

CHAPTER 3

Structural and rural transformation in Africa



Summary

The dominant narrative about social and economic development in Africa is of a fast-transforming continent showing mixed but generally positive performance. While the positive tone is justified, it must be tempered by recognition of challenging trends and enduring gaps that threaten continued progress.

As incomes grow and diets diversify during structural transformation, the demand for food generally shifts from basic staples to horticultural and livestock products. This leads to a shift in the overall structure of agricultural production. But evidence from Africa suggests that while such a shift is occurring in some countries, it is not yet the norm across the continent. Agriculture shows healthy growth in terms of both output and productivity, but it is not diversifying its commodity mix much. The picture that emerges is of an expanding agricultural sector, but one with weak fundamentals that are preventing a broad-based reduction in poverty and inequality.

Nevertheless, Africa's rural areas are transforming deeply and quickly. Comprehensive data are not yet available, but case study evidence points to weighty changes underway in the structure and functioning of its food systems. Urbanization and rapidly changing consumption patterns has fuelled a sharp shift in diets beyond grains into non-grain foods, such as dairy, fish, meat, vegetables, fruit and tubers, and heavily into processed foods. Despite the persistence of severe poverty, average incomes have risen and a middle class has emerged, further fuelling diversification of demand.

Also registering profound change is Africa's non-farm rural economy. The rural nonfarm business environment is fraught with many difficulties, including a lack of basic infrastructure, inadequate credit and insurance markets, poor tenure security and ethnic and gender disparities. For Africa's budding rural non-farm sector to offer a ladder from underemployment on farms to more rewarding self-employment and regular wage work in the local economy, it must also become a more reliable source of regular liquidity.

Most African countries face three major inclusion challenges: coping with the "youth bulge" (which is unique to Africa), dealing with small and declining manufacturing sectors, and overcoming deeply entrenched barriers to factor mobility. Cutting across all three challenges is Africa's urgent need for stable and remunerative rural jobs. The importance of agriculture extends well beyond primary production, and is likely to grow with continued transformation of food systems and lagging growth in manufacturing. In any scenario, agriculture will continue to play a greater role than has been the case in other transformations, because factor proportions and comparative advantage favour it.

Evidence confirms that most of the African countries that registered relatively high rates of structural and rural transformation over the last two decades managed to cut poverty quickly, while very few of the slower transformers were able to do so. Still, a significant number of countries registering quite rapid transformation showed slow poverty reduction. A common feature of such countries was limited technical dynamism (as measured by growth in total factor productivity) in agriculture.

While speeds and patterns of structural and rural transformation differ across the continent, similarities in factor proportions and competitive advantage imply that inclusive transformation springs mainly from agriculture and the rural non-farm sector. Both of these require sustained productivity-enhancing investment to reach their full potential. The goal for public policy and investment must be to spur job creation within these sectors. Focusing on rural youth, it is useful to distinguish between those who choose to stay on farm and those who decide to leave.

Improving prospects for tomorrow's farmers entails more profitable management of existing farms, with enhanced access to technology, markets, finance, information and infrastructure. Because most young African farmers lack secure property rights over land, recent progress in land administration and documentation of tenure rights must be consolidated and advanced, and rental markets must be strengthened. Closing enduring gender gaps in access to core assets,

inputs and services – land, livestock, labour, education, extension and financial services, and technology – is vital.

Young Africans who exit farming must build the skills that can enhance their employability and entrepreneurial capacity. To enhance employability, targeted improvement of key technological skills, vocational training for jobs in the commercial sector and basic “life skills” for success in working environments are required. Young people must also acquire basic business development skills. But improved skills alone are insufficient – they must be accompanied by expanded access to finance and financial services. Further, as most rural occupations are informal, growth and deepening of the rural informal economy must be supported, in part with physical infrastructure.

Attracting private investment into agriculture and the rural non-farm economy is critical, but many agricultural rules in Africa actually serve to deter rather than encourage such investment. Reforming the regulations that limit private entry and investment in value chains that serve smallholders must be a priority. Innovation in the information and communications technologies favoured by youth and to other information-based resources must continue, with the aim of deepening access to credit and financial services.

Major trends and patterns of structural and rural transformation

Structural transformation reflects changes in the relative contributions of agriculture, services and manufacturing to GDP. Rural transformation is embedded within structural transformation, as rural people change their occupations, invest, diversify livelihoods and relate differently to each other within their families, communities and social institutions. This section investigates how these dual processes are unfolding in Africa today.

Economy-wide structural shifts

Between the early 1990s and 2010-2012, per capita incomes in Africa grew by 1.28 per cent a year, on average – 1.57 per cent in ESA and 1.06 per cent in WCA. The faster growth in

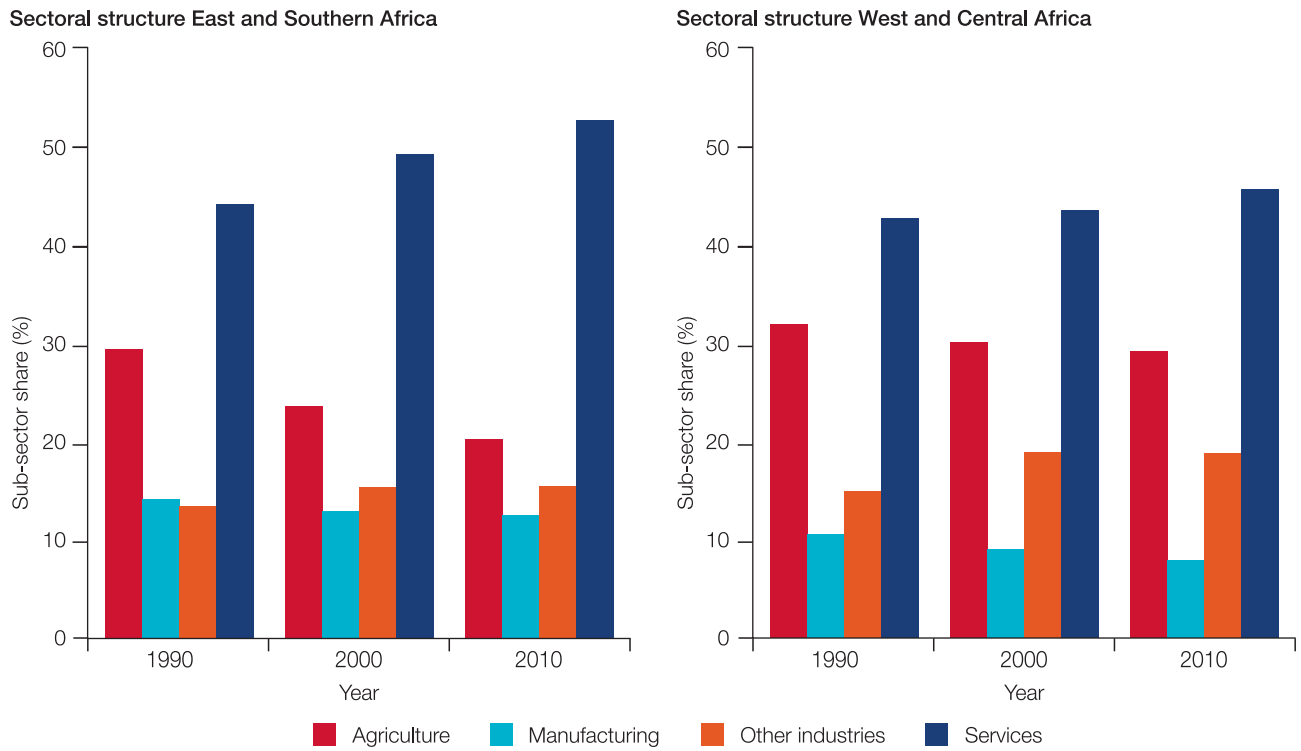
ESA was accompanied by quicker structural transformation (figure 3.1). The share of agriculture in GDP fell faster in ESA than in WCA, while that of services grew more quickly. The opposite was the case for the share of manufacturing, which fell further and more rapidly in WCA than in ESA. Other industries gained share more rapidly and to a higher level in WCA than in ESA.

Africa’s structural transformation is similar to other transformation processes. The regularity of agriculture’s relative shrinkage as a share of both GDP and labour is well illustrated for a number of African countries in figure 3.2. At low levels of GDP, agriculture’s share is large, and the proportion of the labour force employed in agriculture is even larger due to low labour productivity. As income rises, agriculture’s relative share falls, but that of labour falls even faster as farm workers exit and the productivity of those who remain rises. Eventually, at very high levels of income, primary agriculture is a small share of the economy (although the agrifood industry as a whole is larger), agricultural labour as a share of the work force is small, and those employed on farms have about the same productivity per worker as those employed elsewhere.

