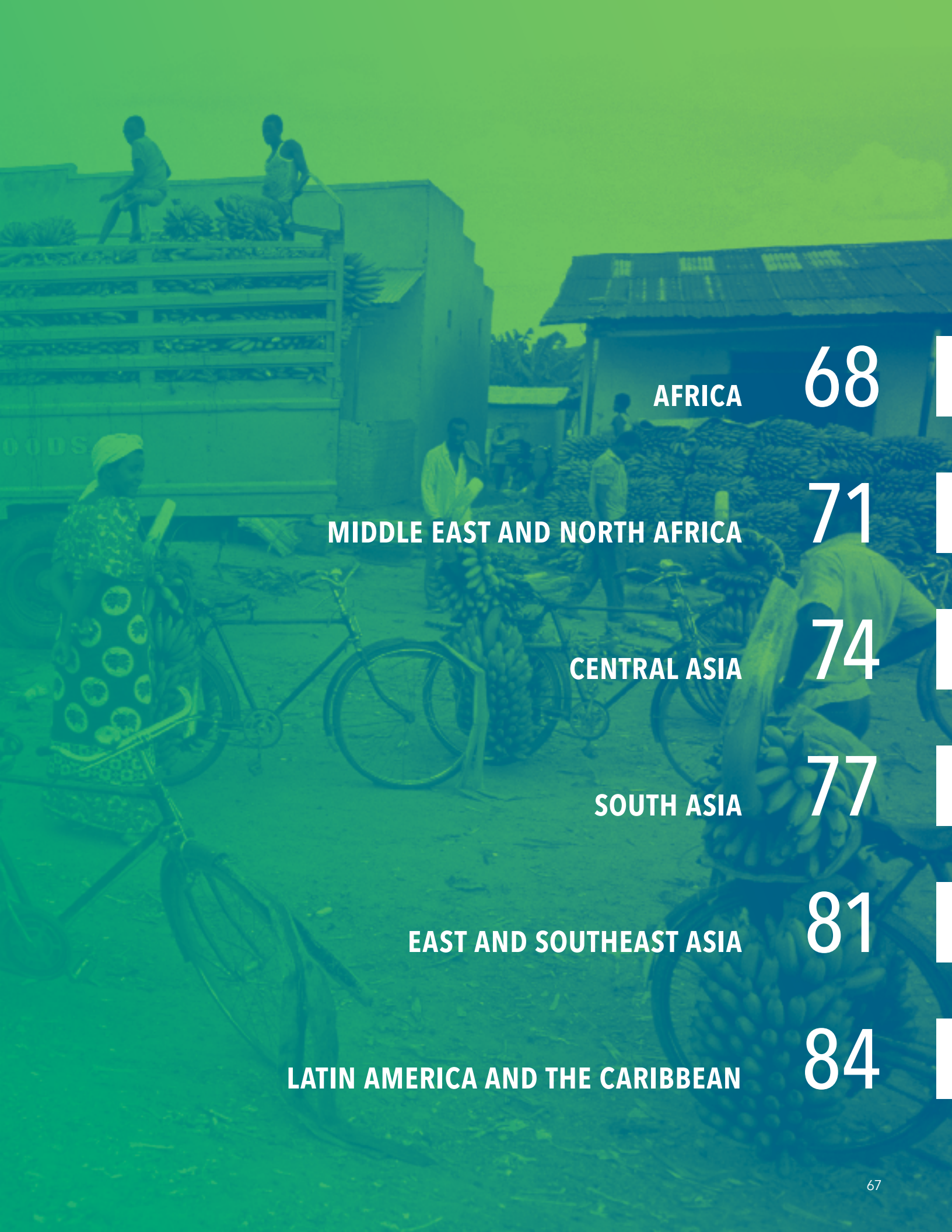




REGIONAL DEVELOPMENTS

BUILDING INCLUSIVE FOOD SYSTEMS TO HELP REACH THE GOAL OF ENDING HUNGER and malnutrition globally will require innovation and investment at the regional and country levels. This section discusses problems, policies, and prospects for regional and national food systems in 2020 and beyond across the major regions: Africa, the Middle East and North Africa, Central Asia, South Asia, East and Southeast Asia, and Latin America and the Caribbean. The challenges and potential of inclusion to transform food systems for better well-being and nutrition are examined for each region, along with other current topics:

- Africa's initiatives to create opportunities for women and young people in agricultural value chains
 - Farm and agrifood system jobs for refugees and migrants in the Middle East and North Africa
 - Impact of labor migration on household incomes and women's role in agriculture in Central Asia
 - Efficiency of social transfer programs in South Asia
 - African swine fever's impact on food production and consumption in East and Southeast Asia
 - Obesity and overweight in Latin America and the Caribbean
-



AFRICA

68

MIDDLE EAST AND NORTH AFRICA

71

CENTRAL ASIA

74

SOUTH ASIA

77

EAST AND SOUTHEAST ASIA

81

LATIN AMERICA AND THE CARIBBEAN

84

AFRICA



OUSMANE BADIANE, JULIA COLLINS, AND TSITSI MAKOMBE

Ousmane Badiane is the former director for Africa, International Food Policy Research Institute (IFPRI), Washington, DC, USA. **Julia Collins** is a senior research analyst, and **Tsitsi Makombe** is a senior program manager, Africa Region, IFPRI.

Income growth, economic dynamism, and demographic change in Africa are transforming food systems and changing opportunities for farmers, entrepreneurs, and employees along the agrifood value chain. Recent economic growth in most countries has created broadly shared benefits, including higher incomes, improved nutrition, and reductions in the prevalence of poverty and in the poverty gap (a measure of the severity of poverty among those who remain poor).¹ Income inequality, while high, has not increased over time. But poverty, hunger, and vulnerability are persistent, and growth has also led to perceptions of exclusion among regions, communities, and individuals benefiting less. Large farmers are best-placed to take advantage of the opportunities created by increased food demand from urban markets, the rapidly expanding food processing sector, and the modernization of distribution chains. Smallholders are at risk of exclusion from value chains if they are not able to meet the demands of high-value markets.

Similarly, efforts to increase trade integration in Africa may increase inequality if some benefit more than others. The new African Continental Free Trade Area, for which the associated agreement entered into force in May 2019, is expected to allow African countries to increase exports, better weather economic shocks, and improve food security.² However, increased market integration can also lead to geographic reallocation of production and other activities along the value chain, giving rise to winners and losers.

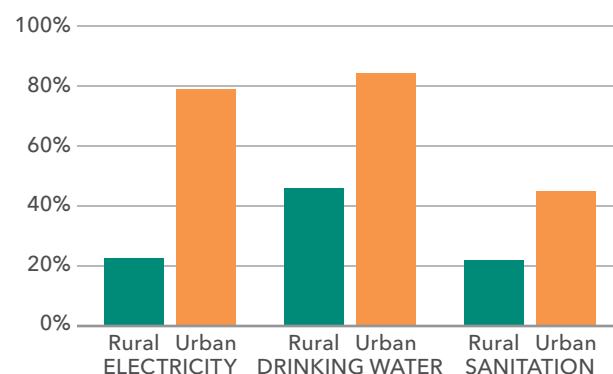
African leaders acknowledge the importance of ensuring that economic growth provides benefits for all. In the 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods, leaders committed to enhancing the resilience of vulnerable groups and creating opportunities for women and youth in agricultural value chains.³ For example, in its five-year national agriculture

investment plan launched in 2018, Malawi put forward measures to (1) enhance the participation of women, youth, and other vulnerable groups in farmers' organizations, (2) sensitize rural households and service providers on gender relations and land tenure, and (3) promote sustainable natural resource management, including through training targeted at women and youth.⁴ Although exclusion exists along multiple dimensions, significant efforts have been made to increase inclusion among three groups: the rural poor, youth, and women.

INCLUSION LAGS IN RURAL AREAS

Poverty is unevenly distributed, with much higher rates in rural than in urban areas in most countries.⁵ Access to basic services is also much more limited in rural areas, with urban residents two to three times as likely to have access to basic sanitation services, drinking water, and electricity (Figure 1).

FIGURE 1 Access to services for rural and urban populations, Africa south of the Sahara (percent)



Source: World Bank, World Development Indicators database, 2019.

Note: Electricity = share of population with access to electricity; Drinking water = share of population using at least basic drinking water services; Sanitation = share of population using at least basic sanitation services.

