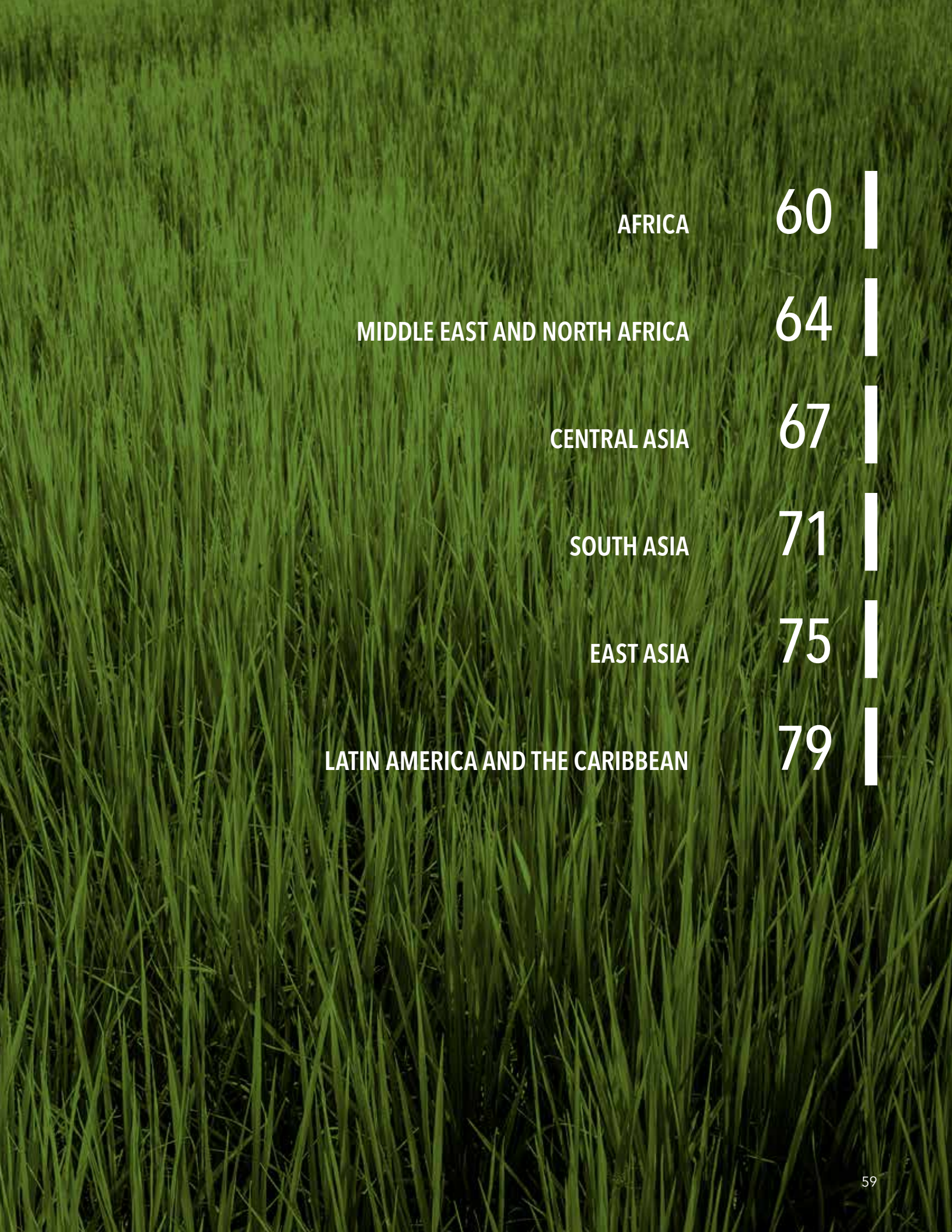
REGIONAL DEVELOPMENTS

2016 saw important developments with potentially wide repercussions for food security and nutrition in individual countries and regions. This section offers perspectives on food policy developments across the major regions: Africa, the Middle East and North Africa, Central Asia, South Asia, East Asia, and Latin America and the Caribbean. Urbanization trends and related impacts on food security and nutrition are presented for each region. The individual regional sections cover many other critical topics:

- Acceleration of cooperation and investment in Africa to improve food security in the face of climate challenges and low commodity prices
- Continuing conflict in the Middle East and North Africa, while some countries begin to face policy reform needs and realities of low oil prices
- Central Asia's promotion of agricultural diversification and regional integration to increase economic resilience
- South Asia's rapid growth and new investments and policies in the agriculture sector
- Urbanization, changing diets, and regional growth in East Asia
- Recession in major economies of Latin America and the Caribbean along with El Niño's effects on regional prospects



Africa

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The year 2016 was challenging for many African countries as they continued to adjust to lower commodity prices and more limited external finance. Overall gross domestic product (GDP) growth for Africa south of the Sahara was expected to reach only 1.4 percent in 2016, representing a sharp break from the high growth rates the region had enjoyed since the 2000s. The low growth was concentrated in the half of African countries that are major exporters of oil and mineral resources; most non-resource-exporting countries continued to grow at strong rates in 2016 (Figure 1).[1] In some resource-exporting countries, slow adjustment to changing conditions led to shortages of foreign exchange and rising government debt.[2]

Measures of poverty, hunger, and malnutrition improved steadily but slowly throughout the faster growth period of the 2000s and the recent economic deceleration. The share of the population that is malnourished dropped from 22.2 percent in 2003 to 16.3 percent in 2015.[3] Measures of child malnutrition declined but levels remain high, with the rate of stunting (low height-for-age) in children under five years at 33.7 percent in 2015. Africa south of the Sahara remained the region with the most serious levels of hunger, as measured by the Global Hunger Index (GHI), although its GHI score improved significantly over the past decade.[4] Poverty, measured by the headcount ratio at US$1.90 per day, dropped from 46.5 to 40.1 percent between 2003 and 2015.

Africa continued to show steady growth in agricultural value added, although annual average growth during the 2008–2015 period (3.35 percent) was lower than in the 2003–2008 period (4.67 percent). The continent as a whole did not reach the Maputo Declaration target of 6 percent annual agricultural growth, although 11 individual countries met the target during 2008–2015.

Similarly, Africa as a continent did not meet the Maputo Declaration target of allocating 10 percent of public expenditure to agriculture. The average share of agricultural expenditure declined from 3.6 percent in 2003 to 2.6 percent in 2014. Absolute levels of agricultural expenditure did increase over the period, however. This increase occurred despite the impacts of the global financial crisis of 2008–2009, the decline in official development assistance received, and more limited fiscal resources in general, as well as the high demand for public spending on other social services. Five countries met the target during the 2003–2008 and 2008–2014 periods, and several more came close.

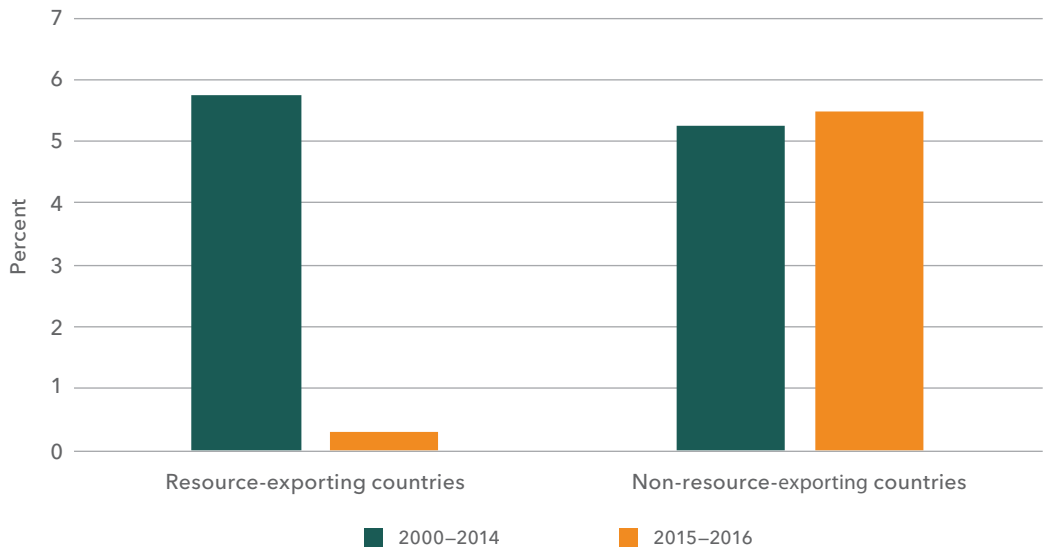
CONTINENT-WIDE EFFORTS TO ACCELERATE CAADP

The year 2016 kicked off with a continent-wide campaign called "Seize the Moment" to accelerate implementation of the Comprehensive Africa Agriculture Development Programme (CAADP) and help ensure impact at the grassroots level. Led by African governments, the African Union Commission, the New Partnership for Africa's Development (NEPAD) Planning and Coordinating Agency, the African Development Bank, and the Alliance for a Green Revolution in Africa, the campaign seeks to keep agriculture as a priority and secure necessary political, policy, and financial commitments to achieve goals outlined in various national, continental, and global agreements, including national agriculture and food security investment plans.

The Seize the Moment campaign also seeks to enhance progress toward mutual accountability, under which stakeholders track their commitments and hold each other accountable for results and impact on the ground. The campaign has increased momentum for planning the first CAADP Biennial Review.

In addition to putting systems in place to support countries planning their second-generation agriculture and food security investments, the

FIGURE 1 Annual average GDP growth, 2000–2014 and 2015–2016



Source: Authors, based on data from IMF World Economic Outlook database, accessed October 31, 2016, www.imf.org/external/pubs/ft/weo/2016/02/weodata/index.aspx.