Agricultural production is the most important sector in most African countries, averaging 24 per cent of GDP for the region. Agribusiness supplies, processing, marketing and retailing add about 20 per cent of GDP (World Bank 2013). But many African countries, such as Côte d’Ivoire, South Africa and Zambia, already have smaller agricultural sectors than did today’s middle- and high-income countries at the same point (table 3.1). The smaller size of the agricultural sector is balanced by the larger size of the service and mining sectors.

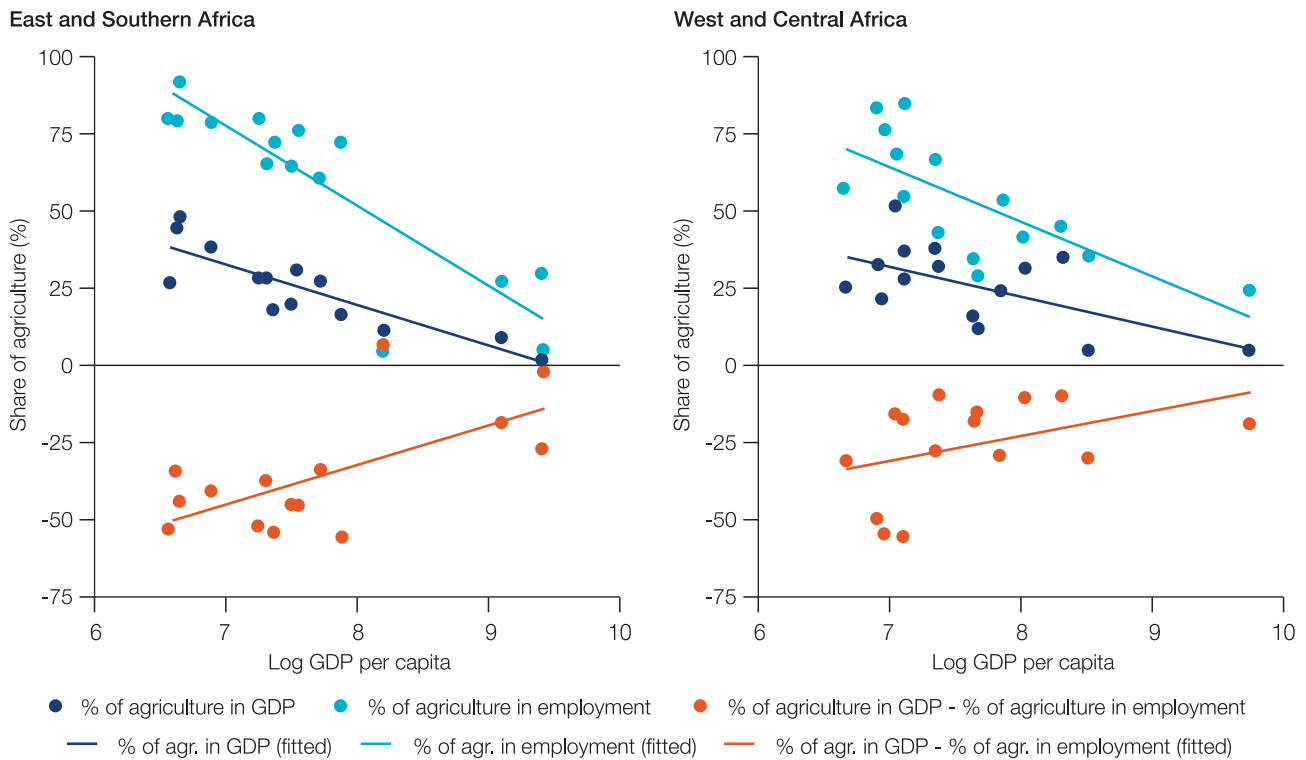
Dependence on agriculture ranges from a high in Ethiopia and Sierra Leone (where primary agriculture contributes about half of aggregate GDP) to a low in South Africa and Zambia. Despite their differences, countries of the continent share trends in demography (high birth rates, declining death rates, rapidly growing population and labour force) and, to a lesser extent, in urbanization.

FIGURE 3.1 Structural change of the economy in sub-Saharan Africa, 1990-2010



Source: IFAD, based on World Bank (2015)

FIGURE 3.2 Share of agriculture in total employment and GDP, circa 2010-2013



Source: IFAD, based on World Bank (2015)

Agro-industry is also predominant in the manufacturing sector of many African countries (figure 3.3), unlike other regions where light and heavy manufacturing are more prominent than food processing. The importance of agriculture thus exceeds that of primary production, and is likely to grow with continued transformation of food systems and lagging growth in manufacturing.

The service sector is broadly defined and covers much that is “in between” agriculture and industry, including trade and transport, personal services, machinery repair, tailoring, carpentry, social services and activities of the nongovernmental organization (NGO) sector, as well as highly skill-intensive services in finance, insurance, medicine and education. Much service work is unskilled and informal,

TABLE 3.1 Heterogeneity among selected African countries

Country	Agriculture, value added (% of GDP, 2012)	Employment in agriculture (% of total employment)	Rural poverty ratio (at nat'l poverty line)	Agriculture, value added (annual % growth, 2005-2012)	TFP growth rate (% avg 2005-2012)	Population growth rate (annual %, 2005-2012)	Urbanization rate (annual %, 2005-2012)
Burkina Faso	35.34	84.8 (2005)	52.8 (2009)	6.00	-0.083	2.96	3.51
Cabo Verde	8.10	N/A	44.3 (2007)	-1.75	3.063	0.54	1.37
Côte d'Ivoire	22.54	N/A	54.2 (2008)	-0.06	0.268	1.84	1.51
DRC	21.77	N/A	75.7 (2005)	3.13	-1.169	2.85	1.28
Ethiopia	47.98	79.3 (2005)	30.4 (2011)	8.35	2.678	2.71	2.00
Ghana	22.96	41.5 (2010)	37.9 (2012)	3.56	1.439	2.49	1.39
Kenya	29.21	61.1 (2005)	49.1 (2005)	2.72	0.556	2.72	1.69
Madagascar	28.20	80.4 (2005)	81.5 (2010)	2.13	1.022	2.88	2.05
Malawi	28.74	N/A	56.6 (2010)	3.30	2.934	2.99	0.68
Mali	42.26	66 (2006)	50.6 (2010)	6.34	2.166	3.17	2.31
Mozambique	28.87	N/A	56.9 (2009)	6.31	2.181	2.65	0.66
Nigeria	22.05	44.6 (2004)	52.8 (2010)	6.15	-0.468	2.74	2.13
Rwanda	33.44	78.8 (2005)	48.7 (2011)	5.26	6.189	2.71	4.35
Sierra Leone	56.75	68.5 (2004)	66.1 (2011)	6.13	2.942	2.45	0.76
South Africa	2.52	4.6 (2011)	68.8 (2011)	1.95	3.152	1.33	0.88
Tanzania	28.69	76.5 (2006)	33.3 (2012)	3.97	1.462	2.98	2.49
Uganda	25.93	65.6 (2009)	27.2 (2009)	1.40	-2.686	3.42	2.14
Zambia	10.35	72.2 (2005)	77.9 (2010)	0.33	3.137	2.93	1.13

Note: TFP is total factor productivity.

Sources: columns 1, 2, 3, 4: World development indicators (World Bank 2015); column 5: USDA, Economic Research Service; columns 6, 7: author's calculations from World development indicators (World Bank 2015).

and employees of informal enterprises are often family members. Entry costs are low. Technical change in transportation, communications and financial services has allowed productivity to grow. The rise of the service sector suggests that productivity and earnings must be somewhat higher than in agriculture, but probably not by much at the entry level. World Bank Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) data confirm that a positive productivity gradient exists, but it is not very steep (McCullough 2015). Movement of many people across a relatively flat productivity gradient will not boost aggregate national productivity by much, but it prevents the decline that would occur if movement were impossible. (These issues are addressed in further detail below.)