Nutrition challenges too are usually more pronounced in rural areas. A recent study of nutrient adequacy in Senegal found that, while nutrient intake levels vary across the country, inadequacies tend to be more serious in rural areas. For example, urban residents in the majority of Senegal's departments have average vitamin A adequacy rates above 60 percent, while average adequacy rates are much lower in most rural areas (Figure 2). Addressing such imbalances will require closely monitoring seasonal and geographic differences in access to adequate nutrients and diverse diets in order to guide policies aimed at improving the affordability of foods, in both rural and urban markets, that meet standards for nutrient adequacy and dietary diversity.⁶

Increased investments in rural infrastructure and social services are important to reach vulnerable populations. Isolation and remoteness from services is strongly associated with poverty.⁷ Improved access to transportation infrastructure and healthcare has been found to protect child growth from the effects of rainfall and production deficits.⁸ Closer rural-urban linkages can increase market and employment opportunities for rural residents.⁹ Innovations in digital services can extend the reach of extension and financial services and strengthen the capacity of farmer organizations to link smallholders with value chains

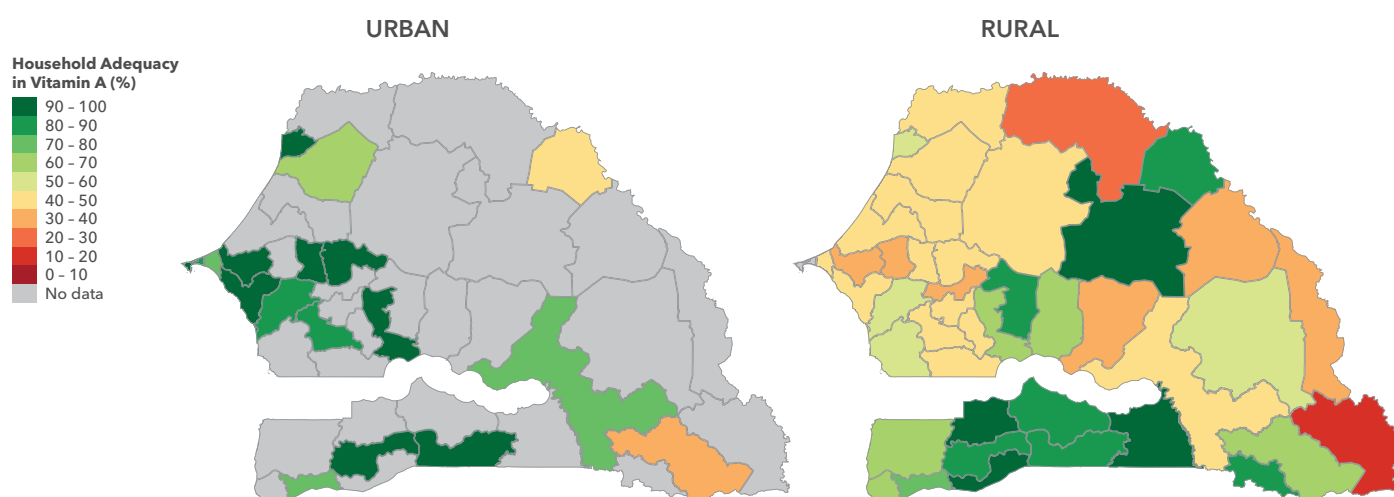
(see Chapter 2). Governments can create an enabling environment for technological innovation by implementing appropriate regulation, providing incentives for private sector innovation, and investing in agricultural R&D and skills development.¹⁰

EMPLOYMENT FOR A GROWING YOUTH POPULATION

Africa's large youth population has great potential to contribute to economic growth and innovation (see Chapter 3). However, labor markets must create more productive and attractive employment opportunities for young workers. Unemployment among African youths aged 15 to 24 is estimated at over twice the overall unemployment rate.¹¹ High youth unemployment reflects mismatches in skills supply and demand. For example, only 2 percent of university students in Africa south of the Sahara are studying agriculture, despite the high share of the labor force engaged in that sector.¹²

Innovations in digital services, mechanization, processing, transport, distribution, and marketing present attractive employment and entrepreneurship opportunities for youth. However, skills gaps are a major constraint. Recent World Bank Enterprise surveys in seven African countries found that over 30 percent of

FIGURE 2 Household adequacy in vitamin A in Senegal, urban and rural areas (percent)



Source: J. Ulimwengu et al., "Hidden Hunger: Understanding Dietary Adequacy in Urban and Rural Food Consumption in Senegal," in *Transformation Structurelle du Système Agricole et Alimentaire du Sénégal*, eds. O. Badiane, M. D. Faye, and K. Savadogo (forthcoming).

surveyed firms in each size category, from micro to large, reported skills as the most severe constraint to their business operations.¹³ Agricultural technical and vocational education and training systems are underfunded and underprovided in many African countries, and strengthening them should be a priority to provide not only youth but also older people with the skills required for emerging opportunities.

ADDRESSING GENDER INEQUALITIES THROUGH INCLUSION OF WOMEN

The African Union designated 2010–2020 as the African Women’s Decade, with the goal of advancing the implementation of international gender equality commitments,¹⁴ and many African countries and regional economic communities have implemented policies and strategies intended to promote greater equality. For example, the Southern African Development Community (SADC), comprising 16 southern African countries, launched the SADC Protocol on Gender and Development in 2008 and updated it in 2015.¹⁵ The protocol calls on member countries to ensure women’s constitutional and legal rights, achieve equal representation of women in political and other decision-making spheres, and advance equality in education and employment, among other areas. In October 2019, the government of Burkina Faso, in collaboration with the African Union, launched an initiative to advance mechanization to better meet women’s needs and contribute to their empowerment in agriculture.¹⁶ However, despite these and other national, regional, and continental initiatives, gender inequalities persist in educational attainment, political decision-making power, and employment, as well as in decision-making power at the household level (see Chapter 4).¹⁷

These inequalities have grave consequences, both for individuals and for economies. For example, unaddressed gender productivity gaps in agriculture lower overall agricultural productivity. Many studies have found that women farmers have less access to productive inputs than men, and in some cases receive lower returns to inputs. Suggested responses include interventions to increase women’s access to farm labor and other inputs and to facilitate women’s participation in

markets and producer organizations.¹⁸ Women’s participation along the agricultural value chain—and the returns to their participation—can be improved through policies and projects with explicit gender equality goals, including strengthening the capacities of women and women’s groups.¹⁹ Rwanda’s Strategic Plan for Agriculture Transformation (2018–2024) includes interventions to build women’s entrepreneurial skills through training in leadership, management, and farming as a business, mentoring on agribusiness incubation, and providing business development support to enable women to access suitable financial products.²⁰

THE WAY FORWARD FOR MORE INCLUSIVE FOOD SYSTEMS

Rapid growth in incomes and urbanization are transforming African food systems and giving rise to new opportunities along the value chain. But greater effort is needed to ensure that the benefits of growth are broadly shared. Upgrading physical and social infrastructure will not only improve livelihoods today but also boost future capacity to create wealth and reduce vulnerability in rural areas. Social protection, skills development and training, and other interventions, particularly targeted toward women and youth, can help vulnerable groups contribute to and benefit from agricultural transformation. For example, Ethiopia’s Productive Safety Net Program has helped to protect poor households from consumption crises, lower food insecurity, and minimize disincentives to agricultural production.²¹ Finally, inclusiveness requires a better understanding of exclusion and vulnerability and their drivers. Recent studies have shown the potential for finely tuned subnational targeting of food security interventions when sufficient data are available.²² African countries should prioritize generating evidence on inequalities and on the winners and losers of major policy changes such as the African Continental Free Trade Area. The 2020 second CAADP Biennial Review of progress toward the commitments of the Malabo Declaration offers an opportunity to assess countries’ success in tracking progress and in increasing the inclusion of smallholders, youth, and women.



MIDDLE EAST AND NORTH AFRICA

**FATMA ABDELAZIZ, CLEMENS BREISINGER, NADIM KHOURI,
AND JAMES THURLOW**

Fatma Abdelaziz is a research associate in the Development Strategy and Governance Division, International Food Policy Research Institute (IFPRI), Cairo, Egypt. **Clemens Breisinger** is a senior research fellow in the Development Strategy and Governance Division and leader of the Egypt Strategy Support Program, IFPRI, Cairo, Egypt. **Nadim Khouri** is an independent researcher supporting the Global Agriculture and Food Security Program. **James Thurlow** is a senior research fellow in the Development Strategy and Governance Division, IFPRI, Washington, DC, USA.