Notes: Includes projected and estimated data from 44 countries in Africa south of the Sahara (excluding South Sudan), grouped as resource-exporting or non-resource-exporting. Country growth rates are weighted by each country's share in overall group GDP. GDP =gross domestic product.

African Union Commission and the NEPAD Planning and Coordinating Agency laid out a roadmap for the Biennial Review process. The International Food Policy Research Institute (IFPRI) and Regional Strategic Analysis and Knowledge Support Systems (ReSAKSS) are providing technical support to countries and regional economic communities in the preparation of Biennial Review reports and second-generation investment plans. A task force comprising leading experts from IFPRI and other institutions will provide training, backstopping, and quality assurance for local and regional experts to support country-level analytical work.

DROUGHT IN EASTERN AND SOUTHERN AFRICA

The 2015–2016 El Niño event, one of the strongest on record, caused severe drought in southern and eastern Africa as well as flooding in parts of eastern Africa. Although the event ended in early 2016, its impacts on global weather patterns continue to affect agricultural production and food security. Countries across eastern and southern Africa experienced poor harvests in 2016, leading to rising food prices. Several governments declared national emergencies and issued appeals for humanitarian aid. For example, the Ethiopian government and development partners called for aid in August 2016 for 9.7 million people in need of food and other assistance.[5] As of November 2016, the Southern African Development Community (SADC) projected that 41 million people in southern Africa would be affected by the drought in 2016–2017, of whom 28 million were already in need of immediate humanitarian assistance.[6] Although millions of people across the region were reached by humanitarian aid, large funding gaps remained, and the Famine Early Warning Systems Network (FEWS NET) projected that crisis conditions would persist in a number of countries throughout 2016.[7]

The drought highlighted the urgent need to increase the resilience of communities and countries, given the increasing frequency of climate shocks. SADC's Regional Humanitarian Appeal described progress made in establishing national resilience strategies in Malawi, Lesotho, and Zimbabwe, and called for further efforts to enhance resilience. These could include agricultural and financial innovations such as climate-smart agriculture, weather insurance,

and collective group savings, as well as strengthened social services and social protection systems.[8]

URBANIZATION, FOOD SECURITY, AND NUTRITION

Africa has been urbanizing rapidly for several decades, and the trend is expected to continue. The number of people living in cities nearly doubled between 1995 and 2015, and the urban population is expected to nearly double again over the next two decades.[9] Cities offer potential impetus to economic growth, but careful policy action is needed to ensure that benefits are realized. Urbanization in Africa appears to differ in some ways from that seen in other regions. City growth in Africa has been less concentrated, with small- and medium-sized cities growing faster than large cities.[10] For example, in rapidly urbanizing western Africa, 40 percent of the region's urban population lives in metropolitan areas, while the other 60 percent lives in secondary cities, often found near large cities and along highways and transport corridors.[11] A 2007 World Bank study found that urbanization is associated with falling poverty in most developing regions, but to a much lesser extent in Africa south of the Sahara.[12] Urbanization is often driven by rising agricultural productivity in rural areas and increasing industrial activity in urban areas, but neither of these trends has been as pronounced in Africa as in other regions.[13] Also, capital investments in Africa remain low compared to other developing regions, some of which increased infrastructure investments during periods of rapid urbanization and experienced greater poverty reduction.[14] Nonetheless, recent findings indicating that migration into smaller towns may be associated with more inclusive growth bode well for Africa. For example, a study from Tanzania and another study looking across developing countries found that migration to secondary towns or the rural nonfarm economy has a much larger effect on poverty reduction than does migration to metropolitan areas.[15]

One important potential benefit of urbanization in Africa, alongside the growth of a middle class, is the increasing demand from urban food markets for agricultural products. Urban areas account for a disproportionate share of food demand.[16] Demand for processed and nonperishable foods increases sharply as incomes rise, which presents opportunities for the expansion of value added and employment in post-farmgate segments of food value chains, such as processing.[17] Evidence exists that domestic small and medium agribusiness firms are increasingly active in storage, processing, transport, and wholesale and retail activities catering to urban markets.[18] To realize the employment and income benefits of growing urban food demand, though, domestic producers and firms must be able to respond to that demand rather than lose the opportunity to imports.[19] Necessary policy responses include urbanization strategies and urban planning to ensure the adequacy of infrastructure and services, as well as measures to enhance agricultural productivity, both on-farm and in processing and other downstream segments of value chains, to enable domestic producers to meet growing food demand.[20] Moreover, increased investments in basic market and road infrastructure services in small- and medium-sized cities that are more closely tied to the rural nonfarm economy are key for more inclusive growth, employment opportunities, and poverty reduction.

Urbanization and a growing middle class are associated with a dietary transition toward increased consumption of processed and animal-based foods, which can lead to serious nutritional challenges in the form of overweight and obesity. Over a dozen African countries already face the double burden of malnutrition characterized by the coexistence of undernutrition with overweight and obesity.[21] Although the double burden of malnutrition typically emerges as countries achieve middle-income status, evidence is growing that the problem is now emerging at earlier stages of countries' economic development.[22] African countries need to formulate food and agriculture policies that address food security without exacerbating the potential for overweight and obesity.

KEY CHALLENGES AND THE WAY FORWARD

Sustaining CAADP's momentum and realizing the ambitious 2014 Malabo Declaration commitments will require countries to intensify their implementation efforts and meet funding targets.[23] Countries will need to address challenges arising from limited technical and institutional capacities in planning and implementation as well as weak interministerial

coordination, and also strengthen mutual accountability platforms.[24]

Moderately higher growth is expected for Africa in 2017, but with commodity prices expected to remain low in the medium term, countries will need to adjust to a long period with a markedly different external environment than that of the 2000s. Countries that have been hardest hit, particularly oil exporters, will need strategies to restore macroeconomic stability, while countries still showing strong growth will need to be wary of their own rising debt and consider building buffers to guard against future crises.[25]

The severe drought in eastern and southern Africa and the scale of humanitarian need underline the urgency of strengthening the resilience of communities in the face of climate shocks. Efforts are underway at the continental and national levels to meet the Malabo Declaration commitment of enhancing resilience of livelihoods and production systems. The Africa Climate-Smart Agriculture Alliance, launched by the NEPAD Planning and Coordination Agency in 2014 in partnership with international research institutions and nongovernmental organizations, is working to develop national plans to scale up adoption of climate-smart technologies and practices in a number of countries. The African Union Commission and NEPAD Planning and Coordination Agency are coordinating technical support to help countries incorporate climate-smart agriculture into the next round of national agriculture and food security investment plans.

In light of urbanization, the rise of a middle class, and growing demand for processed and perishable foods, the private sector can play a key role in the food supply chain, operating in the processing, wholesale, retail, and transport segments. Governments must continue to improve the environment for private sector investments in agriculture and agribusiness through policy reforms that, for example, provide secure land tenure and favorable terms to access credit, or reduce barriers to licensing and input importation. Investments in infrastructure, such as roads and electricity, in cities of all sizes are critical. Policy reforms that encourage the consumption of healthier foods are also needed to address the double burden of malnutrition, in view of changing dietary patterns.

Middle East and North Africa

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In the Middle East and North Africa (MENA) region, conflict and insecurity remained the key barriers to development progress in 2016. Although the world as a whole is reportedly a safer, less conflict-ridden place than at any other time in history, the MENA region suffers from continuing and increasing warfare.[1] Conflict remains most intense in Iraq, Libya, Syria, and Yemen, where the World Food Programme estimates that 40 million people (or about half of the population) are in need of humanitarian assistance.[2] Most other MENA countries are also directly or indirectly affected by conflict. The ranks of internally displaced persons as well as refugees fleeing conflict and its consequences have swelled to more than 25.5 million in the region.[3] Jordan and Lebanon shelter most of these refugees, at significant economic cost and with associated social tensions, despite some positive externalities created by refugees—including increases in local demand for goods that trigger production and jobs and an influx of international assistance.[4] Heightened regional security threats have also reduced the confidence of national and international investors and hampered the vital tourism sector in several countries, including Egypt and Tunisia. And there are signs of possible weakening of international support for relief and refugee assistance.[5]

LIMITED BENEFITS FROM LOW GLOBAL OIL AND FOOD PRICES

Continued low oil prices presented both a challenge and an opportunity for the region. Oil exporters such as the Gulf Cooperation Council countries and Algeria made steep spending cuts as their ample surpluses turned into significant deficits; these cuts may provide a starting point for reforms to promote sustainable economic transformation.[6] This need for economic transformation impelled 15 MENA countries to implement a total of 35 domestic reforms to facilitate the ease of doing business, a substantial increase over the annual average of 19 reforms over the past five years.[7] Oil-importing countries, on the other hand, had difficulty ensuring net overall gains from the prevailing low oil prices. Some countries, such as Egypt, seized the opportunity and reduced fuel subsidies, but these gains for the budget and people were largely offset by slowing remittance and foreign aid inflows from the oil-exporting Gulf countries.[8] In addition to reductions in fuel subsidies, Egypt implemented a courageous and comprehensive macroeconomic reform program that included introduction of a value-added tax and a floating exchange rate regime.