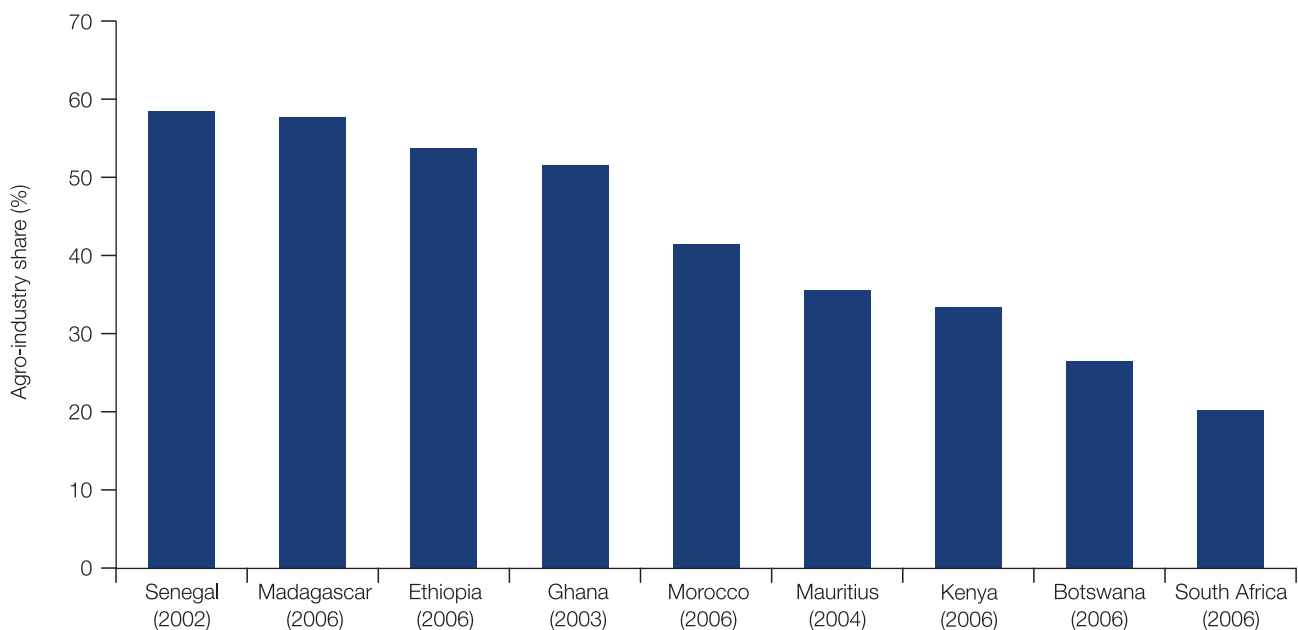
In summary, commodity export earnings, faster agricultural growth, better economic policy, improved governance and more regional integration have underpinned rapid economic growth in the twenty-first century. With growth has come structural change that in many ways mirrors past experiences and in other ways deviates from it.

The agricultural sector has grown absolutely and declined relatively, as resources have shifted to other sectors, primarily services. The demand for services comes in part from the agricultural sector. Much demand is generated by resource rents (and in some countries official development assistance) channelled back into the economy through public spending (Gollin et al. 2013). The rapid growth in the service sector shows a high degree of responsiveness to new opportunities, but sustained growth in that sector will require technical change in agriculture to shift the foundations of the middle class from the public sector to competitive manufacturing and services.

Developments in agriculture

As incomes grow and diets diversify during structural transformation, the demand for food usually shifts from basic staples to horticultural and livestock products. This leads to shifts in overall structures of agricultural production. Figure 3.4 suggests that, in aggregate, such a switch in agricultural production structure has yet to occur in Africa. Trends in ESA and WCA are broadly similar to the Africa-wide trend.

FIGURE 3.3 Agro-industry as share of total manufacturing value added, mid-2000s



Source: Roepstorff et al. (2011). Calculated from WDI.

But country-level data show a mixed picture (figure 3.5). In some economies, the expected shift in production structure is clear, including Tanzania and South Africa in ESA and Cabo Verde and Senegal in WCA, but in others no clear trend is evident, including Kenya in ESA, or is missing, as in Ghana in WCA.

Overall, the limited shift in production structure is reflected in relatively flat growth on several measures of agricultural sector performance (table 3.2). The first two rows allow for comparison of Africa with the rest of the developing world (RODW), while the second two rows compare ESA and WCA. While RODW registered per capita GDP growth more than twice that of Africa, its agricultural growth (2.71 per cent) lagged significantly behind Africa's (3.26 per cent). Crop diversification, as measured by the increase in the share of non-cereal commodities, grew at 0.04 per cent, one third that of the RODW (0.12 per cent). The slow rate of diversification generally is consistent with the findings summarized in figure 3.4. While agriculture shows solid GDP

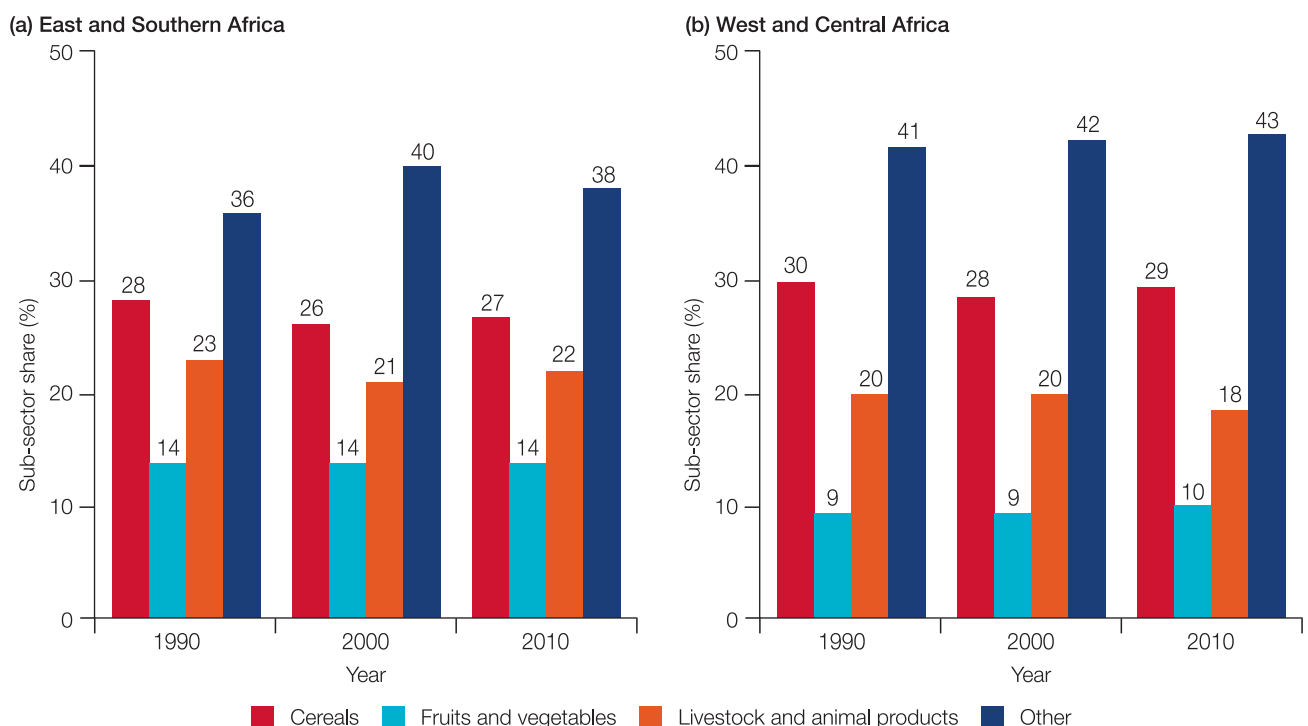
and productivity growth, it is not diversifying its commodity mix greatly.

Table 3.2 also reports three rates of productivity growth in agriculture: total factor productivity (TFP), and labour and land productivity. All three are slower in Africa than in the RODW, further affirming the still low level of diversification from basic staples. With a largely poor and relatively quickly growing population dependent on staples in both production and consumption, agricultural transformation in Africa is still at a relatively early stage.

Comparing the averages between ESA and WCA does not reveal a clear dominance of one of the regions, with performance varying across indicators. Per capita incomes grew some 0.5 per cent faster in ESA (1.57 per cent) than in WCA (1.06 per cent), but agricultural growth rates were reversed – 0.9 per cent higher in WCA. As signalled in figure 3.4, both subregions registered slow growth in the non-cereal share of GDP.