Uncertainty was pervasive in the Middle East and North Africa (MENA) in 2019, reflecting ongoing conflicts and their regional spillover effects, global trade tensions, and fluctuating oil prices.¹ These problems continue to pose significant challenges, and as a result regional economic output (GDP) growth slowed in 2019 and is expected to have fallen to less than 1 percent.² Lower oil prices have disrupted oil exporters' plans to diversify away from oil because they now lack the funds to invest in new sectors.³ Despite the lower prices, however, several oil-importing countries, including Egypt, Jordan, Lebanon, and Sudan, have exceeded the threshold for public debt that is considered sustainable for emerging markets.⁴ This is limiting both public and private investments in these countries.

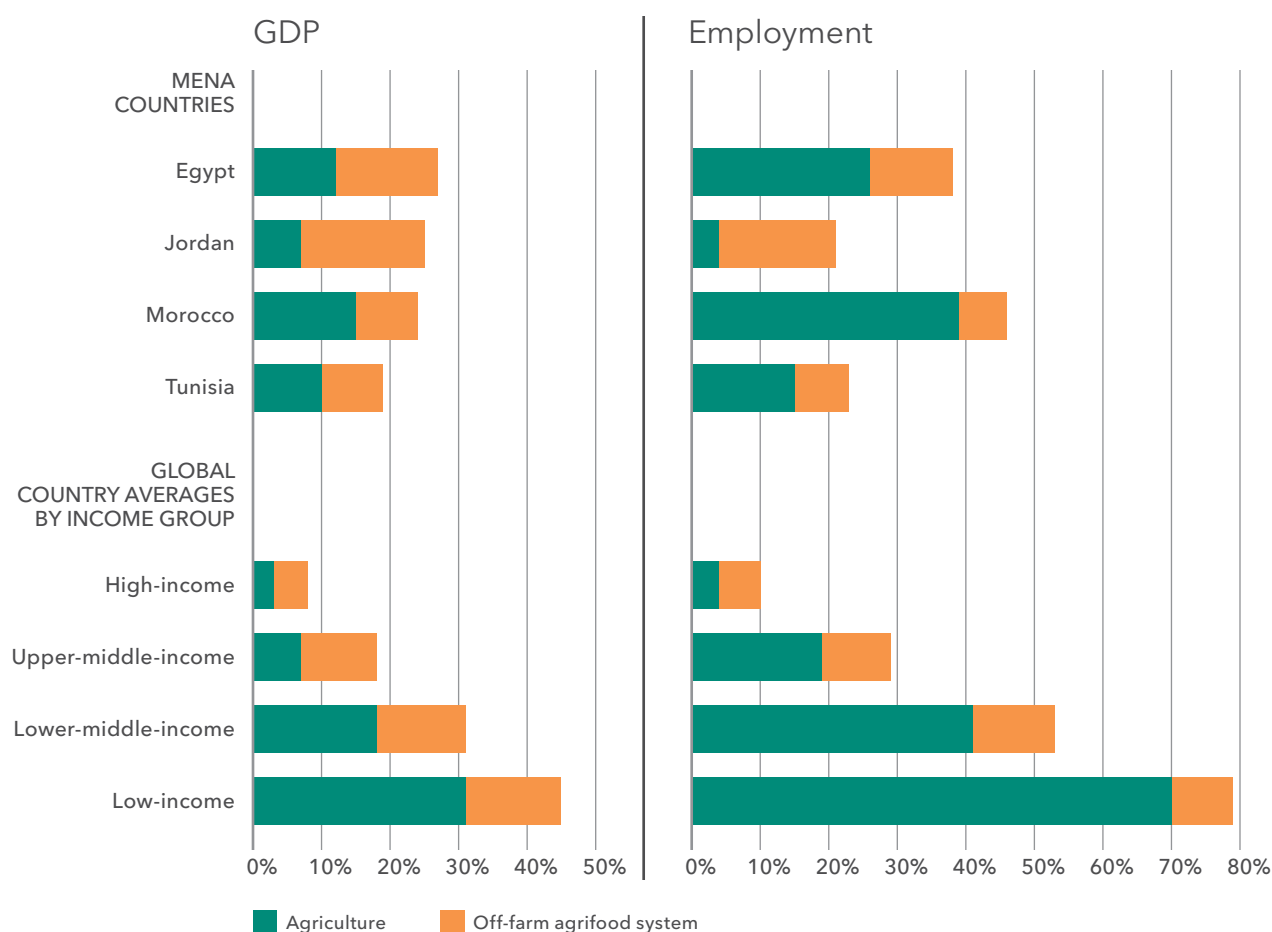
The private sector's role in delivering growth and employment in the region continues to be constrained by competition from public enterprises, red tape, a scarcity of skilled labor, and barriers to trade.⁵ As a result, the private sector in MENA countries faces challenges in creating enough jobs for the millions of young people entering the workforce every year.⁶ Efforts to address unemployment are underway in several countries that are adopting more business-friendly policies.⁷ But MENA countries must also continue reforms to foster inclusive growth and create jobs, especially for youth and women. In fact, including more women and young people in the labor market can itself be a driver of growth.⁸ In addition, MENA countries can learn from the successful example of Egypt as to how social protection programs—and especially well-targeted cash transfer programs—can support the poorest when these households face economically challenging times.⁹ A question raised in many

MENA countries is whether agriculture and the broader agrifood system can play a consequential role in fueling economic growth, job creation, and inclusion.

FOOD SYSTEMS CAN SUPPORT INCLUSIVE ECONOMIC GROWTH

The MENA region is characterized by its aridity and crisis-level water scarcity in many countries. Climate change is exacerbating this situation. This means that, far from abandoning the agriculture sector, countries should provide strategic direction for the sector to ensure more efficient and productive use of water.¹⁰ While agriculture continues to be an important economic sector in most MENA economies, it is even more so when the entire agrifood system is considered (Figure 1). In countries such as Egypt, Jordan, Morocco, and Tunisia, the share of agriculture (farming) in GDP is between 7 and 15 percent, and the share of agriculture in employment is generally higher, at between 4 and 39 percent.¹¹ When all upstream and downstream agriculture-related sectors (trading, processing, food services) are considered, the agrifood systems in those four countries account for 19 to 27 percent of GDP and 21 to 45 percent of employment. Global data suggest that, among lower-middle-income countries, the contribution to GDP from the off-farm components of the agrifood system is greater than that of farming. And among high-income countries, more agrifood system jobs exist off the farm than on the farm. Recognizing this evolution of agrifood systems will be critical for development strategy and planning processes as MENA countries become wealthier.

FIGURE 1 Share of the agrifood system in GDP and employment



Source: J. Thurlow, "Measuring Agricultural Transformation" (PowerPoint presentation to USAID, Washington, DC, 2020), <https://www.slideshare.net/ifpri/aggdp-agemp-measuring-agricultural-transformation>.

Taking a holistic agrifood systems approach helps to better identify the full impact of agriculture sector development. In Lebanon, for example, the agriculture sector has been stagnating, with growth at roughly zero, while the food processing sector, a key component of the country's agrifood system, grew at 5 percent annually from 2005 to 2010, followed by slower but still respectable growth of 2.5 percent annually between 2010 and 2015; Lebanon's agrifood sector has been identified as one of five sectors with the strongest potential to promote the country's economic aspirations.¹² While the agriculture sectors in Egypt and Morocco continue to grow, labor has moved from farm to nonfarm sectors as people seek to overcome the low productivity trap and the informal nature of employment in agriculture.¹³

Indeed, more broadly in MENA and consistent with global transformation trends, the rate of increase in farming jobs was one of the lowest, at 5 percent between 2010 and 2016, compared with other employment opportunities that have seen significant increases, such as start-ups in food services, technician positions in food processing, and jobs in quality control.¹⁴ In response to this transformation, some MENA countries have begun shifting their policies and investments away from primary production toward value-added sectors of the food economy. For example, in 2019, the United Arab Emirates announced a US\$272 million incentive package for agritech, and Saudi Arabia's Agriculture and Livestock Investment Company continues to invest in the food processing sectors of MENA countries.¹⁵

TOWARD COMPREHENSIVE AGRIFOOD SYSTEM STRATEGIES AND INVESTMENTS

The region and the global community urgently need to resolve MENA's protracted conflicts and to address the pressing needs of refugees, internally displaced people, and those living in conflict zones, especially women and children. Food systems offer not only a means to provide emergency assistance to those in need—including in conflict and crisis situations—but also ways to reduce the potential for food insecurity to contribute to conflict. Food systems also offer an obvious starting point to promote economywide growth and employment during reconstruction and recovery in countries like Yemen (see Chapter 5).¹⁶ Many jobs in farming and the agrifood system are already done by vulnerable groups such as refugees, migrants (for example, in Lebanon and Jordan), and the poor, so a food-system-led transformation is also likely to foster *inclusive* transformation for these groups.