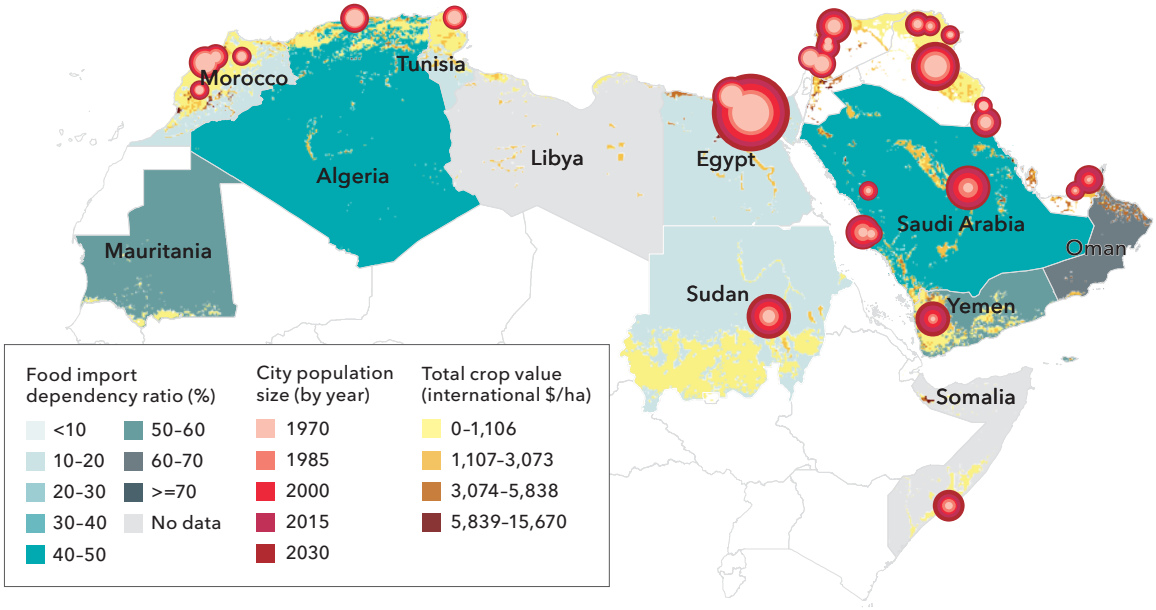
Continued low global food prices should benefit MENA countries, which are all net food importers (Figure 1). In countries experiencing conflict, however, reduced agricultural productive capacity and disrupted trade routes drove up the prices of both locally produced and imported staples.[9] Other developments also limited the impact of low global food prices. Morocco and Somalia experienced drought conditions that had serious effects on crop output, grazing resources, and livestock.[10] In Egypt, partly as a result of the macroeconomic reforms mentioned above, consumer price inflation reached 16.4 percent year-on-year in August 2016.[11] Some of the effects of rising prices were buffered by the Egyptian government's increased food subsidy allocation and its new cash transfer program, Takaful and Karama (Solidarity and Dignity).[12] While these measures are important to protect the poor in the short run, better targeting of food subsidies and, potentially, a move toward targeted cash transfers in the medium run would make Egypt's social safety net spending more effective and efficient.

POPULATION GROWTH, URBANIZATION, AND FOOD SECURITY

Rapidly growing populations and the related increase in food consumption are likely to increase MENA countries' dependence on food imports. Countries with sizable agriculture sectors, such as Egypt, Morocco, Sudan, and Tunisia, generally have a low food import dependency ratio of between 10 and 20 percent—that is, food imports account for 10 to 20 percent of food consumption (Figure 1).[13] The import dependency ratio of all other MENA countries exceeds 30 percent, with Iraq, Mauritania, Oman, and Yemen reaching about 50 percent, and Gulf countries such as Djibouti, Kuwait, and the United Arab Emirates reaching up to 70 percent. Over the past 40 years, the import dependency ratio remained relatively constant in most MENA countries, largely due to rapid increases in crop yields and, in some cases, policy changes that allowed market forces to trigger the production of higher-value crops. Scope still remains for increasing agricultural output in the region—but additional land and water resources for crop production are limited; climate change is expected to reduce crop yields; and fast-growing cities are encroaching on (often fertile) agricultural land.[14] To ensure future food security, MENA countries should be prepared to import more food from international markets in the near future.

The share of people living in urban areas is projected to overtake the share living in rural areas in most MENA countries by 2030—with the notable exceptions of Egypt, Somalia, Sudan, and Yemen. In combination with population growth and rising incomes, urbanization can be expected to increase the demand for processed foods. This likely trend provides an opportunity for agroindustry-led economic transformation in the MENA region to generate employment opportunities, improve food security, and reduce poverty.[15] To support such a transformation process, the business climate will need to be improved. Providing a conducive legal

FIGURE 1 Food import dependency, agricultural value added, and city growth in MENA



Source: Arab Spatial 2016. Prepared by Ecker and Guo (2016) based on data from UN-DESA (United Nations Department of Economic and Social Affairs, Population Division), World Urbanization Prospects: The 2014 Revision (2016), https://esa.un.org/unpd/wup/CD-ROM/; FAOSTAT (Food and Agriculture Organization of the United Nations, Statistics Division), Food Balance Sheets, http://faostat3.fao.org/download/FB/*/E, both accessed on September 14, 2016; L. You, U. Wood-Sichra, S. Fritz, Z. Guo, L. See, and J. Koo, Spatial Production Allocation Model (SPAM) 2005 v2.0., October 27, 2016, http://mapspam.info.

Notes: Cities are defined here as urban agglomerations with more than 1 million inhabitants in 2015. For more information on calculation of the food import dependency ratio, see endnote 13.

framework, adequate infrastructure, and an attractive tax environment can create incentives for the private sector to invest in agroindustries. Establishing one-stop shops for property registration and investment advisory services can accelerate the process of starting a business. And empowering local governments can promote development of local agroindustrial clusters and industrial parks.[16] In the case of food processing industries, increased enforcement of food safety regulations and consumer protection should be encouraged.

From a political economy point of view, the growing importance of agroindustries may increase the "weight" of urban areas in the MENA region in influencing national food security strategies—furthering the rural-urban synergy and balancing the impact of national and local actions. This would be consistent with the global trend in urban food security. In an effort to promote more sustainable city growth and expansion of food supplies, a number of MENA cities (including Algiers, Dubai, and Tunis) joined the Milan Urban Food Policy Pact, which links more than 125 cities worldwide—with a total population of more than 460 million—in pursuit of new urban development principles.[17] The pact follows on UN-Habitat's call for increased devolution of powers to cities and better linkages and integration of cities with their regional environments and economies. Such initiatives, along with continued and longer-term efforts for effective family planning, offer some hope for better urban dynamics in the MENA region.

OUTLOOK FOR 2017

Whether through the intensification of war operations or the success of fledgling peace-building efforts, 2017 can be expected to be a decisive year for at least some of the countries most affected by war—Iraq, Libya, Syria, and Yemen. The international community should stand ready to support post-conflict reconstruction plans and increase its support to those MENA countries hosting refugees. Tackling the root causes of conflict (and thus a major source of refugees) must be a key part of a comprehensive strategy for the MENA region. Such development collaboration should focus on policies and investments that address poverty, unemployment, and food and nutrition insecurity as economic causes of conflict and discontent. In addition, those countries suffering from spillover effects of regional security threats and related macroeconomic challenges should be encouraged and supported in implementing their domestic reform agendas.

The ongoing economic challenges are a reminder of the high food import dependency of all MENA countries. Assuming that the global prospects for food commodities continue to be positive into 2017, the MENA region should have no problem—on average—producing and importing sufficient food, especially in countries and areas with no conflict. But the region should start preparing strategies to deal with growing food import dependence, especially in view of rapid urbanization and population growth. Such strategies should include: reconsideration of unsustainable production support policies favoring the production of staple foods at all costs; improved targeting of subsidies toward food and nutrition security of the poor; investment in grain reserves, hedging, and diversified food import portfolios; export-led growth to earn foreign exchange for food imports; and economic transformation that creates opportunities for rural (and increasingly urban) households to earn income from nonagricultural sources.

Today's challenges are not new, but the region has not yet found ways of addressing them. Perhaps some new thinking can emerge from the dialogue between the region and the "outside" world. To that end, three thought-provoking questions may offer some ways forward for the region: (1) Can the international fatigue with respect to external donations to refugees in the region be compensated—or perhaps averted—by an increase in the level of support from the region itself? (2) Can MENA countries and the European Union, as neighboring regions, revive and strengthen their longstanding links—especially in the areas of investment, tourism, food trade, and development cooperation? (3) Can MENA countries—especially the non-oil-exporting countries—use the current respite from high commodity prices and the challenges posed by fundamental macroeconomic problems to engage in long overdue structural reforms? Many countries in the MENA region are at a critical crossroads, and 2017 may be a decisive year for determining the long-term direction these countries take.

Central Asia

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Since late 2014, the Central Asian countries—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—have been adjusting to severe external shocks, particularly declining commodity prices (oil, natural gas, and gold) and economic slowdowns in the region's key trading partners (Russia and, to a lesser extent, China). While slight recoveries in commodity prices provided some economic stability in 2016, policy makers continue to deal with the impact of the shocks on the region's households, which have been directly affected through remittances and exchange rates.

This has had clear implications for food security, especially in rural areas. While urbanization rates vary across the five countries, ranging from 27 percent in Tajikistan to 53 percent in Kazakhstan, roughly three-fifths of all Central Asians live in rural settlements.[1] The rural population also accounts for the majority of labor migrants from Central Asia, who have encountered fewer job opportunities and greater legal restrictions since the beginning of the economic slowdown in Russia. This could have exacerbated the prevalence of undernourishment among women and children living in rural households, who were already at greater risk than their urban counterparts. For example, more than 27 percent of Tajikistan's rural children were found to be stunted, compared to 21 percent for urban children.[2] On the other hand, the effects of overweight, an increasingly common form of malnutrition in Central Asia, are more likely to be felt in urban areas. For example, 38 percent of urban women in Tajikistan were found to be overweight, compared to 28 percent in rural areas.[3]

ADJUSTING TO EXTERNAL SHOCKS

The economies of Central Asia showed some signs of stabilization in 2016, despite continuing challenges created by the external environment. Partial recoveries of oil and metals prices provided some support to the economies of Russia and Kazakhstan. Other Central Asian countries, such as Kyrgyzstan, Tajikistan, and Uzbekistan, benefited not only from recovering commodity prices but also from a less volatile environment for trade and remittances.