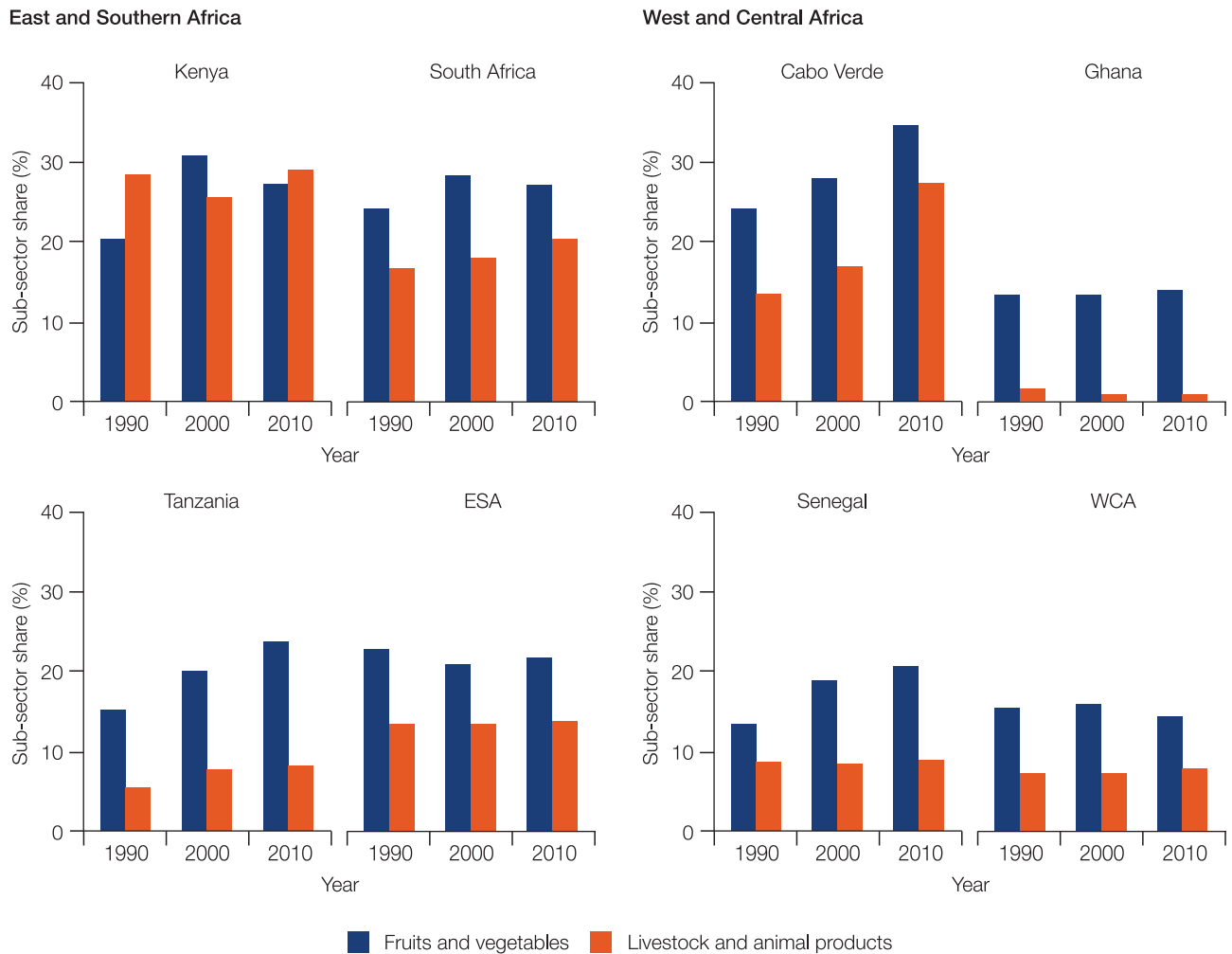
So the agricultural sector is growing rapidly, but still has weak fundamentals that

FIGURE 3.4 Change in the composition of agricultural output in sub-Saharan Africa, 1990–2010



Note: 1990, 2000, and 2010 represent three-year averages for 1989–1991, 1999–2001, and 2009–2011.
Source: data from FAOSTAT.

FIGURE 3.5 Change in the composition of agricultural output in selected sub-Saharan African countries, 1990-2010



Note: 1990, 2000 and 2010 represent 3-year averages for the 1989-1991, 1999-2001 and 2009-2011 periods respectively. Source: data from FAOSTAT.

limit the needed reductions in poverty and inequality. Extreme poverty and inequality declined more slowly in Africa than in the RODW (table 3.3). Poverty remained concentrated in rural areas in 2010 (figure 3.6). In both ESA and WCA, rural poverty in 1990 was close to 60 per cent, but declined only slowly over the following 20 years, and was still at 56.7 per cent in WCA and 52.8 per cent in ESA in 2010. The decline was a bit quicker in faster-growing ESA than in WCA. Urban poverty declined sharply in ESA, from 37.0 per cent in 1990 to 27.3 per cent in 2010, whereas it increased in WCA from 28 per cent to 32.3 per cent. In short, poverty reduction was faster in countries with higher agricultural growth.

The contribution of technical change to Africa’s recent agricultural growth, while greater than in the late twentieth century, is now generally less than in other global regions, particularly during periods of rapid growth in those regions (figure 3.7). Most of Africa’s agricultural growth can still be attributed to expansion of land and labour plus shifts in the composition of output. In the relatively favourable period of 2001-2008, 69 per cent of observed growth in agriculture could be attributed to expansion of area, 14 per cent to favourable prices or terms-of-trade effects, and only 17 per cent to increased use of inputs (including labour) and to technical change (Fuglie and Rada 2013). Technical dynamism

TABLE 3.2 Characteristics of rural transformation in Africa and other regions

Region	Annual change %					
	GDP per capita c. 1990-2014	Agricultural GDP c. 1990-2014	Crop diversification (Non-cereal crops in agricultural output) c. 1990-2012	Total agricultural factor productivity 1992-2012	Labour productivity c. 1990-2014	Land productivity c. 1990-2012
SSA	1.28	3.26	0.04	1.07	1.09	1.06
RODW	2.66	2.71	0.12	1.75	2.04	1.76
ESA	1.57	2.78	0.04	1.20	0.51	1.01
WCA	1.06	3.68	0.05	0.97	1.71	1.10

Notes: SSA = Sub-Saharan Africa; RODW = Rest of developing world; ESA = East and Southern Africa; WCA = West and Central Africa.
Source: IFAD calculations based on World development indicators (World Bank 2015).

TABLE 3.3 Trends in rural poverty and inequality in Africa and other regions, 1990-2010

Region	Annual change %	
	Extreme rural poverty (US\$1.25/day PPP 2005)	Rural Gini coefficient
SSA	-0.78	-0.13
RODW	-1.24	-0.33
ESA	-0.64	-0.14
WCA	-0.91	-0.11

Notes: PPP = 2005 purchasing power parity; SSA = Sub-Saharan Africa; RODW = rest of developing world; ESA = East and Southern Africa; WCA = West and Central Africa.
Source: IFAD calculations based on World development indicators (World Bank 2015).

through innovation (as measured by growth in TFP) has not yet been a major source of growth in Africa.

Some African countries, such as Burkina Faso, Ethiopia, Mali, Mozambique, Rwanda and Tanzania in table 3.1, show rapid growth of agricultural GDP but less from TFP growth than in other parts of the world during periods of strong growth. Rapid agricultural growth with expansion of land and absorption of labour accompanied by modest improvements in TFP is consistent with Africa's factor endowment and can be inclusive. It has improved since the 1990s, when population growth increased the agricultural labour force faster than other

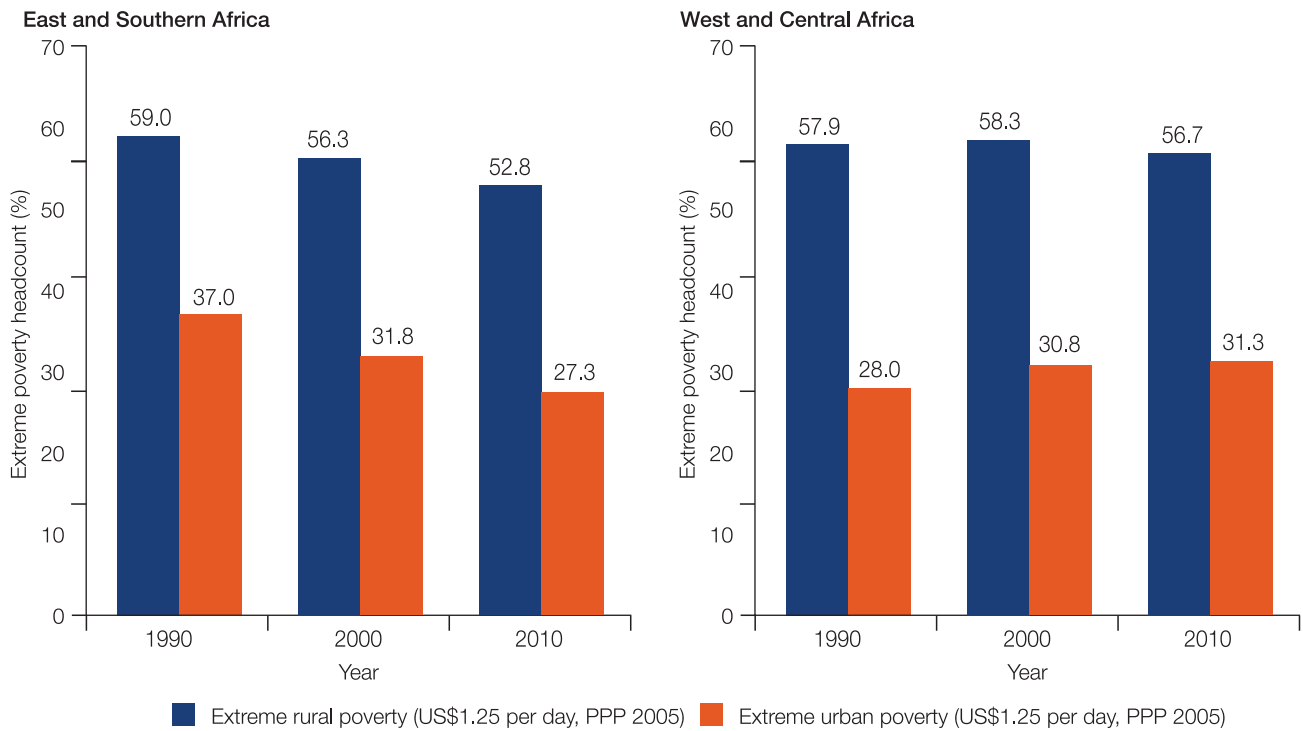
factors of production, and the sector saw little technical change – labour productivity in these circumstances fell.