Increasing incentives for the private sector—on its own or through private-public partnerships—to invest in all segments of agrifood systems can be one important way to promote such a transformation. Despite countervailing trends observed in some countries, support for investments in the agriculture and agrifood sectors tends to be more beneficial than protectionist policies, such as import tariffs and subsidies, in terms of promoting sector growth and food security.¹⁷ However, it is important to note that ongoing global trade tensions and related uncertainties strengthen the position of policymakers who argue for increasing food self-sufficiency and challenge the advice of most economists that countries should focus domestic food production in areas of comparative advantage (for MENA, that broadly means exporting fruits and vegetables and importing cereals). In addition, the

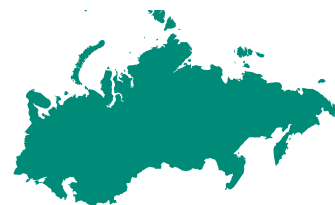
experience of Jordan and Lebanon—which lost much of their traditional food export markets in Iraq and Syria due to conflict—highlights the risks for countries following an export-led food strategy and points to the importance of diversifying their export markets.

For large MENA countries, and especially for smallholders within those countries, fostering growth of domestic markets can be more supportive of inclusion than growing export markets. Expanding domestic markets can give smallholders more time to reach the necessary quality standards for exports. An inclusive, food-system-led transformation will also benefit from the adoption of institutional innovations (such as establishing presidential delivery units and transformation agencies) as well as innovations that help cope with intensifying challenges such as water scarcity and climate change.

To go beyond such general advice, evidence-based and country-led food policy and investment analysis is needed. Digitizing food policy analysis and using “big data” are critical steps in this direction. An example of such an effort is the Agricultural Investment Data Analyzer (AIDA, a joint project of IFPRI, the International Fund for Agricultural Development, and the CGIAR Research Program on Policies, Institutions, and Markets), which allows for prioritizing agricultural investments by “modeling without a model” through an online interface.

More generally, improvements in the region's education systems should prepare people for the gamut of employment opportunities available now and in the future in food systems and in food-related research, innovations, and policymaking. More effectively including women and youth in this process and at all levels will not only improve their personal well-being and livelihoods but will also greatly contribute to economic growth and transformation.

CENTRAL ASIA



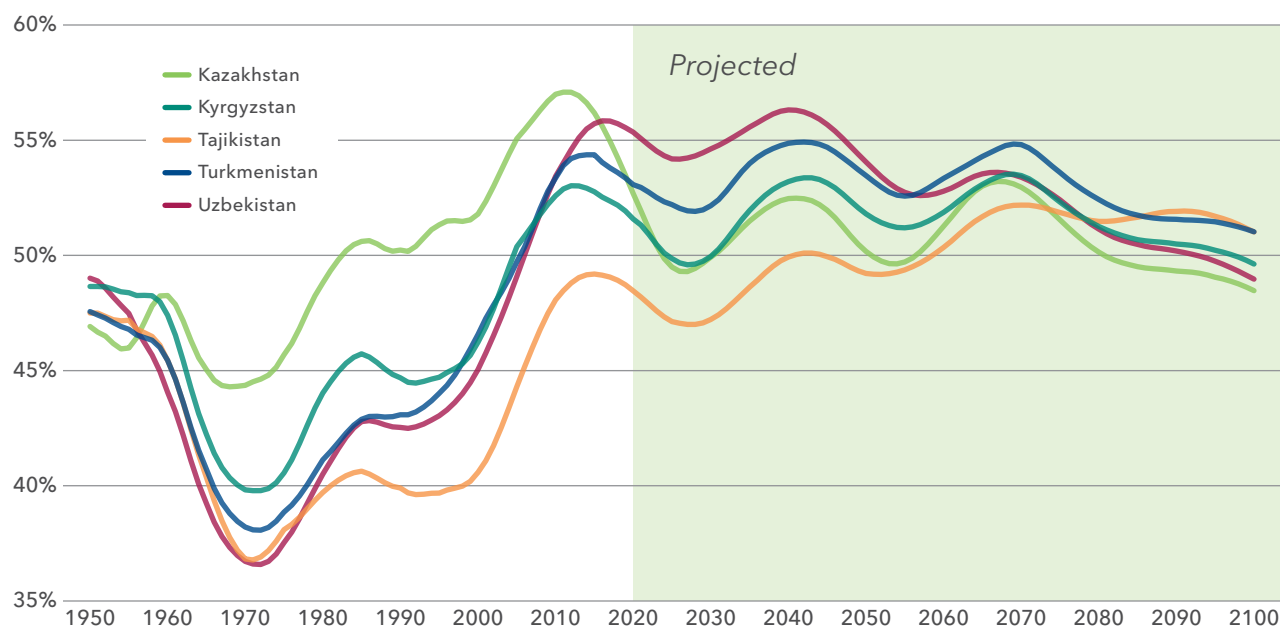
**KAMILJON AKRAMOV, ROMAN ROMASHKIN, ALLEN PARK,
AND JARILKASIN ILYASOV**

Kamiljon Akramov is a senior research fellow in the Development Strategy and Governance Division, International Food Policy Research Institute (IFPRI), Washington, DC, USA. **Roman Romashkin** is the head of the Department of Economics of the Eurasian Center for Food Security, Lomonosov Moscow State University, Moscow, Russia. **Allen Park** and **Jarilkasin Ilyasov** are senior research analysts in the Development Strategy and Governance Division, IFPRI.

In Central Asia, addressing poverty and unemployment among women and youth is essential to creating inclusive food systems. The share of working-age people in the region's population has been gradually increasing over several decades (Figure 1), and today a large cohort of young people and women cannot find employment and earn adequate income in their own countries. For example, in 2019, the unemployment rate for women in Uzbekistan stood at 12.8 percent, and the unemployment rate for youth (between the ages of 20 and 30) stood at 15 percent.¹ In Central Asia's rural

areas, rates of unemployment for women and youth are significantly higher, which is reflected in high rural poverty rates. In the rural mountainous region of Naryn Province in Kyrgyzstan, for instance, youth (ages 15 to 29) unemployment stood at 22 percent in 2018, and for young women it was above 40 percent.² Similar unemployment rates for youth and women are observed in rural areas of other Central Asian countries. Across the region, youth (ages 15 to 29) currently make up about 25 to 30 percent of the population, and this share is expected to remain high for the foreseeable future.

FIGURE 1 Working-age population (20–59 years old) in Central Asian countries, as share of total population



Source: Based on United Nations, Department of Economic and Social Affairs, Population Division, "World Population Prospects, 2019," accessed January 2, 2020, <https://population.un.org/wpp/Download/Standard/Population/>.

EMPLOYMENT, MIGRATION, AND INCLUSION

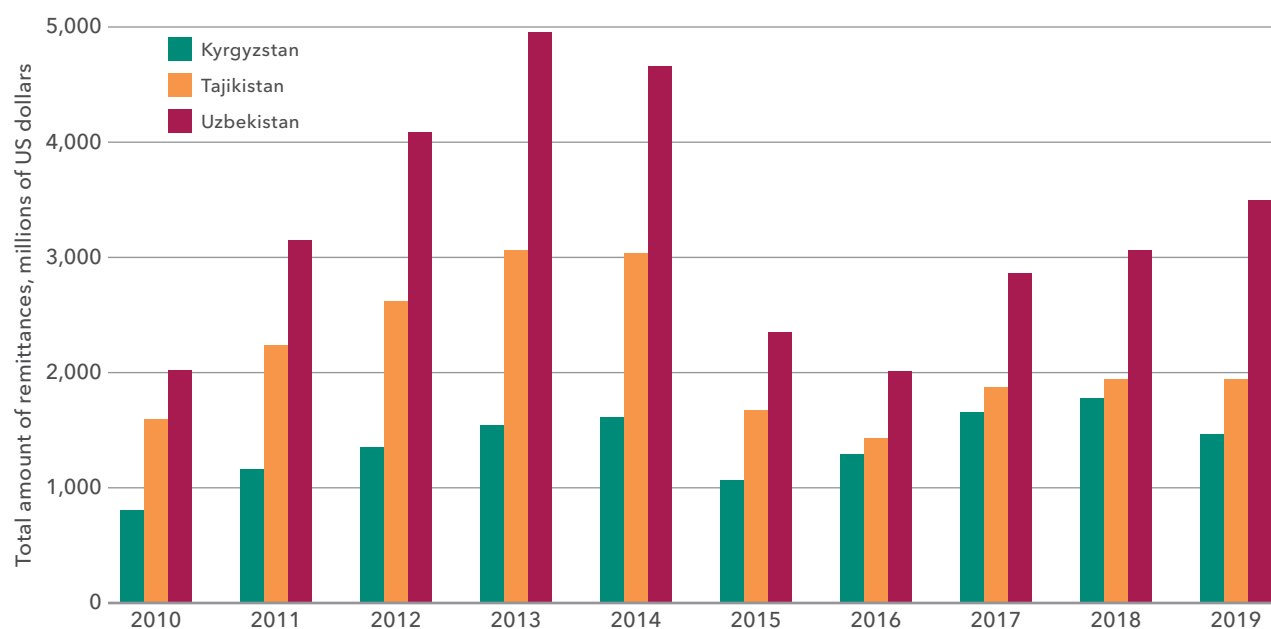
Creating employment opportunities for youth and especially for young women will be essential to improving the inclusiveness of food systems, including increasing the income, equity, and nutrition benefits of food systems for rural people. Promoting high-value agrifood sectors, such as horticulture, livestock, food processing,³ and business activities along related value chains, such as logistics and storage infrastructure, may help to create employment opportunities, particularly in densely populated rural areas. Development of the horticulture sector has added benefits, including a significant positive impact on food access and nutrition outcomes—empirical evidence suggests positive linkages between crop diversity and dietary diversity in Tajikistan and between crop diversity and agricultural productivity in Kyrgyzstan.⁴