Likewise, exchange rates for regional currencies generally became more stable in 2016 after undergoing significant depreciation in 2015. The Russian ruble appreciated relative to the US dollar, reflecting the recovery in the price of oil.[4] The national currencies of Kazakhstan and Kyrgyzstan each appreciated by more than 10 percent during the first three quarters of 2016, while the nominal exchange rate of the Tajik somoni showed little change relative to the US dollar throughout most of the year. Relatively steady exchange rates and subdued demand were largely responsible for stable consumer prices, including food prices.

Demand for migrant labor from Central Asia also stabilized somewhat, although data suggest this has been experienced unevenly. According to the Federal Migration Service of the Russian Federation, the number of registered labor migrants from Tajikistan and Uzbekistan continued to decline, albeit at slower rates than in previous years, as a result of tightened rules and procedures for labor migration. The number of officially registered labor migrants from Kyrgyzstan increased in 2016 on the other hand, possibly because they faced fewer legal and procedural hurdles after Kyrgyzstan became an official member of the Eurasian Economic Union in August 2015.

The combination of rebounding labor migration and a stronger ruble led to a 21 percent increase in remittance flows in nominal US dollar terms from Russia to Kyrgyzstan in the first three quarters of 2016 compared to the same period in 2015 (Figure 1). Appreciation of the ruble also mitigated the decline in the total value of remittances from the Russian Federation to Tajikistan and Uzbekistan. Despite this, official data indicate that remittance

flows from Russia to Tajikistan and Uzbekistan continued to decline, falling by 14.5 percent and 14.3 percent in US dollar terms, respectively, in the first three quarters of 2016 compared to the same period in 2015.[5] However, remittances—accounted in the national currencies of these countries—began recovering to some extent. For instance, inflows of labor remittances to Tajikistan accounted in real somoni terms increased by 2.4 percent in the first half of 2016 over the same period in 2015.[6] Household-level data from the World Bank's *Listening to Tajikistan* survey also suggest that remittances began to recover in 2016 in real somoni terms. But the data also indicate that remittance income of households in the bottom two quintiles declined by about 9 percent, while that of the top three quintiles increased by about 16 percent, suggesting that poorer households were harder hit by the crisis.[7]

Continuing external shocks have left the region with weaker growth prospects. After growing by 5 percent on average in 2015, the region's economy was expected to grow by 3.8 percent in 2016 as a result of uneven growth rates across countries in the region. For example, the Kazakh economy was expected to contract by nearly 1 percent after growing by 1.2 percent in 2015. Economic growth in other Central Asian countries was also expected to be considerably slower in 2016, despite expansionary fiscal policies.[8] Slower economic growth and uneven recovery in remittance income may have reduced household food security, especially for poor households, in Central Asia.

AGRICULTURAL DIVERSIFICATION AND NUTRITION

Amid rising risks from external factors such as commodity price shocks, Central Asian countries are increasing their focus on agricultural diversification as a means of addressing multiple issues related to agricultural development and food security.[9] Given the sizable share of agriculture in national economies, governments in Central Asia generally recognize that agricultural diversification and the development of horticulture, particularly fruit and vegetable production, could benefit from export opportunities created by Russian countersanctions.[10] The countersanctions banning agricultural imports from Western countries came into force in August 2014 and are expected to remain in place through 2017.[11] Central Asian countries are increasingly shifting from traditional agricultural crops to intensive horticulture to boost export earnings and increase market share in the vital Russian market.

The Uzbek government established the joint-stock company Uzagroexport, which specializes in exporting horticultural products.[12] Similar initiatives are being implemented in Kazakhstan, Kyrgyzstan, and Tajikistan. Moreover, Uzbekistan has increased cooperation with international development agencies to improve farming practices, provision of seeds and seedlings, storage, and marketing. Development partners, including the World Bank, the Asian Development Bank, and the US Agency for International Development, have increased their support for intensive horticulture to increase yields and improve farmers' skills and knowledge.[13]

In addition to agricultural diversification, some Central Asian countries have embraced the need to address malnutrition.[14] National governments are beginning to pay attention to the double burden of malnutrition, under which a population paradoxically suffers from both insufficient caloric intake and overweight and obesity. Uzbekistan approved a national program and action plan for healthy nutrition for 2015–2020 and established a national education and clinical center to address nutrition.[15] In this regard, the diversification of agricultural production could further national nutrition goals by providing greater diversity and more nutritious foods.

REGIONAL INTEGRATION

Poor integration and regional cooperation have been serious obstacles to development in the region. The World Bank's *Doing Business* survey indicates that the five Central Asian countries rank well below the global average in terms of speed and cost of cross-border trade.[16] Some Central Asian countries have recently taken steps to improve institutions and infrastructure to facilitate regional integration and trade. This is important for food security, because these countries rely on food imports to make up for shortfalls in domestic production. An annual report by the Central Asia Regional Economic Cooperation Program suggests an overall trend toward harmonization of border-crossing procedures in recent years.[17] In July 2016, Uzbekistan lifted a ban on exports of fruits and vegetables by truck, which it

had imposed in September 2015 in an attempt to limit Kazakh re-exports of Uzbek fruits and vegetables to Russia.[18] Following the death of Uzbek president Islam Karimov in September 2016, the successor administration tentatively signaled an easing of travel and trade restrictions with neighboring countries.

Some of the movement toward greater integration has been spurred by initiatives led by foreign partners, such as China's "One Belt, One Road" project. Under this initiative, Central Asian countries would serve as nodes in a transcontinental infrastructure corridor, facilitating trade between Western Europe and East Asia. China has already invested heavily in logistics and road construction projects in Tajikistan and Kyrgyzstan. In May 2016, Chinese companies pledged a total of US$1.9 billion in investments to develop Kazakhstan's food processing capacity, including US$1.2 billion for oilseed processing alone.[19] However, China's growing involvement in Central Asian agriculture has also sparked debate: protests against a proposed land leasing program in Kazakhstan in early 2016 were reportedly stoked by fears that land would be leased to Chinese tenants at the expense of local farmers.[20]

Kyrgyzstan's accession in 2015 to the Eurasian Economic Union (EAEU)—which also includes Armenia, Belarus, Kazakhstan, and Russia—is another example of regional integration, though it raises questions about the country's economic niche and relations with neighboring nonmember countries. Preliminary results from a joint International Food Policy Research Institute–University of Central Asia study suggest mixed benefits for Kyrgyzstan, which will reportedly benefit from generous provisions in terms of shared customs duties while suffering a short-term decrease in national gross domestic product growth.[21] The decline of the Kyrgyz re-export industry, which has leveraged low national tariff rates to redirect Chinese and other foreign goods throughout Central Asia, has been directly attributed by some analysts to EAEU accession.[22]

FIGURE 1 Total remittance inflows from Russia (2010–2016, quarters 1–3)

Source: Central Bank of Russia.

The same study suggests that lower-income households may benefit from Kyrgyz membership in the EAEU in part because of remittances. Kyrgyzstan has fared better in terms of migration and remittances than other major migrant-sending countries in the region. As citizens of an EAEU member state, Kyrgyz migrants are not subject to the strict visa and labor market regulations that were imposed by Russia as a response to its economic crisis.

However, Kyrgyzstan continues to face significant challenges in terms of upgrading its sanitary and phytosanitary practices to comply with EAEU standards and regulations. Other member countries demanded an audit of Kyrgyzstan's safety standards in the run-up to its accession. While most sanitary and phytosanitary controls on the Kazakh border were officially removed after Kyrgyzstan joined the EAEU, veterinary controls remained in place so that Kyrgyz authorities could finish implementing the remaining provisions.[23] Nevertheless, the Kyrgyz transition to the common market has faced some resistance from authorities in other member states. In May 2016, the Kazakh agricultural ministry banned the import of Kyrgyz potatoes, citing the discovery of parasites. The ban was lifted the following month after a meeting of the two countries' presidents, but the episode highlighted weaknesses in the EAEU's governance mechanisms and Kyrgyzstan's difficulty in fully benefiting from its access to the common market.[24] Kyrgyzstan's experience can be instructive for neighboring countries, particularly Tajikistan, where speculation persists over whether it will join the EAEU in the future.

LOOKING FORWARD

The modest improvement in the region's growth outlook primarily reflects the partial recovery of commodity prices. Relatively stable commodity export revenues are expected to further bolster the Russian economy and other commodity-exporting countries such as Kazakhstan. The slight, but noticeable, improvement in the economies of these countries is expected to boost growth prospects, household welfare, and food security elsewhere in the region through trade, investment, and remittances.

Central Asian countries will nonetheless remain vulnerable to external shocks, given longstanding institutional and structural constraints and their impact on productivity and investment.[25] Another decline in commodity prices or the emergence of new problems in the Russian economy may produce further setbacks to economic growth, household welfare, and food security in the region. To reduce this risk, the Central Asian countries need to lessen their dependence on commodity exports and remittance inflows, diversify their economies, and improve domestic employment opportunities. The development of the horticulture sector and allocation of land for high-value crops have potential to address these needs.

Despite some recent steps toward addressing malnutrition in the region, Central Asian countries do not have well-established monitoring and evaluation frameworks to support evidence-based policy making in this area. Establishing such frameworks and systematic data collection efforts are necessary to measure progress in achieving nutrition goals.