Where agriculture is growing and absorbing labour while TFP is rising, job opportunities grow. Shifts to better technology could bring even faster growth. There is no inherent trade-off between TFP growth and job creation, as long as demand is strong. Current developments in food systems point to rapid growth of such demand.

Developments in food systems

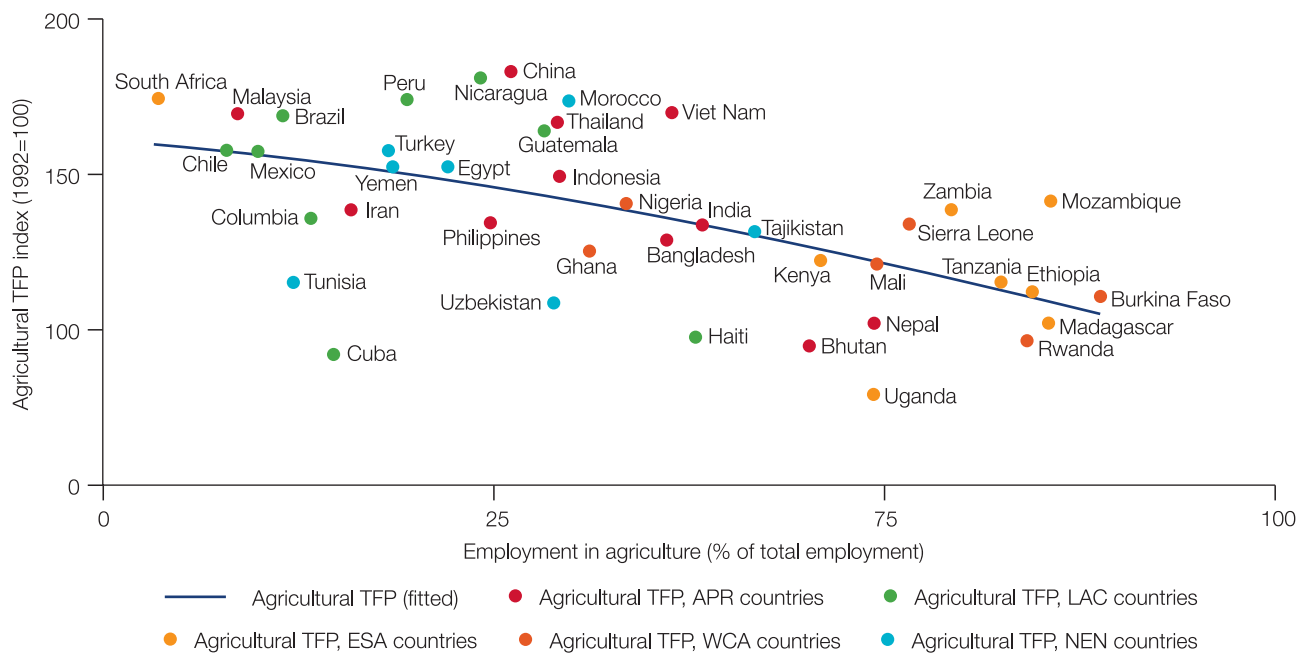
As noted elsewhere, food system transformation is a central feature of broader changes. Africa is no exception, as big changes are underway in

FIGURE 3.6 Trends in rural and urban poverty in ESA and WCA, 1990-2010



Source: IFAD, based on World Bank (2015).

FIGURE 3.7 Agricultural total factor productivity (TFP) by share of agriculture in employment



Source: IFAD calculations based on USDA and WDI indicators.

food system structure and functioning across the continent. Interlocking networks of relationships for production, processing, distribution and consumption of food commodities are shifting dramatically. Capacity to meet quality standards is increasingly crucial to access value chains (Reardon and Timmer 2012; Tschirley et al. 2015a, b).

Comprehensive data are not yet available, but several case studies suggest that African food markets have expanded hugely. Reardon et al. (2015) estimate, apparently conservatively, that between 1970 and 2010, rural-urban food supply chains in Africa moved about five times more food to the proliferating cities, rural market volume of purchases of food expanded eight times and marketed food volumes expanded six times, with much of the upsurge in the 1990s and 2000s.

The number of cities with more than 1 million inhabitants in Africa rose from two in 1950 to 50 in 2010, and is projected to rise to 93 by 2025. Smaller cities are growing even faster. The World Bank (2013) estimates that urban food markets will increase fourfold to exceed US\$400 billion by 2030 (figure 3.8).

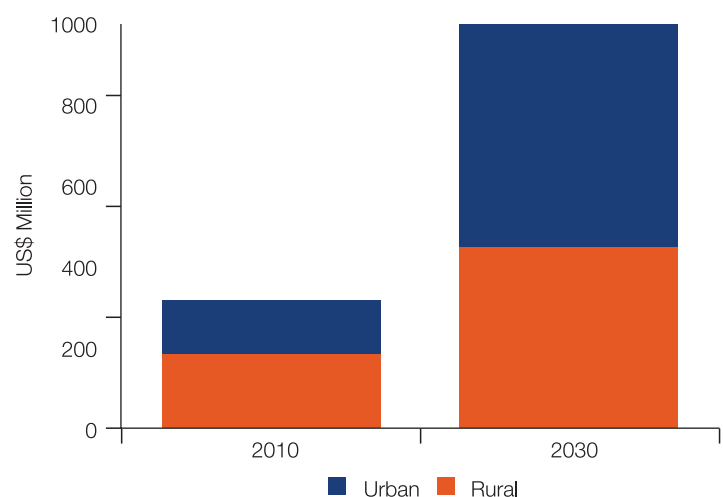
Urbanization and new consumption patterns have fuelled a sharp shift in diets beyond grains into non-grain foods, such as dairy, fish, meat, vegetables, fruit, and tubers, and heavily into processed foods. Despite the persistence of severe poverty, average incomes have risen and a middle class has emerged, further stimulating demand growth and diversification. The share of Africa's population in the middle class (with an income of US\$2-US\$20 a day in 2005 purchasing power parity, PPP, terms) rose from 24 per cent in 1990 to 33 per cent in 2008. As the population of sub-Saharan Africa was 495 million in 1990 and 822 million in 2010, this suggests an expansion of the middle class from 119 million to 271 million – more than doubling in two decades (Ncube et al. 2011).

Women are increasingly working outside the home and have less time to shop for and prepare food, while men often work far from home. The food-processing sector and fast-food segment have grown quickly as a result. Even the rural poor are buying processed foods: in ESA,

they spend 29 per cent of their food outlays on such food. Of processed food, 17 per cent is in the form of purchased milled grains classified as low-processed items, 48 per cent is non-grain low-processed foods and 35 per cent is high-processed food (Reardon et al. 2015).

Private investment in food systems is expanding quickly (World Bank 2013). What Reardon (2015) calls the “quiet revolution” in food supply chains spans retail, wholesale, first- and second-stage processing, packaging, branding and logistics. Also targeted for investment is the full range of product transformation functions: trucking, processing, storage and wholesaling. These transformations in food systems are very uneven among and within countries, with sharp differences in opportunity based on proximity to cities and access to key assets. Nevertheless, evidence suggests that farmers who are linked to growing urban and regional markets are investing in soil conservation, building organic matter in their soils, using productivity-enhancing seeds, breeds and fertilizers, and investing in irrigation and even sometimes machines (WFP 2015; World Bank 2013).

FIGURE 3.8 Projected food market growth in Africa to 2030



Source: World Bank (2013).

Developments in the rural non-farm economy

The rural non-farm economy plays a decisive role in the pace and quality of change (see the Introduction). Non-agricultural labour is six times more productive than agricultural labour in Africa – against 4.5 times in other developing countries, 3.4 times in middle-income countries and 2.2 times in high-income countries (Gollin et al. 2013). Rural diversification associated with movement into the rural non-farm economy and secondary towns in Africa reduces poverty more than does rural-to-urban migration, complementing the finding that agricultural growth reduces poverty more than does non-agricultural growth (Dorosh and Thurlow 2014).

As is the case with much of Africa's rapidly changing food systems, comprehensive data on Africa's non-farm rural economy are lacking. But case studies and recent analysis of LSMS-ISA data point to growth that is widespread yet constrained by a range of physical and institutional factors.