The lack of jobs at home forces Central Asian workers, especially young men, to seek employment in Russia, Kazakhstan, Turkey, and elsewhere. Migration from labor-abundant countries (Kyrgyzstan, Tajikistan, and Uzbekistan) became a major socioeconomic

phenomenon over the past two decades. Labor remittances, which are slowly rebounding from the low levels experienced in 2015 and 2016 (Figure 2), are a critical source of foreign exchange in these countries. The inflow of remittances, primarily from Russia, contributes to macroeconomic stability, increased incomes, poverty reduction, and macro- and household-level food security in the region. However, evidence suggests that remittances tend to support consumption rather than providing capital for economic development, and can therefore have some unintended and negative consequences for structural transformation of remittance-receiving economies.⁵

Labor migration has two notable impacts on the inclusiveness of Central Asia's food systems. First, labor remittances can improve household welfare and access to food. For example, according to a recent IFPRI survey, about 40 percent of households in Tajikistan have at least one family member working abroad (usually in Russia) and receive remittances. For families that receive remittances, food amounts to about 50 percent of their expenditures, whereas for households not receiving remittances, nearly 55 percent of their expenditures are on food.⁶

FIGURE 2 Total remittance inflows from Russia (2010–2019, quarters 1–3)



Source: Based on data from the Central Bank of the Russian Federation, "Cross-Border Transfers of Individuals, 2019," accessed January 2, 2020, https://www.cbr.ru/eng/statistics/macro_itm/svs/.

Second, labor migration from Central Asia tends to be predominantly male and rural, which leads to the “feminization” of agricultural labor (see Chapter 4). This can have both positive and negative outcomes: while earnings from remittances and increases in women’s decision-making power can improve rural economies, men’s migration can also contribute to agricultural labor shortages and create social issues.⁷ This trend also highlights some of the institutional challenges related to inclusion in Central Asia’s rural areas. For example, *dehkan*⁸ farms in Tajikistan headed by women are often unable to access male-led water-users’ associations, and consequently miss out on economic opportunities.⁹ Some projects, such as the FAO’s Promoting Inclusive Economic Growth Through Matching Grants initiative in Tajikistan, make a direct link between labor migration and agriculture in the migrant-sending countries by mobilizing the earnings and skills that migrants gained overseas for use in local agriculture and agribusiness.¹⁰

LOOKING FORWARD

Central Asia will continue to face global and regional risks related to climate change and commodity price uncertainties in the medium term. In addition, external vulnerabilities associated with political, economic, and trade conditions in the region’s main trading partners (Russia and China) will have significant impacts on economic growth prospects as well as food and nutrition security. Because most of the region’s agrifood sector exports are currently sent to Russia, diversification of export markets will be essential to improving the stability of Central Asia’s economies and the development of food systems in the region.

The region’s largest country, Uzbekistan, is considering joining the Eurasian Economic Union (EAEU) and applying for WTO membership in the near future. These steps will have important implications for transforming food systems in Uzbekistan and throughout the region. WTO membership could help harmonize national legislation and standards with international practices, increase predictability and transparency of the trade regime, and improve Uzbekistan’s business and investment climate. It may also ease trade

conditions with Uzbekistan’s neighbors, which are already WTO members.

Membership in the EAEU would entail both risks and opportunities. First, it could improve employment opportunities in the Russian labor market for Uzbekistan’s migrants, as they would not need to obtain and pay for work permits and other employment-related certification. Labor remittances could increase by up to 20 percent, and more than 2 million migrant laborers and their families (about 30 percent of Uzbekistan’s population) could potentially benefit from these changes. In addition, the EAEU already accounts for about 30 percent of Uzbekistan’s international trade. Uzbekistan’s accession could create additional trade opportunities with EAEU members by harmonizing tariffs, removing customs controls at the borders with EAEU member countries, unifying transport and logistics regulations, strengthening coordination in the implementation of sanitary and phytosanitary measures, and synchronizing regional digital connectivity initiatives, including traceability of products and technology transfers. However, there is a risk that accession could lead to trade diversion effects by redirecting Uzbekistan’s trade with non-EAEU countries toward EAEU markets and reducing the competitiveness of its exports in non-EAEU markets. Thus a careful assessment of potential impacts of membership in the EAEU and WTO on trade, household welfare, and economic growth would be necessary.

Kazakhstan and Kyrgyzstan recently updated their national development strategies, and Uzbekistan adopted a new agrifood sector development strategy for 2020–2030. These policy documents aim to transform food systems, promote nutrition-sensitive value chains, encourage private incentives and investments in the agrifood sector, and extend employment opportunities, especially for women and youth. The successful implementation of these strategies and policies requires the establishment of rigorous ex ante and ex post impact assessment frameworks, which will help identify policy and institutional constraints down the road and develop evidence-based policy solutions for promoting inclusive food systems in the region.

SOUTH ASIA



SHAHIDUR RASHID, AKHTER AHMED, AND ABDUL WAJID RANA

Shahidur Rashid is the director for South Asia, International Food Policy Research Institute (IFPRI), New Delhi, India. **Akhter Ahmed** is a senior research fellow and chief of party, Bangladesh Policy Research and Strategy Support Program, IFPRI, Dhaka, Bangladesh. **Abdul Wajid Rana** is the program leader, Pakistan Strategy Support Program, IFPRI, Islamabad, Pakistan.

South Asia's steady progress toward economic transformation has reshaped the region's diverse food systems over the past decade. This regional transformation has been marked by strong economic growth, rising real wages, and the expansion of nonagricultural sectors. The share of agriculture in national GDP has, on average, declined by 15 percent, and the share of nonfarm employment has now surpassed that of farm employment.¹ As these structural changes continue, the policy challenge lies in ensuring that food system transformation is inclusive and sustainable.

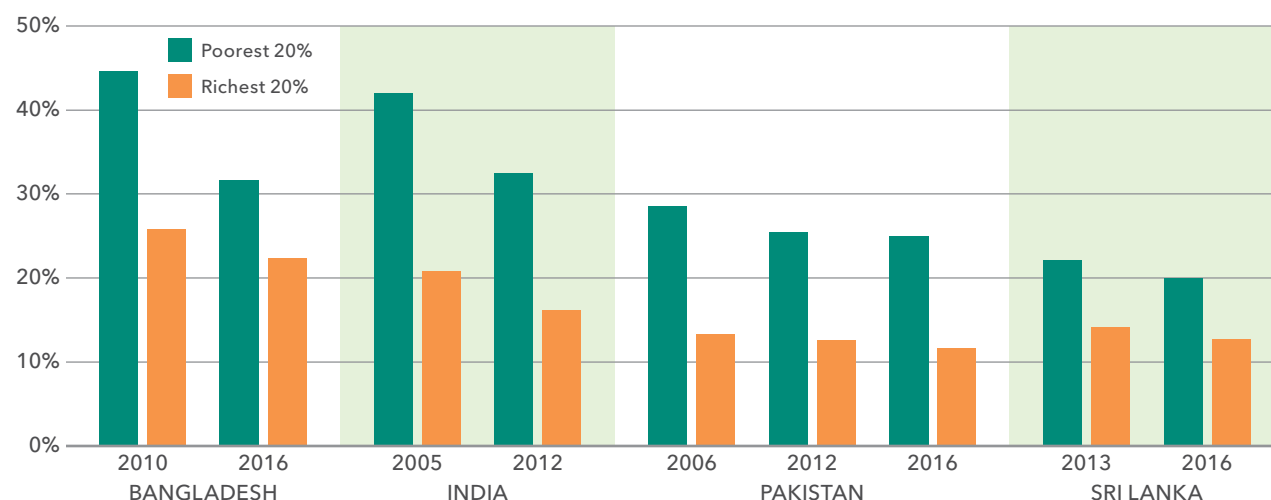
OUTLOOK FOR SOUTH ASIAN FOOD SYSTEMS

The Green Revolution led to remarkable growth in yields and overall output of cereal production in South Asia over the past five decades. But in recent years,