South Asia

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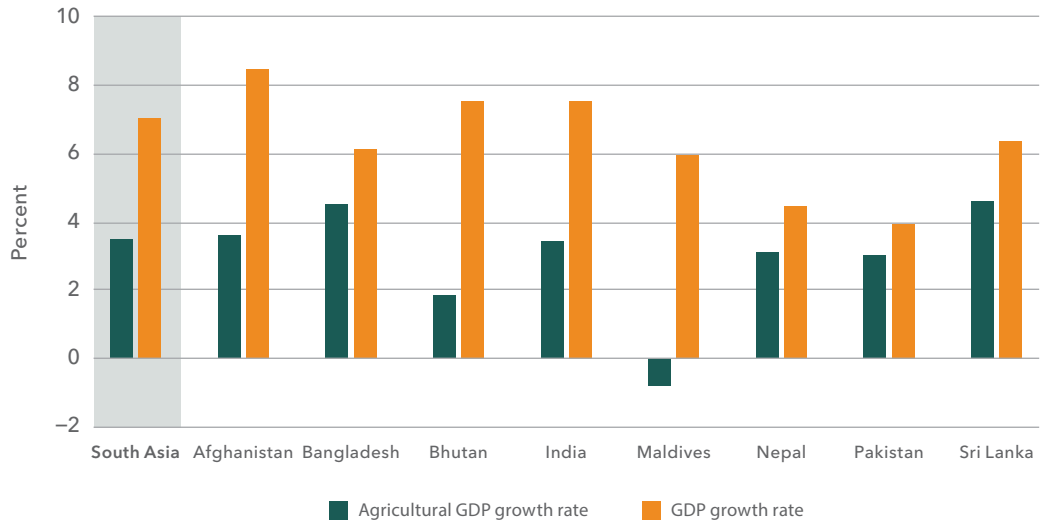
Led by robust economic growth in India, South Asia remains the fastest growing region in the world. Regional economic growth is projected to reach 7.1 percent in 2016 and 7.3 percent in 2017.[1] The region's limited exposure to global turbulence, combined with increasing investment in agriculture and food systems, is keeping growth prospects strong (Figure 1).[2] All South Asian countries achieved the Millennium Development Goal of reducing poverty by half well ahead of the 2015 deadline and have shown consistent improvement in human development and nutrition indicators. The Global Hunger Index (GHI) for South Asia declined from 47.7 in 1990 to 29.0 in 2016, moving from the "alarming" to "serious" category.[3] Poverty and undernourishment are still causes for concern, however—about one-fourth of the population is poor, and the region is home to more than 35 percent of the world's poor (more than 300 million people). Some 63 million children in South Asia are stunted and 26 million are wasted, and 208 million women are anemic.[4]

URBANIZATION AND FOOD SECURITY

South Asia's urban population grew by 186 million between 2001 and 2015—more than the entire population of Japan—and is expected to expand by almost 250 million more in the next 10 years.[5] The benefits of urbanization, including economic growth and structural transformation, are evident in the region. Manufacturing and services now account for more than 80 percent of gross domestic product (GDP). Despite the mammoth increase in absolute urban population, the pace of urbanization in South Asia

FIGURE 1 Growth rates in GDP and agricultural GDP in South Asia, 2003–2015



Source: World Bank, World Bank Open Data, accessed on November 1, 2016, http://data.worldbank.org/.

Notes: For India and South Asia, the agricultural growth rate is for 2003–2014. GDP = gross domestic product.

is slow compared to that of both the East Asia and Pacific region and the historical experience of developed countries. Urbanization levels are lowest in Nepal (19 percent) and Sri Lanka (18 percent), while Bhutan (39 percent), the Maldives (46 percent), and Pakistan (39 percent) are the most urbanized countries in the region (Figure 2).

Urbanization poses a considerable challenge to South Asian food security. Most urban dwellers are net food buyers and spend a significant portion of their disposable income on food. The 2007/2008 food crisis demonstrated the vulnerability of urban populations, especially slum dwellers, to shocks in agricultural markets.[6] Large urban settlements in South Asia are marked by widespread slums, and the share of the urban population living in slums is high (with the exception of Bhutan and Sri Lanka), ranging from 17.1 percent in India to 88.6 percent in Afghanistan.[7] At least 130 million people—more than the entire population of Mexico—live in informal urban settlements in South Asia.[8] Slum populations often do not have access to water and sanitation facilities, making residents more likely to suffer from disease and malnutrition. Developing strategies to address the food security risks faced by these vulnerable urban residents should be a policy priority.

Urban food consumption patterns are not uniform across South Asia, but some common trends emerge. Food accounts for a smaller share of consumption expenditure in urban areas than in rural areas, and urban households have more diverse diets than do rural households.[9] Food consumption patterns are changing across the region, with consumption of noncereals growing in both rural and urban areas.

INITIATIVES TO IMPROVE FOOD AND NUTRITION SECURITY

Bangladesh's record in addressing food and nutrition insecurity has been remarkable, including one of the fastest prolonged reductions in child stunting in the world—stunting dropped from 55 percent in 1997 to 36 percent in 2015. The government's dedication to improving food and nutrition security is reflected in its commitments at the Nutrition for Growth Summit, engagement in Compact 2025, enactment of a National Nutrition Policy, and its planned nutrition-focused health program.

India faces a paradoxical situation—its rapid economic growth is coupled with a much slower decline in undernutrition. The country continued implementing its National Food Security Act, Mid Day Meal Scheme, and Anganwadi Centres to tackle food and nutrition insecurity.[10] India also launched a new health protection scheme for the poor and an initiative to ensure that below-poverty-line families

FIGURE 2 Urban population as percentage of total population in South Asia, 2001–2015

Source: World Bank, accessed November 1, 2016, http://data.worldbank.org/.

are provided with government-subsidized cooking gas connections.

Nepal's new constitution, promulgated in 2015, established a fundamental right to food. This change, together with the possibility of a food crisis resulting from natural disasters and external shocks, brought the issue of food and nutrition security to the forefront of the policy agenda. Nepal set ambitious targets for reducing food and nutrition insecurity, putting emphasis on basic foodstuffs in 2016.[11] Initiatives include strengthening the food supply system, especially in remote areas, introduction of identity cards for poor families in order to better target poverty alleviation and safety net programs, programs promoting dietary change, and incentives to increase food production.

Along with Bangladesh and Nepal, Pakistan is a member of the global Scaling Up Nutrition (SUN) movement and various networks associated with SUN designed to improve nutrition. An Academia and Research Network for SUN activities was launched in May 2016 in Islamabad. Pakistan's provinces have taken steps to improve their food and nutrition situation following devolution of power beginning in 2010, and with support from UNICEF and other partners, developed a multisectoral strategy to help reduce malnutrition.

INITIATIVES FOR AGRICULTURAL GROWTH

Several programs and policies were introduced in South Asia in 2015 and 2016 to boost agricultural productivity through sustainable, diversified, and climate-smart agriculture. Across the region, a renewed focus on the farm sector was reflected in increased investments.

Nepal increased its agricultural budget by about 40 percent. The government announced an ambitious agriculture modernization program aimed at attaining self-sufficiency in staple crops, fruits, and vegetables and designated Specialized Agriculture Production Areas for strengthening value chains. Other new policies include an Agricultural Mechanization Promotion Policy, a National Food Safety Policy, an Agribusiness Promotion Policy, seed regulations, establishment of a technical school for agriculture entrepreneurs, and grants and subsidies in specialized agricultural areas such as construction of tissue-culture laboratories for bananas and potatoes and fish production ponds.

Bangladesh is committed to diversifying toward more nutritious and high-value crops. The government is emphasizing seed production activities including biotechnology and facilities and infrastructure for hybrid and biofortified high-zinc rice seed and Bt eggplant seed production, marketing, and development. A new national seed policy is being developed to support the establishment of a commercially oriented seed industry capable of meeting domestic needs and competing in regional and global seed markets. Timely supply of fertilizers to meet increasing demand and pragmatic measures to encourage farmers to use fertilizers to maintain soil fertility are also being given priority. Irrigation using surface and rainwater will be encouraged along with cultivation of water-efficient crops in drought-susceptible zones.

Bangladesh also plans to promote smallholder dairy development through supply chain development and integration with crop and fish culture. Policies under the seventh Five Year Plan (2016–2020) will include better access to credit and subsidies for marginal farmers. In the context of fisheries, the government plans to enhance productivity, livelihood security, and equitable distribution of benefits, while promoting conservation of fisheries and aquatic biodiversity. Further, a public-private collaboration for technology development and diffusion, particularly for mechanization based on traditional devices and solar power, is being promoted.

In India, the government prioritized agriculture in 2016 with a pledge to double farmers' income by 2022 and an annual budget supportive of the agriculture sector.[12] New initiatives include a crop-insurance scheme that is path-breaking in terms of coverage and use of technology, and a dedicated long-term irrigation fund with an initial endowment of US$3 billion. The government launched a Unified Agricultural Marketing e-Platform in April 2016, a big milestone in improving farmers' access to markets. The tax structure was reformed under the concept of "one nation, one tax" with a new tax on goods and services; the new tax regime is expected to contribute to higher economic growth by reducing tax liabilities and leakage. In November 2016, the Government of India moved to curb the "black money" economy and reduce tax evasion, abruptly announcing that the largest rupee notes (Rs. 500 and Rs. 1000) would no longer be legal tender. The impact

of demonetization on agricultural production and incomes, demand, and credit in rural areas in 2017 bears watching.

Pakistan's Ministry of National Food Security and Research drafted an agriculture and food security policy to promote long-term agricultural growth.[13] Responsibility for agricultural policy lies primarily with the provincial governments, however. The Punjab government earmarked US$956 million for fiscal year 2016/2017, beyond its routine allocation to the sector, to address farm community issues and food security.[14] The provinces of Punjab, Sindh, and Khyber Pakhtunkhwa announced a 50 percent subsidy for agricultural machinery.[15] Pakistan's provincial governments also drafted separate agriculture and food policies, and the Federally Administered Tribal Areas drafted policies on sanitation, drinking water, and agriculture.[16]

Afghanistan's National Agricultural Development Framework has four key programs: Natural Resource Management, Agriculture Production and Productivity, Economic Regeneration, and Programme Support and Change Management.[17] Major recent priorities include wheat seed distribution, land-lease reform, efficient use of government lands, enhancement of farmers' productivity, access to credit, and the Comprehensive Agriculture and Rural Development Facility to identify development gaps.