Rural non-farm enterprises are on average less productive than their urban counterparts. The vast majority of rural non-farm enterprises are small, informal, household outfits operated for managing and coping with risks in high-risk environments, and are hobbled by poor access to affordable financial services such as insurance.

Productivity varies hugely among them. Businesses in transport, hospitality, and professional services are more productive than agri- or sales businesses, but the former have high sunk costs that act as barriers to entry. Women, often more burdened by household tasks, may be additionally constrained. Moreover, these types of activities tend to be more risky and would not therefore attract the large majority of rural households that join the non-farm enterprise sector to minimize their agricultural risks. Non-farm enterprises in rural areas are also less likely than those in urban areas to operate year-round, and are almost twice as likely to cease operations owing to death or illness. Many African rural households are engaged mainly in high-risk, rain-fed farming. Faced with such risks, and a range of market imperfections, households increasingly diversify income sources to reduce farming risk

through non-farm entrepreneurship (Nagler and Naude 2014).

These findings confirm the need to distinguish between rural household income diversification motivated by "push" and "pull" factors (Haggblade et al. 2007, 2010). Diversification driven by push factors sometimes extracts a household from poverty, while that tied to pull factors is usually associated with an upward spiral of incomes and assets.

However, the rural non-farm business environment has many difficulties, including lack of basic infrastructure, inadequate credit and insurance markets, poor tenure security, and ethnic and gender disparities. Concerns that the push into rural non-farm activity may merely add the equivalent of subsistence-level non-farm activity to a risky and poor agricultural income base are valid. Even if the non-farm household enterprise sector can offer an escape from poverty in the best-case scenario, it may only be able to offer low-paying vulnerable employment.⁴³ If Africa's budding rural non-farm sector is to offer a ladder to more rewarding work in the local economy, it must also become a more reliable source of regular liquidity (Barrett et al. 2015).

Major inclusion challenges

Inclusion has many dimensions, including gender, race, ethnicity, disability, religion, sexual orientation and occupation. Exclusion from economic opportunity along any of these lines can be costly for society and painful for individuals. Exclusion correlates closely with poverty. Each dimension is relevant in most parts of Africa.

This section addresses three urgent challenges. One is unique to Africa: coping with the "youth bulge." The other two are features of all structural and rural transformation processes but have peculiarly African dimensions, given the continent's overall early stage of transformation. These involve coping with small and declining manufacturing sectors and overcoming deeply entrenched constraints on factor mobility. Cutting across all three challenges is Africa's urgent need for stable and remunerative rural jobs.

Coping with the youth bulge

A focus on young people is not a standard approach for an inquiry into inclusion. Young people are a heterogeneous group, and not all are excluded or disadvantaged. An approach focusing on ethnicity or gender would draw in young people as well as older generations. But because of the demographic trends in Africa, a focus on inclusion of young people is warranted.

The size of Africa's cohorts of young adults (aged 15-24 and 25-34) is unprecedented (figure 3.9). As noted, exclusion on grounds of personal attributes or experience is undesirable for many reasons, but exclusion of young people is especially so. The cost of lost opportunities for young people is compounded as today's excluded youth become tomorrow's poor. Traditional societies confer advantages on the elderly through customary rules and command over resources. These rules and customs often serve (unintentionally) to disadvantage young people, and because of their deep roots in traditional social relations, they may not even be explicit.

On the timeline of human settlement, Africa is the oldest continent, but in the twenty-first century it is also the youngest. Half of the population is under 25 years old, and each year until 2035 there will be half a million more 15-year-olds than the year before (Filmer and Fox 2014). This is in contrast to South Asia, where the population of those under 24 will roughly stabilize over the same period, and to East Asia, where it will shrink. (Shrinkage is shown as the very light pink and blue areas in figure 3.9.)

The majority of young Africans will be in rural areas until around 2035, after which urbanization and natural growth will shift the balance towards towns and cities (Losch et al. 2012). The rapid population growth will add an estimated 370 million entrants to the labour force between 2015 and 2030 (AfDB et al. 2015). About 65 per cent of young people now work in agriculture, and another 25 per cent in informal household enterprises. About 16 per cent of young people now hold waged jobs in the public and private sectors. Most of these jobs are in services, and only about 3 per cent of wage jobs

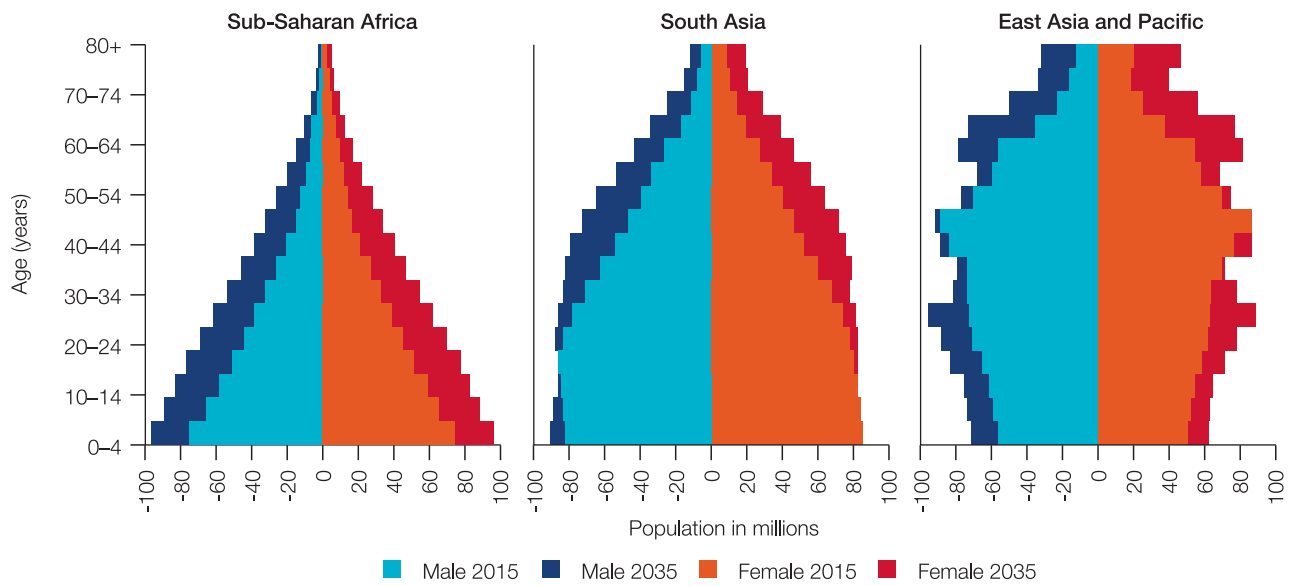
are in manufacturing, a considerably lower share than in other regions with comparable incomes. Among the best-educated cohort (those aged 15-24) half have not completed primary school (Filmer and Fox 2014).

Most young Africans grow up on farms and in villages. Many rural households pursue mixed livelihoods combining agriculture with off-farm employment. Agriculture is the major employer of both the young and not so young. Although young people quit agriculture when they see an opportunity elsewhere, demographic trends ensure that the number of young people staying on farms will grow. Thus attention should be on the challenges facing men and women who remain on farms, as well as those who leave them.

For those who remain on the farm, the inclusion challenge springs from their status as smallholders who face major disadvantages in linking to modern value chains because of their low volumes of sales, poor market information and limited ability to meet the high-quality and credence requirements of many high-value outlets. These farmers are also high-cost, high-risk agents who rely on private agro-dealers and rural financial institutions. In many cases, even those smallholders who can access new markets may face new sources of competition and exclusion from corporate actors with market power. Access to R&D, finance and rural infrastructure is critical, as is enhanced organization in markets and incentives for the private sector to link to a greater number of small farmers (Hazell 2012).

Agriculture presents special challenges owing to the low level of skills of young people, and because more experienced farmers who could mentor them often use outdated technology. Agricultural extension systems have traditionally been charged with training farmers and helping to introduce new technology, but have not had notable successes in recent years. Large public systems have been found to be expensive, poorly responsive to changing needs, biased towards men and patchy in their geographical coverage. Efforts to empower farmers to hire their own advisors are promising in theory, but in practice face high risks of political capture and

FIGURE 3.9 Population age structure in Africa and other regions



Source: Filmer and Fox (2014), based on United Nations (2011).

enmeshment in patronage. Farmer field schools have shown promise in some circumstances. Recently, volunteer farmer trainers backed up by extension workers have had success, including in reaching women farmers, but the impact of these programmes has not been rigorously tested (Lukuyu et al. 2012; Kiptot and Franzel 2014).

