships in agriculture and agribusiness. Public investment is taken up in Chapter 7, while value chains and some aspects of public–private partnership issues are taken up in Chapter 8. Finally, Chapter 9 focuses on agricultural mechanization. Not only is mechanization an important topic in its own right at a time of increasing labor costs, but the government's current interventions in the supply of mechanization services in competition with the private sector is an important example of the problems that arise when the government fails to adequately support and partner with the private sector.

Along with the creation of enabling policies, public investment in agriculture plays a crucial role in promoting agricultural growth and conditioning its distributional outcomes. Chapter 7 asks whether Ghana has invested enough resources in agriculture and how the patterns of investment in the sector have impacted agricultural productivity growth. Specifically, the chapter examines trends in public agricultural spending over the period 1961–2012, and disaggregates that spending into the cocoa and noncocoa sectors. The majority of total spending has gone into the cocoa subsector, while the noncocoa subsector, which includes all the country's food staples, has been neglected. The government's public spending on agriculture has fallen short of 10 percent of its total expenditure in most years since 1961, and in recent times the share has averaged only 2 to 3 percent, which is low even by African standards. The government has also spent relatively little on complementary investments in rural roads and other essential rural infrastructure. More detailed insights are provided by looking at the types of spending *within* the agricultural sector and their regional allocation. Two econometric analyses then estimate the impact of public spending on agricultural productivity growth, and provide some useful insights into the marginal returns to public investments in the cocoa and noncocoa subsectors, and by type of public investment. This is followed by a discussion of some of the government's recent attempts to promote noncocoa agricultural growth through several new subsidy and investment programs.

Strengthening agricultural value chains are critical for enhancing Ghana's domestic market and export potential. But how can agricultural value chains be further developed in Ghana given prevailing market failure problems that constrain the private sector from playing a greater role? Can the government play a greater role in developing value chains for priority commodities, particularly nontraditional export commodities and import substitutes, as has been done for cocoa or in regions such as South East Asia? These are the central questions of Chapter 8. While Ghana remains relatively self-sufficient in basic staples, the composition of agricultural output has not adequately changed to reflect the growth in domestic demand for higher-income elastic foods like rice, poultry, and tomatoes, nor has agro-processing expanded to meet a growing urban demand for processed and pre-cooked foods. One consequence has been rapid growth in the importation of rice, poultry meat, and processed tomato paste, while nontraditional agricultural exports like pineapples have languished.

As such, the chapter first recognizes the successful, decades-long public interventions in the cocoa subsector through the Ghana Cocoa Board. Using this experience as a benchmark, the chapter evaluates how interventions in three other value chains compare: pineapples, rice, and tomatoes. These latter three crops have under-exploited opportunities because of the inability of farmers to produce sufficient amounts of high-quality farm products that meet urban market, agroprocessor, and export demands. In turn, this is due to a lack of better seed varieties, an absence of quality control through grading and pricing along value chains, inadequate post-harvest handling (especially transport, and cold storage and modern processing facilities), and few large-scale agribusinesses willing or able to take the lead in developing new export markets. The findings reveal opportunities and constraints along the value chains of these commodities, identifies the roles that the public sector should ideally play and, in turn, analyzes whether it has the capacity to feasibly do so.

Finally, Chapter 9 turns to agricultural mechanization and asks how the government could more effectively engage with the private sector to enhance the development of agricultural mechanization. Agricultural mechanization, both in the form of animal and tractor power, has expanded markedly since the early 2000s with about one third of Ghana's farmers reporting to use some form of mechanization for land preparation. Yet in 2007, with a belief that mechanization services to smallholders cannot be left to the private sector alone through its own importation of tractors, of which most are second-hand, the government started to directly engage in the importation of tractors, which were given to the so-called Agricultural Mechanization Services Centers (AMSECs) at heavily subsidized prices. The AMSEC was one of the four initiatives included in the country's agricultural development strategy in 2007.

After reviewing recent developments in the uptake of agricultural mechanization in Ghana, and the factors that are driving the growth in farmers' demand, the chapter then discusses possible supply-side constraints, and evaluates AMSEC's impact on existing private sector mechanization alternatives. The chapter concludes that such interventions often lead to market distortions in machinery prices, encouraging rent-seeking behavior, and discouraging the development of a private sector supply system. The programs are also unnecessarily costly to the public sector. Instead, the government would be more effective in achieving its goals if it were to withdraw from the AMSEC program and instead play a more complementary and supporting role to the private sector. This might include funding appropriate mechanization research, technical training of young mechanics, and ensuring that financial institutions can provide the longer-term lending needed by private agents and farmers in the mechanization supply chain.

Chapter 10 concludes the book by looking to the future. It reviews key findings from each of the preceding chapters and then considers the implications given future trends and Ghana's policy environment. The chapter highlights the need to develop a broader swath of high-productivity industrial and agricultural activities if Ghana is to succeed in sustaining or even accelerating its rate of growth in per capita income. To this end, the chapter identifies considerable opportunities within the agriculture sector and broader food system, including meeting a rapidly growing domestic demand for higher-value foods like fruits, vegetables, and livestock products, and for processed and pre-cooked foods. There are also substantial import substitution opportunities for commodities such as rice, poultry, and tomatoes, as well as for many imported processed foods, and opportunities for developing nontraditional agricultural exports to the West African regional market and beyond. To meet these demands, the required supply response will need to be market driven with the private sector taking the lead. However, the government has key roles to play in removing some of the constraints holding back both the speed and scope of the transformation, and helping to ensure that it is inclusive of small farms and of the many small and medium-sized enterprises (SMEs) that operate along agricultural value chains and within the food system more generally. Creating the necessary enabling policy environment will require the development of more effective state–private sector relationships, including with large businesses, SMEs and small traders. Other key areas for further attention include land policy reforms, infrastructure, agricultural research and extension, seed systems, fertilizer, soil management, irrigation, mechanization, financial services, regulation of farm inputs and outputs, coordination along value chains, and linking small farms to value chains. Importantly, the chapter acknowledges that the feasibility of addressing all of these areas requires a consideration of the political and policy environment, and more effective public–private partnerships than has been evident in the past. The chapter also provides an update on the government's most recent initiative—Planting for Food and Jobs (PFJ)—and contrasts this with the vision of a market-and-private-sector-led transformation of the agri-food system previously discussed. The chapter concludes with some broader implications of Ghana's experience for other African countries.

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