Sri Lanka launched an ambitious National Food Programme (2016–2018) that aims for self-sufficiency in five major food crops—potatoes, onions, chilies, maize, and soy. (It should be noted that policies striving for food self-sufficiency can be costly and inefficient.) In another major initiative to promote agricultural growth, Sri Lanka will support contract farming, based on a "small producer–large purchaser" model, as a means to strengthen integrated value chains. Other new measures for agricultural growth include a 50 percent interest subsidy to farmers, farmers' organizations, and agroprocessing establishments to increase use of agricultural machinery and equipment; removal of import duties on agricultural machinery and equipment; development of an automated commodity exchange; plans to import 15,000 high-producing dairy cattle and establish dairy development zones to boost local milk production; a proposal to establish 100 Integrated Inland Fishery Villages; and a rebate on chicken exports.

CHALLENGES AND OPPORTUNITIES

South Asian agricultural and food systems are at a crossroads. Climate variability and extreme weather events (such as droughts, floods, and temperature change) that threaten food and nutrition security are becoming serious challenges in South Asian countries. Unplanned urbanization is progressing rapidly and without critical civic amenities such as safe drinking water, drainage, housing, and hygiene facilities. The Government of India recognizes these problems and is ambitiously planning to create 100 "smart" cities by 2022—cities that are sustainable and citizen-friendly to improve urban living conditions.[18]

Food and nutrition security can be enhanced in South Asia by improving food and agricultural systems through increasing efficiencies, reducing postharvest losses, and developing the agroprocessing sector. Intraregional trade has considerable scope for growth: despite regional cooperation agreements, regional trade accounts for just 5 percent of South Asian trade compared to 25 percent in Southeast Asia.[19]

In 2017, South Asian countries are expected to reform their agriculture sectors, increase openness to trade, and take appropriate measures to adapt to climate change and weather uncertainties.

East Asia

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Food security and nutrition remain a top priority for East Asian countries, which are home to about 17 percent of the world's poor and 24 percent of the world's undernourished.[1] The strongest El Niño event of the past two decades made food security particularly challenging to achieve in 2016. Prolonged drought in the region led to declines in rice production, but high stock levels in place at the onset of El Niño kept world market prices largely in check. Over the longer term, increasing urbanization, economic growth accompanied by the rise of a middle class, and resultant changes in diets will pose challenges for food policy. East Asian countries will need to develop new policies to adequately deal with the changing structure of consumer demand and increasing market integration.

REGIONAL RICE ECONOMY

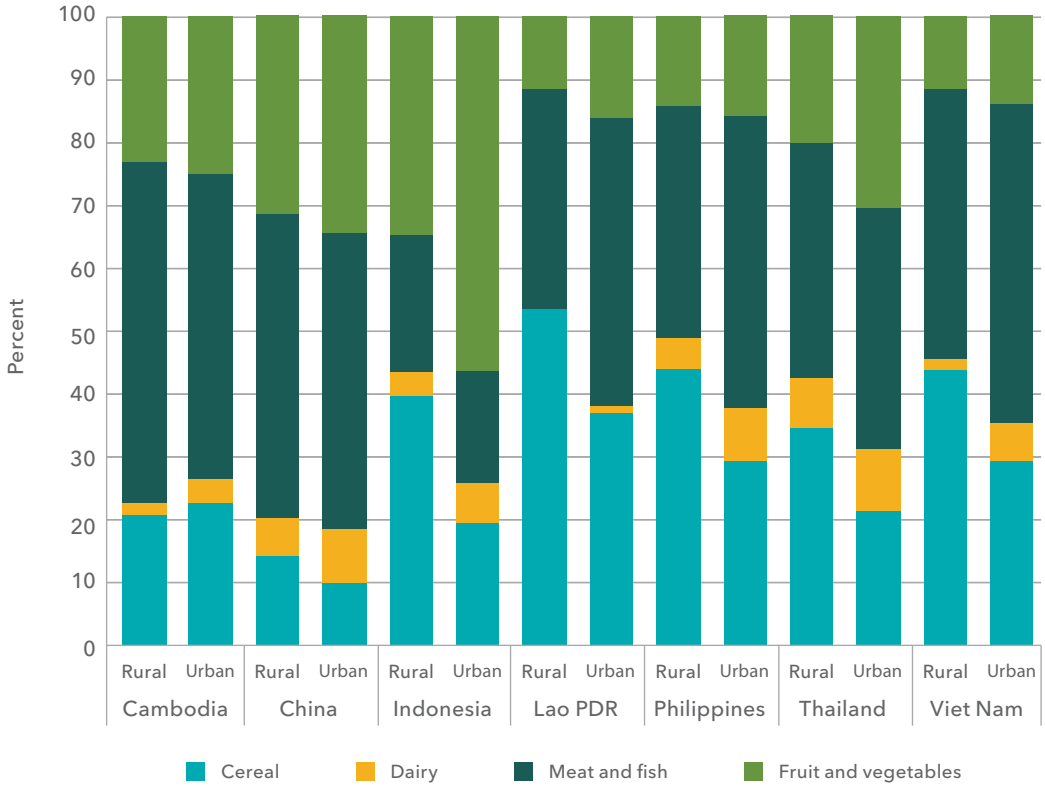
Although structural transformation has altered the role of rice in the agriculture sectors and overall economies of East Asia, rice remains a primary focus of the region's food policy. Despite its falling share, rice still provided about 43 percent of daily caloric intake in the region in 2013, and the share was even higher for the poor.[2] Rice is also the most important agricultural product in terms of domestic production value.[3] Thus for both poor consumers and farmers, a stable rice economy is critical to food security. With economic growth, however, governments have an increasing tendency to manipulate prices in favor of farmers, as evidenced in China, Indonesia, the Philippines, and Thailand in recent years.[4]

In the 2015/2016 season, rice production in the region declined by 0.9 percent, and exports from the region were forecast to decline by 0.5 percent in 2016, following a 4.1 percent decline the previous year. Global rice inventories at the end of 2015/2016 fell to 169.5 million metric tons, a decline of 2.6 percent.[5] While the global end-of-season stock-to-use ratio declined for the second straight year, it is still at a high level, well above that seen before, during, and immediately after the 2008–2009 global financial crisis. These high stocks helped to buffer the impact of the strong El Niño and moderate price increases. Some East Asian governments, including Indonesia and the Philippines, took action to meet demand and stabilized domestic prices through imports.[6] Thailand and Viet Nam remained the number two and three global exporters after India, while Myanmar, a re-emerging exporter (it was the world's leading exporter in the 1950s), is pursuing opportunities to open up the Association of Southeast Asian Nations (ASEAN) and other markets to absorb its domestic surplus and reduce its heavy reliance on the Chinese market.[7]

URBANIZATION AND FOOD VALUE CHAINS

Spurred by economic growth and urbanization, dietary diversity is increasing in China and Southeast Asia, and food value chains are changing both on-farm and beyond the farmgate. Data from the International Food Policy Research Institute (IFPRI) show that the share of cereal demand (in terms of quantity) declined by 12 percent from 2005 to 2015; in contrast, the share of meat and fish demand increased by 8 percent; the share of dairy and eggs rose by 30 percent; and the share of fruits and vegetables stayed steady during that period.[8] Furthermore, the consumption shares of various foods in terms of expenditure for rural and urban areas vary substantially (Figure 1). The consumption of cereals is typically much lower in urban areas, suggesting that room exists for substantial

FIGURE 1 Consumption share in terms of expenditure by product in rural and urban areas of East Asian countries, 2010



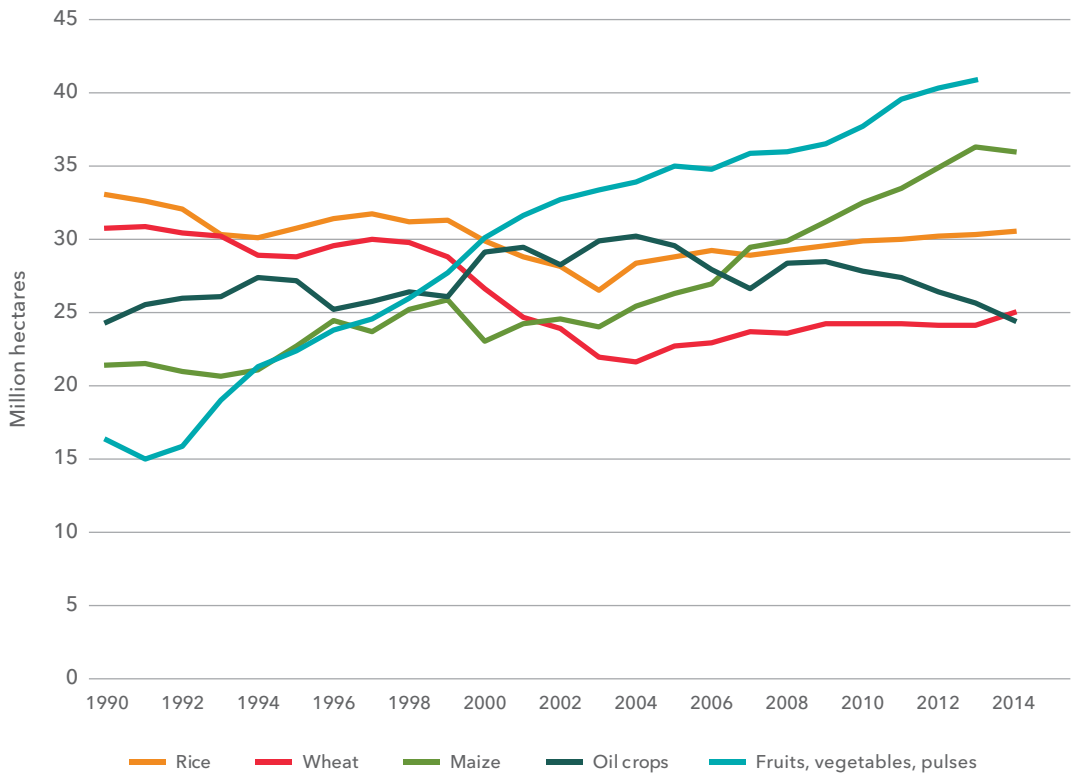
Source: World Bank, World Development Indicators, accessed September 29, 2016, http://data.worldbank.org.

expansion of demand for nongrains if economic growth and urbanization continue.