the growth rate of high-value foods has been greater than that of cereals. The gross value of production (at 2004/05 constant prices) of high-value products—that is, milk and milk products, meat, and fruits and vegetables—grew by over 4 percent between 2000 and 2010 and by about 3 percent from 2011 to 2017, compared with 2.3 percent and 0.5 percent for cereals in these time periods, respectively. The magnitude of these changes varies by country. For instance, between 2010 and 2018, the value of meat production grew by about 7 percent in Bangladesh and Bhutan and 5 percent in Pakistan, but by less than 1 percent in Sri Lanka and less than 2 percent in India and Nepal.²

Changes in food production are mirrored in the region's food consumption. Cereals are rapidly losing their importance in household food baskets, particularly among poor households (Figure 1). As cereal consumption has declined, per capita consumption of

FIGURE 1 Cereal consumption in South Asia (as percent of food expenditure)



Source: Authors' calculation based on Household Income and Expenditure Survey in Bangladesh (2011 and 2019); National Sample Survey in India (2006, 2007, 2013, and 2014); Household Integrated Economic Survey in Pakistan (2007, 2013, and 2017); and Household Income and Expenditure Survey in Sri Lanka (2018).

meat, eggs, and fish has increased by over 40 percent; fruits and vegetables by 24 percent; and milk by over 10 percent.³ In Bangladesh, the consumption of more diverse diets has contributed to measurable impacts on nutrition, including significant reductions in child stunting (from 43 percent in 2007 to 31 percent in 2017), underweight (from 41 percent to 22 percent), and wasting (from 17 percent to 8 percent).⁴

In line with income growth and demand for greater diet diversity, the food processing sector is also growing. Gross value added from food processing in India jumped from \$6.9 billion in 2006 to over \$16 billion in 2017. Similarly, gross value added more than doubled in Pakistan between 2000 and 2006 (from \$1.3 billion to \$3.4 billion).⁵ At the regional level, food and beverage processing as a percentage of value added in manufacturing is estimated at 14.4 percent, with the share reaching 36 percent in Sri Lanka.⁶ Yet postharvest losses are estimated to be higher in South and Southeast Asia than in other regions.⁷ This suggests that the region could benefit from upgrading postharvest technologies, which in turn would increase food availability and contribute to environmental sustainability.

Data and robust studies on the impact of this food system transformation on inclusiveness are limited, but existing studies point to positive impacts for the poor. First, studies suggest that the poor are

benefiting from new value chains—such as poultry and fisheries—that are emerging to meet changing consumer demand. Expansion of aquaculture in Bangladesh has contributed to job creation, poverty reduction, and better diets.⁸ Similarly, promotion of poultry has proved to be pro-poor in South Asian countries.⁹ Second, the growing food processing sector is generating employment for the poor. The number of jobs in food processing industries jumped from 1.4 million in 2006 to over 1.8 million in 2017 in India, and from 0.8 million to 1.7 million in Pakistan. In Bangladesh, more than 0.3 million jobs were created in the sector in 2012.¹⁰ Finally, real agricultural wages are rising in almost all countries in the region (Figure 2). This is a remarkable success, especially given that the region has a very large rural labor force and real wages remained stagnant for decades, even following the Green Revolution.¹¹

POLICY LEVERS FOR INCLUSIVE FOOD SYSTEMS

Three policy levers will be critical in making food system transformation inclusive and sustainable: (1) reforming agricultural input subsidies and price supports; (2) improving the targeting of social protection programs; and (3) building effective institutions for governing the emerging food system.

FIGURE 2 Real wages for agricultural workers in South Asia



Source: Adapted from S. Wiggins and S. Keats, *Rural Wages in Asia*, Overseas Development Institute report (London: ODI, 2014); ILO (International Labour Organization), ILOSTAT database, accessed November 2019.

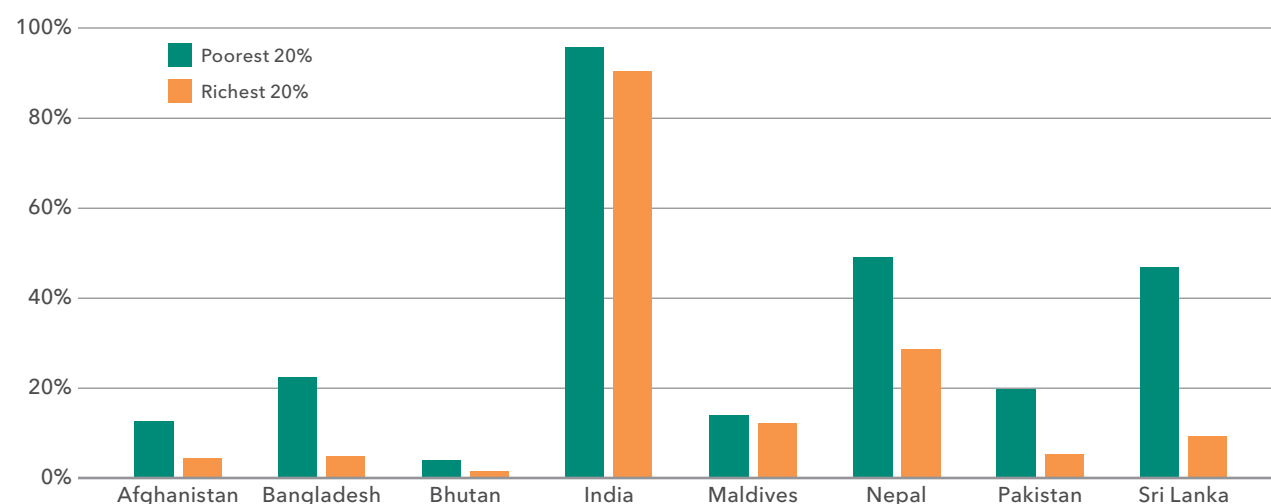
The agricultural subsidy and price policies adopted decades ago across the region to promote the Green Revolution have become an integral part of the food system and are politically popular, but are well documented to be inefficient, distortionary, and inequitable.¹² Reforming these programs could free up public funds to invest in fostering more inclusive, equitable, and gender- and nutrition-sensitive food systems.

Social safety net programs are effective policy vehicles for making the food system transformation inclusive (see Chapters 2 and 6). South Asia already has an extensive system of food-based safety net programs and public food distribution systems. However, data suggest that coverage of social protection varies widely by country (Figure 3).¹³ While over 90 percent of both poor and rich are covered in India (due to almost universal coverage of public distribution and other transfer programs), only about 4 percent of the poorest Bhutanese are covered by social safety net programs. Similarly, an evaluation of Bangladesh's largest social safety net program for rural destitute women, the Vulnerable Group Development program, found that only 43 percent of its recipients came from the poorest quintile, largely because the beneficiary selection criteria were not observable, verifiable, or strongly linked with poverty.¹⁴ The large share of rich households benefiting from these programs in some

countries, notably India, indicates that better targeting social protection programs and redesigning food-based programs could make them more efficient, more effective in reaching the poor with healthy and nutritious food, and even reduce intimate partner violence. Evidence from Bangladesh shows that women receiving transfers in conjunction with nutrition behavior change communication experienced 26 percent less intimate partner violence 6 to 10 months after the intervention ended and sustained reductions up to four years afterward.¹⁵

Establishing effective institutions for food system governance is another strong policy lever for inclusive food systems. Cohesive institutional frameworks to govern South Asia's food systems are just beginning to emerge. Food safety and standards authorities have been set up only recently—in India in 2011, in Bangladesh in 2015, and in Pakistan in 2017—and are not yet effective. For example, in examining Bangladesh's dairy sector, recent studies have found that virtually all of Bangladesh's milk supply is contaminated with antibiotics, detergents, and heavy metals as a result of contaminated feed, which could lead to antibiotic-resistant infections, cancer, and other serious noncommunicable diseases.¹⁶ Similar stories of food safety problems make headlines in other countries as well, exemplifying the potentially egregious health consequences that emerge from

FIGURE 3 Coverage of social safety net programs in South Asia



Source: Data from World Bank, World Development Indicators database, 2019.

food safety challenges.¹⁷ Effective functioning of the new regulatory bodies will be critical to ensure food safety, and can also contribute to improving human well-being, creating market opportunities, and enhancing income through promotion of new agri-food value chains.