For young Africans who exit agriculture, the issue is employability and entrepreneurial capacity. Neither is assured. Basic skills are needed to create opportunities, along with capabilities to make the right decisions for seizing opportunities and achieving greater access to credit. The solution for the skills of future young adults is to raise the quality of education of those now in school while maintaining and raising enrolment rates. (That will do little for those already out of school, however.) Demand for labour services is essential for absorbing new entrants to the workforce, but such a shift in demand can be achieved only by a dynamic change in economic structure.

Coping with a small and shrinking manufacturing base

Countries undergoing structural transformation in the twenty-first century face a context quite

different from the nineteenth or twentieth centuries. Change has often been initiated by a productivity shock in agriculture that reduces costs of production, raises farm incomes and releases resources to other activities. A further driver enters when the non-agricultural sector boosts labour productivity and creates demand for new workers. Labour moves to higher productivity sectors in response to higher wages, and in the process raises aggregate productivity and growth even more. A transformation that depends not only (or primarily) on productivity growth within a sector, but also on migration of labour to sectors with higher productivity, yields rapid change (Rodrik 2013).

Historically, labour-intensive manufacturing sectors have been the most important destination of rural-urban migration. The manufacturing sector can achieve high levels of productivity even if other sectors are lagging behind (Introduction). As a latecomer to industrialization, Africa has a very small manufacturing base. Even if it grew quickly, the impact on overall employment would be small.

Although manufacturing should stay a priority for development in Africa, the fast-growing rural labour force will have to find jobs in agriculture, the rural non-farm sector

and services. The challenges of rapid labour force growth and manufacturing's weak capacity to absorb labour lead to tight constraints on inclusive structural and rural transformation.

During the transformation process, whether growth can be sustained as resources shift depends on how buoyant demand is in the sectors experiencing the productivity shock. If demand is constrained, the supply response will dampen prices, thereby attenuating new demand for labour, but the innovation will still create jobs in the more dynamic sectors.

Demand does not appear to be constraining Africa's agricultural growth, however. Food systems are changing rapidly to meet the rising demand and shifting preferences of middle-class urban consumers. The opportunity to produce and sell into growing local and regional markets is increasing. Continued rapid growth of imports shows that space is available for local farmers if they can produce competitively. Byerlee et al. (2014) estimate that urban food markets in Africa are set to increase fourfold to exceed US\$400 billion by 2030, with especially rapid growth in demand for rice, feed grains, poultry, dairy, vegetable oils, horticulture and processed foods, all of which are (or could be) produced locally.

The ability to sidestep any demand constraints will depend on the competitiveness of local production. Successful competition with imports will require attention to the logistical and policy gaps that reduce the performance of food processing, retailing and exports. Morris et al. (2009) find that in the vast area of Africa's Guinea Savannah – agro-climatically similar to Brazil's Cerrado zone – primary agricultural production is competitive, but competitiveness is lost after the farm gate. Uncompetitive production will be blocked by high costs, or alternatively poor quality. Bypassing demand constraints thus comes back to more rapid technical change in primary production, coupled with investment in infrastructure for logistics and policy and regulatory reform in food processing.

Overcoming barriers to factor mobility

When innovation disrupts the established factor proportions in different sectors, whether they move depends on the costs of mobility. Factors can move within a sector, if technical change creates opportunities for internal adjustment, or between sectors in response to gradients in productivity and returns. The critical resources are land, labour (and the skills embodied in labour) and capital. The mobility of these resources determines whether change occurs, and their ownership and accessibility determines its inclusiveness.

Land is especially important, given the central importance of agriculture to inclusive transformations. Farm operators who already have land can introduce new technologies and management to increase productivity. This is common when land is very expensive or markets function poorly and access to new land is blocked. With sufficient capital and good skills, small, intensively worked farms can be efficient and profitable, as many studies have shown. But farms that fragment to accommodate young family members rapidly reach limits to efficiency, unless opportunities off the farm are sufficient to support part-time farming.

Considerable concern has been expressed about foreign investors purchasing land in conditions often characterized as "land grabs." Schoneveld (2014) documents 563 projects in 37 countries since 2005 covering 22.7 million hectares, of which 19.2 million hectares have a foreign firm as the sole or majority shareholder. The median project size is 12,300 ha. This area accounted for about 10 per cent of the total area under cropland in sub-Saharan Africa in 2012.

Yet, less well publicized, but perhaps of greater importance, is the rapid consolidation of landholding and transfer of ownership from traditional tenure to individual freehold by nationals, rather than outsiders. Jayne et al. (2014) studied land transactions in detail in Ghana, Kenya and Zambia. They found that in each country, the area recently acquired and now controlled by national medium-sized farmers (with holdings of 5-100 ha) is roughly twice that of the large-scale foreign acquisitions. At the same time, the number

of farm households with the smallest holdings has increased in each country: in Kenya, the number of households with less than 1 hectare doubled from 1 million to 2 million between 1994 and 2006. Farm structure is changing fast, with growth at both tails of the size distribution. The number of operators is growing at the lower tail, and cultivated area is shifting to the higher.

The increasing number of very small farms is caused by fragmentation of family holdings as young adults reach working age. In contrast, those acquiring medium-sized and larger farms do so through purchase, although some also started with larger-than-average holdings and have added to them. The people able to buy land for medium-sized holdings are a diverse group. In both Kenya and Zambia, about 60 per cent of the new owners have primary employment outside agriculture, often in the civil service, and 40 per cent are existing farmers adding to their acreage. Most of the latter group started with relatively large holdings through inheritance. In Ghana, the proportion of those operating medium-sized farms that started with fewer than 5 hectares is higher, suggesting more opportunities to transition from small to medium scale. Operators of the medium-sized farms in this sample cultivate half or less of their available area. The land consolidation does not yet appear to be creating a class of commercially viable and technically advanced farm operators.

One could conclude that the emerging farm ownership structure in many countries is not inclusive of young people and does not promote technical change. The smallest farms are more numerous and are unviable, except as part-time farms. The large farms could be commercially viable and offer opportunities for waged employment, but the way they are managed casts doubt on this. Owners of large and medium-sized tracts could rent out the portions they do not cultivate themselves, and thereby create opportunities for young people to enter farming through rental agreements. Working with LSMS data, Deininger et al. (2015) find that 10-20 per cent of farm operators rent in at least some land, and that this is most prevalent among those with very small holdings. Idle area on medium-sized and large holdings, where rental

markets function reasonably well suggests that land markets are not moving land into more productive use. Land markets are failing because many potential participants have limited access, and because gains to speculative landholding are greater than the costs of managing rental contracts. In the presence of these failures, large areas are already converted and more conversion is likely.

Mobility of *labour* depends largely on the workers' skills. Young Africans of this generation have spent more years in school than their older relatives. The doubling and tripling of primary school completion rates since 1990 is a remarkable achievement. The *quality* of education, however, has not improved commensurately, with the result that even those who complete school may have learned little that they can use to better their lives. Problems of quantity and quality of schooling in rural areas are more severe than in urban areas: about 60 per cent of those under 35 in rural areas have incomplete primary school and many struggle with basic literacy and numeracy (Filmer and Fox 2014). The least educated remain in agriculture, and those with slightly better skills gravitate towards non-farm employment.

Capital is sufficiently mobile between sectors and over national boundaries, due to the banking sector, that poor capital mobility is not a major constraint to transformation. The difficulties that poor people face in accessing banking services are well known: distance to branches, high costs of small transactions, absence of collateral, asymmetries of information and more. All of these difficulties are greater for young people. Recent developments in branchless banking, electronic fund transfers, biometric identification and communications provide technical fixes. A number of non-governmental organizations (NGOs) and aid agencies (including IFAD, box 3.1) have piloted approaches to financial inclusion that are relevant to young people. These include bundling of financial services and skills mentorship, credit and self-help groups, partial guarantees, and other instruments. Careful monitoring of the success of different approaches will help identify those that can be scaled up.

BOX 3.1 Youth employment in West and Central Africa

IFAD's work in West and Central Africa reaches out to young people with the aim of enabling them to develop sustainable rural livelihoods and participate more fully in community affairs. IFAD focuses on multiple entry points so young people can obtain decent jobs in the rural economy.

In The Gambia, for example, projects are working with youth *kafos* (traditional village groups) to increase access to productive land. Through these *kafos*, young people gain access to land that they can cultivate. The projects rehabilitate existing vegetable gardens to improve production and provide training to *kafo* members in best practices and marketing of vegetables. Youth *kafos* also receive starter kits with seeds, fertilizers, chemicals and small tools, as well as small equipment for watering, transporting and preparing produce for markets. To secure these lands, the projects support land registration with written agreements between the *kafo*, traditional authorities and local governments.

In Sierra Leone, IFAD supports assistance for young people through financial services associations. Each association in the programme has a manager and a cashier from the local community who must be 21 to 29 years old. The programme provides for their training. Hiring young people is seen as an investment in the associations' sustainability, helping to integrate them with their communities.