Government policies have not always kept pace with changing consumption patterns, often because they are focused on cereal self-sufficiency. Indonesia and the Philippines kept domestic rice prices well above world prices over the past 10 years, discouraging farmers from diversifying into higher-value crops. In recent years, China also maintained domestic rice prices at high levels, which, among other effects, increased informal border trade with Viet Nam and Myanmar. China's 2016 Number One Central Document, however, emphasizes that the country's production structure must meet diverse consumption demands, with enterprises encouraged to "go overseas" to trade and invest.[9] China also initiated a supply-side reform in agriculture under the 13th Five Year Plan, establishing a market-oriented pricing system targeted at eliminating oversupply of some grains.[10] The area harvested of fruits and vegetables in China has tripled since 1990, while the area harvested of both rice and wheat has declined (Figure 2). Viet Nam recently instituted a subsidy for farmers who shift from growing rice to maize, due to concerns over rising imports of animal feed.[11]

Beyond the farmgate, while traditional "wet" markets remain important, the number of supermarkets has expanded rapidly. The modern food value chains associated with supermarkets often impose new demands on smallholders that make it difficult for them to connect to dynamic markets. East Asia will need to more effectively link smallholders to changing markets. One possibility is e-commerce, which directly links farmers and consumers and gives producers better market access and greater bargaining power. The Chinese government considers agricultural e-commerce a key to bridging the urban-rural gap, promising to "encourage the introduction of e-commerce into rural areas," and has earmarked hundreds of billions of yuan for construction of broadband Internet and e-commerce bases in rural areas.[12]

FIGURE 2 Crop area harvested in China, 1990–2014



Source: FAO (Food and Agriculture Organization of the United Nations), FAOSTAT, accessed October 24, 2016, www.fao.org/faostat.

BUILDING RESILIENCE

The strong El Niño of 2016 brought a reminder of the importance of infrastructure and preparedness for dealing with natural disasters and climate change. In response to the drought caused by El Niño, Malaysia, the Philippines, and Thailand took a series of short-term measures, including construction of temporary irrigation infrastructure, a ban on off-season cultivation, and subsidies to compensate affected farmers.[13] In the future, climate change is expected to increase the frequency of severe weather events (droughts, typhoons, and floods), threatening past food security gains. In view of this, China issued a new emergency plan for natural disasters and is seeking to increase the resilience of agriculture to natural disasters by scaling up agricultural insurance.[14] Modern technology can also improve disaster response—the Philippines, working with the Food and Agriculture Organization of the United Nations (FAO), used drones to assess damage from El Niño.[15]

Water and soil management will be critical to building climate change resilience, and East Asian countries are taking measures for adaptation. Thailand issued a mandate to investigate new water sources.[16] Both Thailand and the Philippines set up national plans for crop zoning, which matches appropriate crops to soil conditions and water supply.[17]

CONTINUED FOCUS ON FOOD SAFETY

In 2016, China revised its 2015 Food Safety Law, increasing administrative, civil, and criminal penalties for regulatory violations and calling for greater accountability for county governors.[18] China also launched pilot projects on the safety certification of edible agricultural products, and Walmart established a Food Safety Collaboration Center in Beijing in October 2016.[19] In Southeast Asia, the ASEAN Risk Assessment Centre for Food Safety was established to provide independent scientific opinion on food safety issues of common interest. It will promote adoption of common positions on food safety

measures and facilitate safe trade.[20] A number of capacity-building events were held, including the World Trade Organization's first workshop on food safety and an ASEAN workshop for representatives of ASEAN Food Reference Laboratories and national Food Reference Laboratories to harmonize food safety surveillance and assure reliable food testing.[21]

2017 AND BEYOND

The outlook for the region's economy and agricultural performance is positive. China's economic growth rate is expected to slow only slightly from 6.5 percent in 2016 to 6.3 percent in 2017.[22] Despite spillover from China's slowdown, the annual average growth rate of ASEAN countries is projected to increase to 5.2 percent over 2016–2020.[23] In the face of global economic headwinds, China and Southeast Asia will continue to be the engine of the world's growth.[24] With the transition to neutral El Niño conditions or a mild La Niña, the FAO predicts that rice production and exports will recover in the 2016/2017 season.[25] Although the European Union may restrict its duty-free rice imports from Cambodia and Myanmar over concerns about the actual origin of the rice, demand from China may pick up the slack.[26]

Two remaining challenges for East Asia's food security and nutrition situation are particularly worth noting. In light of Agenda 2030 and the Sustainable Development Goals, the first challenge is how to achieve sustainable growth when economic development, population growth, and climate change will likely exacerbate existing resource scarcity, environmental stress, and economic inequality. Needed will be more investment in resource-saving and environment-friendly technologies, a shift from costly self-sufficiency to deeper involvement in global food value chains, and more attention to inclusive growth. The second challenge is how to address the obesity problem, which is likely to be exacerbated by changing food value chains and increasing reliance on processed food.[27] Developing countries in East Asia should increase public awareness of healthy diets by designing appropriate regulatory frameworks and rolling out educational efforts, and should learn from positive experiences in Japan and Korea, developed countries that have managed to avoid an obesity epidemic.[28]

Despite the challenges, regional integration is expected to deepen. The potential failure of the Trans-Pacific Partnership as a result of domestic political considerations in the United States is likely to have significant implications in East Asia, including likely greater dominance of China in the regional economy and trade.[29] The new Asian Infrastructure Investment Bank has taken its first steps, announcing four development projects in Bangladesh, Indonesia, Pakistan, and Tajikistan.[30] In September 2016, the first China ASEAN Agriculture Forum was held in Nanning, China, signaling increasing emphasis on China-ASEAN agricultural relations.[31]

Integration of agricultural markets within ASEAN is high on the organization's policy agenda, reflecting its blueprint for establishing a common market. A major concern is that supply chains in key crops, operated by the private sector, are increasingly crossing borders, raising fears among producing countries of a loss of sovereignty and of missed opportunities for domestic industrialization and value addition.[32] Integration may prove unachievable unless appropriate policies and strategies are designed to defuse concerns over food security and rural poverty among policy makers and stakeholders. Given these concerns, it is not surprising that little progress has been made toward implementation of the common ASEAN market.[33] In particular, coordination of national food security policies and agreements on roadmaps for the development of regional food value chains lag behind.[34] Going forward, it will be important to monitor and evaluate the benefits and costs of agricultural market integration among the ASEAN countries and to observe whether progress toward integration is being made.

Latin America and the Caribbean

EUGENIO DÍAZ-BONILLA AND MÁXIMO TORERO

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The situation in the Latin America and Caribbean (LAC) region in 2016 reflected economic and political difficulties in several of the larger countries, climate-related impacts including drought associated with El Niño, and ongoing changes related to the region's high level of urbanization.

The LAC region produces an important share of the world's food. Regional production accounts for about 13 percent of the global total value of production (measured in purchasing power parity dollars) and 15 percent of total exports (measured in current US dollars).[1] The evolution of agricultural policies and production in most of the large LAC countries can be expected to strengthen the region's position as a food supplier.

The new Argentinian administration that took office in December 2015 allowed the peso to float, removing most currency controls and restrictions, which led to a devaluation of over 40 percent. In addition, export restrictions and permits were eliminated, as were export taxes for a variety of cereals, oilseeds, and fruits. For soybeans and byproducts, export taxes were reduced from 32–35 percent to 27–30 percent. Since then, high inflation has partially eroded the real devaluation. Argentina—along with other countries in the region—has suffered climatic problems. However, the country's exports of wheat, coarse grains, oilseed meals and oils, beef, and poultry are expected to show important increases for the 2015/2016 and 2016/2017 seasons (particularly wheat and maize).[2]

In Brazil, political turmoil and economic uncertainty related to the impeachment of President Dilma Rousseff combined with other shocks led to the worst recession in several decades. The economy declined for a second year, with gross domestic product (GDP) per capita down almost 5 percent in 2015. Brazil made important advances in reducing stunting and malnutrition over the last 10 years, but the country faces important fiscal challenges (budget issues were at the core of Rousseff's impeachment), with uncertain impacts on funding of the social programs that led to those advances. Within that complex context, however, Brazil's agriculture sector continues to grow, cushioned in part by depreciation of the Brazilian currency. At around 2 percent growth per year, though, this performance remains somewhat below the historical average.

Mexico's economy has grown at a modest but continuous rate, about 1.0–1.2 percent growth in annual GDP per capita. The country's agriculture sector grew by about 4 percent in 2015, also boosted by a two-year decline in the exchange rate of the Mexican peso against the US dollar. More recently, potential policy changes under a new US administration have opened a period of uncertainty, further depressing the Mexican currency.

In Colombia, the economy and the agriculture sector have both grown at a steady pace of about 2–3 percent annually. The government's accord with the largest guerrilla group (the FARC, using the Spanish acronym) was narrowly rejected in October, but a revised agreement was approved by the Colombian Congress in November 2016. As a result of the peace process, Colombia's agricultural area could expand, with the prospect of rural development and private investment in areas controlled by the rebels.