OPPORTUNITIES AND CHALLENGES FOR FOOD SYSTEMS

South Asia has made remarkable progress but faces new challenges and opportunities in making food systems inclusive and sustainable. The three policy levers discussed can create a range of opportunities. First, cutting the link between subsidies and cereals (rice and wheat) production will also incentivize farmers to diversify their crops, benefiting their incomes and dietary diversity. Second, better targeting of social protection programs, for example, using information technology to fine-tune social transfers and subsidies—as with India’s Direct Benefit Transfer program and Pakistan’s targeted subsidy program—will improve program efficiency and free up funds for other uses. Similarly, digitalization of social transfers can make

transfer programs more efficient and contribute to inclusion, as has been the case with Bangladesh’s government-to-person payment systems or Pakistan’s Kifalat, which ensures financial and digital inclusion of poor women.¹⁸ In addition, incorporation of behavior change communication into social safety nets can promote healthier diets among the poorest.

Despite the opportunities in these areas, however, challenges remain. For example, although the Direct Benefit Transfer program is a step in the right direction for India, reforming subsidies and agricultural price policies to meet new needs will remain difficult due to the political unpopularity of such efforts. Similarly, cereal-based safety net programs remain popular in the region despite ample evidence of better alternatives. Finally, new institutions for food system governance have significant potential for promoting an inclusive food system, but will require the political will to provide adequate funding and to respond to bottom-up pressure from consumer rights groups and civil society organizations. These organizations are gaining momentum in the region and will be essential to ensuring that the unfolding food system transformation is inclusive and sustainable.

EAST AND SOUTHEAST ASIA



KEVIN CHEN, PETER TIMMER, DAVID DAWE, AND MENGYAO LI

Kevin Chen is a senior research fellow, International Food Policy Research Institute (IFPRI), Beijing, and a chair professor, Zhejiang University, Hangzhou, China. **Peter Timmer** is professor emeritus, Harvard University, Cambridge, MA, USA, and a nonresident fellow, Center for Global Development, Washington, DC, USA. **David Dawe** is a senior economist and regional strategy and policy advisor, Food and Agriculture Organization of the United Nations, Bangkok, Thailand. **Mengyao Li** is a research analyst, Zhejiang University-IFPRI Center for International Development Studies, Hangzhou, China.

The year 2019 in East and Southeast Asia was marked by increasing uncertainty for the economy as a whole, and also for the development of inclusive and sustainable food systems. Although regional economic growth is expected to remain positive, the agricultural economies of the region face challenging prospects with the spread of African swine fever, weakening global demand for the region's exports, broadened trade disputes, and the outbreak of coronavirus.¹ Among the impacts on millions of residents, the livelihoods, food security, and nutritional status of vulnerable groups require particular attention.

TRANSBOUNDARY DISEASES THREATEN LIVELIHOODS AND FOOD SECURITY

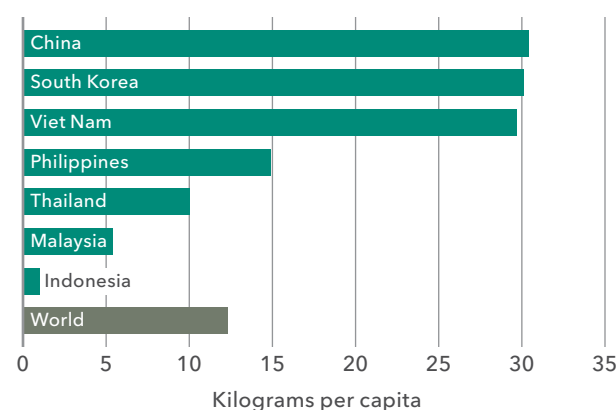
The destructive fall armyworm is spreading in key corn-growing regions of East and Southeast Asia.² The pest poses a major threat to the region's corn farmers, many of whom rely heavily on sales of feed grain for household income. A decline in corn production will also force hog, poultry, and cattle growers to turn to more expensive feed imports.³

African swine fever is expected to have a noticeable impact on meat and feed markets worldwide. First reported in northeastern China in August 2018, the highly contagious, often fatal pig disease has reached eight countries across the region.⁴ Despite imports of pork and government release of frozen stocks, the tight pork supply drove pork prices up by 21.3 percent in China in the first three quarters of 2019.⁵ Rising prices are likely to lead consumers to turn to other types of meat and reduce pork

consumption. In countries that are heavy consumers of pork, including Viet Nam, China, and South Korea, the most vulnerable consumers may suffer due to decreased diet quality, requiring further actions to tackle pork shortages and to control the rising prices (Figure 1).

Smallholder farmers account for a significant proportion of pig production but have limited biosecurity options to address African swine fever. As a result, they are among the hardest hit. To help forestall the spread of the disease, the Philippines, Viet Nam, Cambodia, Lao PDR, and China have implemented controls on the movement of pigs and pork products from affected communities. However, in China these restrictions have resulted in a widening gap in pork prices between producing and consuming provinces.⁶

FIGURE 1 Per capita pork consumption in 2018



Source: Data from OECD/FAO, *OECD-FAO Agricultural Outlook 2019-2028* (Paris: OECD, 2019).

TRADE POLICY CHANGES AFFECT FARMERS AND CONSUMERS

Tariffs on agricultural products have been a weapon of choice as the US-China trade war has heated up, involving, at some points, more than 500 agricultural products including soybeans, grains, meat, dairy products, fruits, and nuts.⁷ Chinese purchases of US agricultural products, including soybeans, are expected to increase under the “Phase 1” trade deal struck at the end of 2019, marking a step toward resolving the tit-for-tat tariff battle.

Against the backdrop of protectionism, East and Southeast Asian countries are working to deepen regional economic integration and advance the rules-based multilateral system, as indicated by the updated protocol for the China-ASEAN free trade agreement and the progress toward concluding the Regional Comprehensive Economic Partnership (RCEP) agreement between ASEAN and six other countries. ASEAN has benefited from several opportunities arising from the US-China trade turmoil and overtook the United States to become China’s second-largest trading partner in the first half of 2019.⁸ More tropical fruits, such as bananas and durian, are entering the Chinese market from Southeast Asia, providing new income-earning opportunities for farmers. China’s palm oil imports from ASEAN countries are also surging as decreased US soy imports, in response to African swine fever and trade restrictions, have reduced Chinese production of soy oil and increased demand for other edible oils.⁹

Trade policies for rice have profound implications for the well-being of both producers and consumers in the region, as rice remains the major source of calories across Asia, especially for low-income families. In the Philippines, the removal of quantitative restrictions, long used to regulate rice imports and attain rice self-sufficiency, led to declining rice prices throughout 2019. As a result, per capita consumption of rice and daily calorie consumption are expected to improve, contributing to greater food security and better nutrition.¹⁰

However, Philippine smallholder rice farmers are struggling to stay profitable. For trade liberalization to be inclusive, it must be accompanied by appropriate interventions. The tariff revenue from rice imports has been earmarked for interventions intended to improve the competitiveness of the country’s rice farmers (for example, support for mechanization and certified seeds).

Targeted social safety nets (see Chapters 2 and 6), such as cash transfer programs to help smallholders cope with the price shock from increased rice supply, are another possible policy response. These complementary interventions are not likely to fully cushion the shock, however, and many farmers will need to change their cropping patterns, for example, by shifting to dry season vegetables.

DIETS ARE CHANGING, BUT NUTRITION CHALLENGES REMAIN

Despite continued economic growth, undernutrition remains a regional challenge and is widespread in the most vulnerable groups. The share of children under five who suffer from stunting (low height-for-age) averages 26 percent across ASEAN countries and constitutes a severe public health problem. The prevalence of wasting (low weight-for-height) and anemia also constitute moderate or severe public health problems. The prevalence of stunting is consistently highest in the lowest household wealth quintile. Furthermore, inequality is increasing, which slows the reduction of stunting in the poorest quintile for a given rate of economic growth.¹¹ Anemia particularly affects women of reproductive age and pregnant women in most countries.