In Nigeria, an IFAD-supported programme fostered a new category of entrepreneur-cum-mentor called the N-Agripreneur. These are dynamic university graduates who own and run small enterprises. Their role is to act as intermediaries between small, market-oriented farmers, mostly youth, and large agro-industries and wholesalers.

As part of their mandate, the N-Agripreneurs make their business available both as an engagement platform for business development services to producers, especially young people who are interested in agro-based activities, and as a knowledge-sharing arena for farming communities. The project has supported the creation of an "inter-state youth in agriculture" platform to facilitate the sharing of knowledge, experiences, and expertise between young entrepreneurs and market-oriented farmers.

Source: IFAD (2015).

Transformation and inclusion

Barriers to inclusive structural and rural transformation in Africa are myriad and complex. This section explores the extent to which this report's core hypotheses on inclusive rural transformation are borne out in Africa. As in the other regional chapters, the focus is on linkages among structural transformation, rural transformation and inclusion, as captured by rural poverty.

Structural transformation is measured as the average annual percentage change of non-agriculture in GDP over 1995-2015. Rural transformation is measured as the average annual percentage change in agricultural labour productivity as captured by agricultural value added per worker. For both, a positive value

represents more transformation. Inclusion is measured as the average annual percentage change in the extreme (US\$1.25/day) rural poverty rate. A larger negative value represents a greater reduction in rural poverty.

Table 3.4 shows performance on these three indicators for 15 countries in ESA and 12 in WCA. Performance in each case is analysed relative to averages across all countries for countries in their subregion.

Those countries showing more rapid reduction in rural poverty (Ethiopia, Malawi, Tanzania, South Africa, Cabo Verde, Cameroon, Namibia, Burundi, Uganda, Guinea, Burkina Faso, Mali, Senegal, Rwanda and Mozambique) show rapid structural transformation, rapid rural transformation or both. In no country has rural

TABLE 3.4 Distributions of countries' outcomes for transformation and inclusion in Africa

Speed of structural and rural transformation		Rural poverty reduction	
		Fast	Slow
Fast structural transformation	Fast rural transformation	Cabo Verde	Congo
		Cameroon	Nigeria
		Ethiopia	
		Malawi	
		South Africa*	
		Tanzania	
	Slow rural transformation	Burkina Faso	Botswana*
		Burundi	Lesotho
		Guinea	Mauritania
		Mali	Zambia
		Namibia*	
		Senegal	
		Uganda	
Slow structural transformation	Fast rural transformation	Mozambique	Benin
		Rwanda	Swaziland
	Slow rural transformation		Central African Republic
			Kenya
			Madagascar
			Sierra Leone
			Togo

Notes: fast structural transformation refers to countries with above-average rates of structural transformation for ESA and WCA. Slow structural transformation countries are those with rates below average for their regions. Rural transformation and poverty reduction are also measured relative to averages for each region. ESA countries are black; WCA countries are shown in orange.

* denotes the three African countries that, as described in the Introduction, are automatically classified as having fast structural transformation because their initial share of non-agriculture in GDP exceeds 90 per cent.

Source: authors.

poverty declined significantly without rapid structural or rural transformation. Rwanda and Mozambique registered relatively slow structural transformation but fast rural transformation and thus were able to reduce poverty significantly, pointing to the critical role of rural transformation for inclusion (and supporting the report's core hypotheses).

In contrast, Nigeria and Congo registered significant structural and rural transformation but achieved less than average reduction in rural poverty. Other moderate or slow reducers of rural poverty are Botswana, Lesotho, Zambia, Mauritania, Swaziland and Benin, which experienced either rapid rural transformation or above-average structural transformation but with little impact on rural poverty. The Central African Republic, Kenya, Madagascar, Sierra Leone and Togo showed less than average structural transformation, rural transformation and reduction in rural poverty.

These results confirm the report's hypotheses that countries experiencing rapid structural and rural change will see rapid reduction of rural poverty, and those with little change in either dimension will not. However, the countries in the middle – those with rapid structural or rural change but poor performance in poverty reduction – can provide an important insight into the nature of transformation and its inclusiveness.

Structural transformation without technical dynamism through innovation in agriculture is a common feature of the countries in this middle territory. In many cases this entails labour going from poor farms into the informal and service sectors that offer little improvement in earnings. Similarly, increased agricultural production without concomitant dynamism in other sectors is likely to be choked off through demand constraints. Even if rural and structural transformations are moving rapidly, many will not be in a position to benefit. The number of such left-out people will be sharply cut if systemic barriers blocking opportunities for young people can be diminished or removed. Additional measures are needed to actively engage these people.

Conclusions and implications for policy and investment

The generally positive narrative about Africa's prospects is valid, but must be tempered by recognition of challenging trends that threaten continued progress. Unlike other regions, Africa's trajectory of successful long-term structural transformation will start from agriculture and move through *services* and then to a more diversified manufacturing sector, thereafter reverting to expansion of highly skilled services. If expansion of the already small manufacturing sector is blocked by infrastructure gaps and regulatory interference, transformation driven by that sector will likely stall as the service sector reaches its expansion limit. In any scenario, however, agriculture will continue to play a greater role than elsewhere, because factor proportions and comparative advantage favour it. But how well the sector can realize its potential will depend largely on efforts to accelerate technical innovation.

The agricultural production that still accounts for one quarter of the continent's GDP remains largely untransformed, hobbling the rural non-farm economy, especially rural SMEs that could be potent sources of jobs and incomes. Comprehensive rural transformation in agriculturally dependent countries is constrained when not led by technical dynamism. With few exceptions, such dynamism is weak in African agriculture despite recent acceleration. In addition, mobility of factors (especially land) among alternative uses constrains rural transformation. So growth has not been as effective in reducing poverty as it would have been had agricultural productivity grown faster. The impediments to structural and rural transformation are particularly hard on young people entering the labour force in record numbers.

Public policy and investment must focus on two elements: leveraging burgeoning demand emanating from urbanization and dietary diversification to deepen employment in the rural non-farm economy, and developing inclusive food supply chains to provision ever-increasing numbers of consumers. Rural suppliers need to sell to sources of dynamic,

growing demand, especially to domestic urban markets.

Broad objectives and priorities for policy and investment include improving market performance and meeting new demands, enhancing access to land and tenure security for smallholders and investors, financing agribusiness, upgrading infrastructure, using public-private partnerships where possible, building skills and entrepreneurship, and making agribusiness inclusive by integrating market-oriented smallholders and rural communities into dynamic value chains. The many measures required have been well set out in several recent publications, notably in World Bank (2013), Yumkella et al. (2011), the African Center for Economic Transformation (ACET 2014), United Nations Conference on Trade and Development (UNCTAD 2015), and the UK Department for International Development (DFID 2015).

Given the pivotal role of agriculture and the non-farm rural economy in promoting inclusive transformation throughout Africa, the core goal must be job creation, which can be achieved through various pathways. Focusing on rural youth, it is useful to distinguish between those who stay on farm and those who leave.

Improving prospects for tomorrow's farmers entails more intensive and profitable management of existing farms, backed by measures that enhance access to improved technology, markets, finance, information and physical infrastructure. Most young African farmers lack clear and secure property rights. Recent progress in land administration and documentation of tenure rights must be sustained. Rental markets are functioning, but they must be strengthened and deepened to counter the rapid increase in the number of farms too small to be economically viable as primary occupations. Special attention must be paid to the needs of women farmers – both young and old – on whose shoulders rest many farm activities and household chores. Closing enduring gender gaps in access to core assets, inputs, and services is vital. Investment in the agricultural science community must accelerate, with special attention given to promoting the

entry of large numbers of well-trained men and women in their 20s and 30s.

As for the Africans who exit farming – or who would like to – their employability and their entrepreneurial capacity remain in question. A major need is to build skills – a need far broader than the traditional focus on access to and quality of basic education (Kharas 2014). To enhance employability, targeted improvement of key technological skills, vocational training for jobs in the commercial sector, and basic “life skills” for success in the working environment are required. Young people also require support to start and run a business, with an emphasis on basic business skills like planning, marketing, accounting and negotiating. Beyond improved skills must be greater access to financial services.

Africa's rural youth are largely self-employed in the informal economy. Growth and deepening of that informal side should be supported, with a focus on the rural SMEs that must provide jobs and incomes over the next few decades. Street vendors need space, sanitation facilities, lighting and security. Food purveyors and their customers need basic enforcement of food safety rules and electric power for cooking and refrigeration. Many informal enterprises would benefit from regularized shared space with basic infrastructure amenities, including those on transit routes, as well as transparent enforcement of regulations by public officials.

Attracting private investment into agriculture and the rural non-farm economy is vital. But many agricultural regulations in Africa actually serve to deter rather than encourage such investment (AGRA 2012). Reforming the rules that limit private entry and investment in value chains that serve smallholders must be a priority, and innovation in the communications technologies favoured by youth must continue.

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