The collapse of the Venezuelan economy, which saw a fall of about 5 percent in GDP per capita in 2014 and 7 percent in 2015, creates a particularly worrisome situation. The decline in the price of oil, serious macroeconomic imbalances, and political confrontations are all contributing to acute shortages of food, medicine, and other basic necessities.

Other countries in South America were also affected by declines in the price of their primary exports, including oil, copper, and several agricultural products. Countries in Central America and the

Caribbean, on the other hand, benefited from the decline in energy prices and from the resumption of remittances (mainly associated with steadier growth in the United States), which reached US$25.5 billion—an average of 15 percent of GDP for the countries most reliant on remittances—according to estimates for 2015.[3]

The agreement to ban export subsidies reached at the World Trade Organization Ministerial Conference in Nairobi (December 2015) is a positive development both for the many LAC countries that are agricultural exporters and for food-importing countries that do not want their domestic markets disrupted by subsidized products. At the same time, MERCOSUR (a subregional trading bloc) negotiations with the European Union have stalled on long-standing issues related to market access (agriculture for Europe and manufactures for MERCOSUR), while the Trans-Pacific Partnership Agreement, concluded at the level of the executive branches for the countries involved (three of which are from LAC), faced an uncertain process of ratification as a result of US domestic politics, and was recently suspended by the new US administration.

At the bilateral level, Brazil and the United States agreed on mutual market access for beef, and the United States completed the technical steps to lift its phytosanitary restrictions on beef and lemons from Argentina.

CLIMATE AND ENVIRONMENT

Climatic developments related to El Niño led to the continuation of drought in Central America in 2015 and early 2016, particularly in the Dry Corridor, a semi-arid region covering nearly one-third of Central America, primarily in El Salvador, Guatemala, Honduras, and Nicaragua. The drought had negative impacts on the production of export crops (such as coffee), as well as staple crops (maize and pulses). About 3.5 million people were affected. For subsistence farmers in El Salvador, Honduras, and Nicaragua, below-average rainfall is estimated to have reduced production of red beans and maize. Honduras may lose 80 percent of its maize crop.[4] As El Niño tapers off, concerns have been turning to La Niña, which brings the possibility of excess rain, floods, and hurricanes.[5] On a separate note, the international prices of key staple foods for these countries have been low; this has helped to limit the negative effects of El Niño by keeping food imports more affordable.

Haiti, the poorest country in the region, also experienced extreme drought conditions, with more than half a million people out of its population of about 10 million estimated to be suffering from food scarcity due to decreased production.[6] In October 2016, the country was directly hit by the massive Hurricane Matthew, creating Haiti's worst humanitarian crisis since the 2010 earthquake. As of late 2016, the population in the southern part of the country was in dire need of medicine, clean water, and food to avoid an even worse humanitarian catastrophe.

El Niño also led to drought conditions in parts of Colombia, Mexico, Venezuela, northern Brazil, and the southern regions of Argentina and Chile, while generating excess rain in parts of Brazil, Peru, and eastern areas of Argentina, with negative impacts on a variety of crops and livestock production.

The increasing frequency of extreme weather events will require substantial investment in agricultural research and development (R&D) and in infrastructure to cope with this changing environment. In addition, while the advance of deforestation in the LAC region does not seem to have accelerated, it continues to require monitoring.[7]

URBANIZATION

LAC is the most urbanized developing region, with close to 80 percent of the population living in urban areas (Table 1).[8] The LAC region also has the highest average income per capita and the lowest share of the population in poverty (at US$3.10 per day, 2011 purchasing power parity) among developing regions.[9] Closely related to urbanization and relatively higher incomes, the region also saw an expansion of supermarkets before other developing regions.[10] Supermarkets make a greater variety of food available year-round, but they are also linked to consumption of more processed foods. The latter means that although levels of hunger in LAC are among the lowest based on the Global Hunger Index, the region also experiences more problems of obesity and related health problems than do other developing regions.[11]

The LAC region has a number of megacities, but rural migrants have also settled in smaller urban centers. Almost 60 percent of the region's urban

TABLE 1 Urban populations by region and city size

	Urban population (% of total population)	Urban population in cities of more than 1 million (% of total population)	Urban population in cities of 1 million or fewer (% of total population)	Non-urban population (% of total population)
East Asia and Pacific	52.9	na	na	47.1
Europe and Central Asia	65.1	19.2	45.8	34.9
Latin America and the Caribbean	**78.7**	**35.4**	**43.3**	**21.3**
Middle East and North Africa	60.5	23.0	37.6	39.5
South Asia	33.0	14.5	18.6	67.0
Africa south of the Sahara	37.7	15.0	22.8	62.3
High income	81.1	na	na	18.9
Low and middle income	48.4	19.2	29.2	51.6
World	53.9	22.0	31.8	46.1

Source: World Development Indicators database, accessed on September 30, 2016, http://data.worldbank.org.

Note: All the individual regions exclude high-income countries.

population live in intermediate and small towns of fewer than a million inhabitants.[12] The large percentage of the population living in intermediate and small towns distinguishes LAC from other developing regions, with the exception of the developing countries in Europe and Central Asia. Agricultural value chains and the structure of food production, employment, and consumption may differ for these two types of urban areas. Various hypotheses are being debated about the potentially different development patterns—including different impacts on poverty and growth—that arise from migration from rural areas to megacities as opposed to migration to smaller urban centers in the LAC region.[13] For instance, in some cases, aging populations may remain in areas characterized by subsistence production while younger populations move to larger urban areas. In other cases, including perhaps in some LAC countries, commercial agriculture may be keeping younger farmers in rural areas, in part supported by small and intermediate towns. These processes are also related to differing patterns of land atomization (that is, increasingly small parcels) or reconcentration driven by migration dynamics.

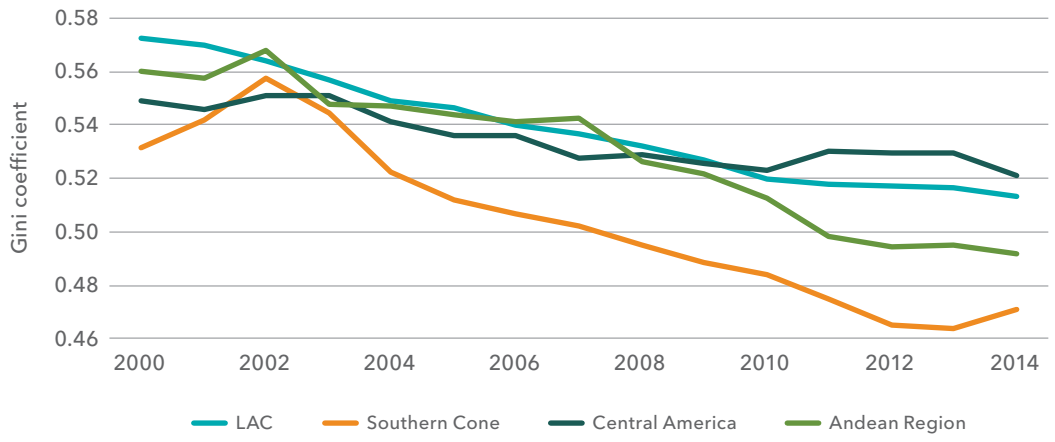
Despite improvements in incomes and declines in poverty, LAC remains the most unequal region in the world (with an average Gini coefficient—the standard measure of inequality—of about 0.51 for the countries with data), closely followed by Africa south of the Sahara (Gini of 0.47) (Figure 1). Moreover, important differences arise within the region, with a recent increase in inequality in the Southern Cone countries. In addition, and in contrast to other developing regions, most of LAC's poor are concentrated in urban areas, although the incidence of poverty is still greater in rural areas in many countries in the region.[14]

Urban centers in LAC are among those most affected by violence and crime, apart from countries at war. In fact, measured by the number of homicides per 100,000 people, the 8 most dangerous cities in the world and 42 of the top 50 are in LAC.[15] Violence and crime vary across countries, subregions, and neighborhoods, but poor urban and rural populations are both notably affected.[16]

LOOKING AHEAD

Global economic and financial uncertainties point to continuing economic difficulties for the LAC region in 2017 and beyond. These uncertainties will continue to hobble a region still burdened by economic recession in Brazil and Venezuela. LAC faces unique dynamics and challenges in relation to its food and nutrition security and poverty, in part related to the pattern of urbanization. LAC countries need to devise a coherent set of macroeconomic and sectoral policies to face the difficult times ahead, while stepping up medium- and long-term investments in education, infrastructure, R&D, and governance of

FIGURE 1 Inequality trends in LAC subregions, 2000–2014



Source: LAC Equity Lab tabulations of SEDLAC (CEDLAS and the World Bank) and World Development Indicators (WDI), www.worldbank.org/en/topic/poverty/lac-equity-lab1/income-inequality/inequality-trends. Updated April 2016.

Note: The Gini coefficient measures inequality, in this case of incomes, with values between 1 (completely unequal) and 0 (completely equal). Since the numbers presented here are based on SEDLAC, a regional data harmonization effort that increases cross-country comparability, they may differ from official statistics reported by governments and national statistical offices. The LAC aggregate is based on 17 countries in the region for which microdata are available; it does not include Haiti. In cases where data are unavailable for a given country in a given year, values were interpolated using WDI data to calculate regional measures.

natural resources to achieve sustainable and inclusive growth. Considering the importance of intermediate urban centers in the LAC region, and the fact that a development pattern based on these centers seems to be associated with relatively large declines in poverty (compared to populations moving to larger cities), it will be necessary to maintain a balanced geographic pattern of public investments and services across rural areas and the intermediate urban centers that support them.[17]

"Addressing the needs of growing ranks of urban dwellers and improving the livelihoods of smallholder producers while promoting agricultural productivity will be essential to global food security and nutrition and to moving ahead with the new sustainable development agenda."