A major contributor to undernutrition is the lack of dietary diversity in the region. In all low- and lower-middle-income ASEAN countries (except Viet Nam), the diets of more than half of all very young children (6–23 months) fail to meet minimum standards of diversity, leading to micronutrient deficiencies that affect child development and the potential of future generations.¹² A monotonous diet of rice and pulses provides 85 percent of daily calories but threatens nutrition improvement among Rohingya refugees from Myanmar, leading to notably worse nutrition outcomes among the displaced population compared with the host-country population. If countries are to end various forms of undernutrition, economic growth will need to be more inclusive so that a diverse diet providing nutrient adequacy is affordable to all.

At the same time, the risk of overweight and obesity is rising with rapid urbanization, as traditional diets are being replaced by foods higher in fats, salt,

and animal products, usually with lower intake of fresh fruits and vegetables. All ASEAN countries are witnessing a rise in the number of obese adults.¹³ China has the largest number of affected people worldwide, with about 46 percent of adults and 15 percent of children obese or overweight.¹⁴ Diet-related noncommunicable diseases are top killers in the region and entail high social and economic costs for individuals, families, and countries.¹⁵

OUTLOOK FOR 2020

The year 2020 is likely to be the most difficult since 2009 for the region in several critical dimensions. Despite a reasonably stable regional rice market, African swine fever and substantial trade dislocations threaten the income and nutritional well-being of the region's most vulnerable households. These households are especially difficult to reach via state-sponsored social safety nets, so a return to a more stable food supply will be essential in 2020 to position countries of the region to address food security concerns. Adding to the instability is the outbreak of the new coronavirus (COVID-19 or NCP), which originated from a wild food wet market in Wuhan, China. The virus has spread quickly across China and around the world, causing the loss of thousands of lives and large economic losses, since its onset in December 2019. Various border controls both within China and at China's international borders have been introduced to contain the disease. While these controls may be necessary, they have disrupted food and nutrition security in China and beyond. As the number of people infected continued to rise in early 2020, it is clear that the impacts of the virus on food security must be monitored closely.

LATIN AMERICA AND THE CARIBBEAN



EUGENIO DÍAZ-BONILLA AND VALERIA PIÑEIRO

Eugenio Díaz-Bonilla is the head of the Latin America and Caribbean Program, International Food Policy Research Institute (IFPRI), Washington, DC, USA. **Valeria Piñeiro** is a senior research coordinator in the Markets, Trade, and Institutions Division, IFPRI.

A REGION IN TURMOIL

In Latin America and the Caribbean (LAC), governments are facing the impacts of low global commodity prices, worsening economic conditions, and related domestic turmoil, all of which have implications for the region's food systems and social inclusion. From 2001 to 2011, a sustained period of economic growth was supported by strong global demand for commodities ranging from oil and copper to soybeans and coffee, to name just a few. The downturn in commodity prices that followed slowed annual growth in per capita income to about 0.2 percent between 2012 and 2018. Economic contraction continued in 2019, with per capita income growth projected to have fallen to -0.9 percent.¹ Prospects for growth rebounding in 2020 remain very low.

Most countries have been affected by the regional downturn. The economic crisis in Argentina that began in 2018 deepened in 2019 and led to the incumbent president's defeat in the October elections. The new administration has increased export taxes on a variety of agricultural products to try to improve fiscal accounts, which could slow exports. However, the real exchange rate will likely remain at more competitive levels, which would counterbalance the disincentives associated with the export taxes and help maintain overall agricultural and food export levels.

The humanitarian and political crisis in Venezuela continues, with little prospect for resolution. The dire economic and social conditions continue to fuel a steady out-migration, particularly to Colombia. Altogether, the United Nations estimates that by the end of 2019, the total number of Venezuelan refugees since the crisis began will have reached four million (about 12 percent of the total population) (see Chapter 5).

The Mexican government inaugurated in December 2018 has made support of agriculture and of small and family farmers a priority. At the same time, migrants and asylum-seekers from Central America continue to flee insecurity and poverty, which are exacerbated by drought and crop failures. The resulting increase in arrivals at the US-Mexico border led to diplomatic disputes between the United States and all countries involved.

The new Brazilian government (inaugurated in January 2019) announced a more permissive stance on agricultural production and mining in the Amazon than that of past governments. This has generated concern worldwide, given the key role of the Amazon forest for global environmental sustainability, but the new government has asserted that decisions on managing these resources are an internal matter of Brazilian sovereignty.

Other countries in the region, including Chile, Ecuador, and Bolivia, were affected by strong social and political protests in 2019, several of which, at the time of this writing, were still evolving.

Several important trade developments have implications for regional and global agriculture. First, the free trade agreement between the United States, Mexico, and Canada, which is intended to replace the previous NAFTA agreement and was signed in October 2018, has been ratified by all members. Second, after more than 20 years of negotiations, Mercosur and the European Union announced in June 2019 that they have reached a comprehensive trade agreement. The specific details, however, seem to need additional work, and controversies about environmental issues in the Amazon have delayed further advances. Third, the US-China conflict may have helped some LAC countries, for example by boosting exports of some agricultural products from

Brazil and Argentina to China and of some industrial goods from Mexico and Central America to the United States. However, by adding further uncertainties to a weak global economy, the US–China conflict is also negatively affecting the region as a whole.²

MAKING FOOD SYSTEMS MORE INCLUSIVE

The process of urbanization, along with the expansion of infrastructure and the growth of intermediate cities (a topic discussed in IFPRI's *2017 Global Food Policy Report*), the greater integration of rural and urban markets, and the increase in foreign investment in processing, retail, and fast-food chains and restaurants, has led to the expansion and greater complexity of food systems in the region.³

Those food systems now represent important shares of value added and employment when we consider producers, inputs and services providers, traders, agro-industrial processors, a variety of retail outlets, and prepared-food providers—ranging from street vendors to formal restaurants.

Figure 1 shows LAC countries classified according to relevance of the food system in the economy, as measured by combining the percentages of agricultural and agro-industry value added and of rural employment. Bolivia, Ecuador, Honduras, Paraguay, and Peru show a higher dependence on the food system for value added and employment (a combined average of more than 20 percent), followed by Argentina, Colombia, Costa Rica, El Salvador, Jamaica, Mexico, Panama, and Uruguay with intermediate levels (about 10 to 20 percent). For the remaining countries, the indicator is below 10 percent.⁴

Given the scale of food system value chains in the region, they offer important possibilities for broad-based employment and inclusion for a variety of actors, including women, youth, and vulnerable ethnic groups.⁵ A longstanding debate has considered whether small and family farms can integrate into, and benefit from, expanding value chains. Several studies suggest that small farms (not just large farms) can be beneficially integrated, but generally not the poorest ones.⁶

Female participation rates in primary production are lower in LAC than in other developing regions. Although most countries in the region have laws

and programs intended to improve the inclusion of women, evidence clearly points to discrimination against women in access to land, credit, and technology, and in governance structures more generally (see Chapter 4).⁷ Analysis of women's other roles in the food system, for example, as traders of fresh products, workers in agro-industries, and operators of a variety of food outlets, has been more limited.⁸ It should be also noted that women (adolescents and adults) appear more affected by the worsening epidemic of overweight and obesity in the region, particularly in countries whose overall rates of overweight and obesity are especially high, like Chile and Mexico. Therefore, food systems need to be analyzed not only from the point of view of employment and inclusion of women, but also to better understand how women's empowerment in food systems can improve diets and reduce overweight and obesity. The need for data collection and evaluation of policy interventions is even more acute for understanding inclusion of youth and vulnerable ethnic groups in food systems.

FIGURE 1 Food system relevance in the economy



Source: Data from World Bank, World Development Indicators database, 2019.

The challenge of restructuring food systems for employment and inclusion is compounded not only by the fact that these food systems are a source of obesogenic diets, but also because they are a significant source of greenhouse gas emissions and other negative environmental externalities.⁹ In fact, food systems are at the center of a variety of economic, social, environmental, and health outcomes, with implications for many of the Sustainable Development Goals.¹⁰

LOOKING AHEAD

Deteriorating economic and social conditions in LAC signal that food security and nutrition are likely to worsen in 2020. Food systems in LAC are already struggling with sustainability issues (ranging from deforestation to food waste and loss) and health challenges (in part associated with obesity). These systems should also be analyzed to understand their implications for employment and implementation of the substantive changes needed to place them on a stronger environmental and nutritional footing. An extensive policy research program on these topics could help to improve the overall functioning and inclusiveness of food systems in LAC and to achieve the SDGs by 2030.

"If we build on
innovations and
continue to pioneer new
ideas, we can design
food systems that are
inclusive, climate smart,
and sustainable, and
we can provide healthy
diets for everyone."

