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FOOD POLICY IN 2015–2016

Reshaping the Global Food System for Sustainable Development

Shenggen Fan

SUMMARY The year 2015 saw a new global commitment to sustainable development that will require a reshaping of the world's food system. The well-being of people and the planet will depend on creation of a food system that is more efficient, inclusive, climate-smart, sustainable, nutrition- and health-driven, and business-friendly.

The year 2015 was a watershed moment for the international development community. The endpoint of the Millennium Development Goals (MDGs) in 2015 represented the culmination of an ambitious agenda designed to improve human well-being worldwide. Adopted in 2000 by the United Nations (UN) member countries, the MDGs were an enormous undertaking that achieved some striking advances: extreme poverty, child mortality, and hunger all fell by around half between 1990 and 2015.[1] We also made important progress in reducing maternal mortality, combating HIV/AIDS and malaria, raising primary school enrollment, and boosting total official development assistance. UN Secretary General Ban Ki-Moon has called the MDGs "the most successful anti-poverty movement in history."[2]

Still, we cannot sit back and declare victory. Progress varies by region, and millions of people still live in conditions of severe deprivation. Poverty and hunger remain serious problems. Conflicts have killed, injured, and displaced millions of people. Population growth and urbanization are pushing up food demand while natural resources are under strain. And climate change, extreme weather, and environmental degradation not only impose hardships now, but threaten to do so even more in the future.

So the global community committed to a new set of objectives in 2015—the Sustainable Development Goals (SDGs)—to chart a path toward meeting current human needs without compromising the ability of future generations to meet their needs. The 17 goals and 169 targets will anchor the global development agenda for the next 15 years. At the core of the SDGs are goals to eliminate extreme poverty, hunger, and malnutrition, and to conserve the environment.

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At the same time, we are moving toward more comprehensive—or systems level—thinking as we look at issues of poverty, hunger, and malnutrition and come to a greater understanding of their complexity. The world's food system includes all of the activities and elements—environment, people, inputs, processes, knowledge, infrastructure, and institutions—involved in getting food from farms to consumers' plates. Just as important, it includes the outputs of these activities, such as socioeconomic and environmental outcomes. Because the food system reaches into so many areas, it has a large part to play in people's prosperity, food security, and nutrition. Not only does the food system generate the calories and nutrients that people require for good health, it also is the basis for the livelihoods of millions of the world's poorest people.

> Creating a world food system that operates for the well-being of people as well as the planet is a major challenge.

Creating a world food system that operates for the well-being of people, as well as the planet on which we all depend, is a major challenge. We need a food system that can help us reach a whole range of SDGs by 2030. What would such a food system look like? How close have we come to achieving it? And how do the events and issues of 2015 fit into the effort to build a sustainable food system?

LOOKING BACK AT 2015

A new chapter opened with the September UN General Assembly meeting, at which the UN member countries adopted the SDGs. The new goals are meant to be truly global and apply not just to developing countries, but to every country. They cover a wider set of policy areas than the MDGs did, and the 169 targets are intended to advance the goals in specific ways. SDGs 1 and 2, for instance, call for ending poverty and hunger, including all forms of malnutrition, by 2030. Although the goals are global, actions will need to be led and implemented by individual countries, with participation not only from national governments, but also from local communities, the private sector, aid donors, researchers, and other partners.

Discussions also took place on how to pay for global development efforts. In July 2015, a global conference in Addis Ababa on financing development led to several new agreements, such as a social compact to provide all people with basic services including education, health, and water and sanitation, as well as a commitment to universal secondary education and equal economic rights for women. The conference also reaffirmed that the developed countries would spend 0.7 percent of their national income on official development assistance—a decades-old goal that only a few countries have met.[3]

In December 2015, the 21st UN Conference of the Parties (COP21) in Paris marked a new approach to coping with climate change. It moves away from the mandated cuts in greenhouses gases (GHGs) typified by the Kyoto agreement and instead allows countries to put forward their own plans for lowering domestic emissions. With a goal of keeping the average global temperature increase below 2 degrees Celsius—and ideally even below 1.5 degrees Celsius—188 countries submitted plans for slowing the pace of GHG emissions. Moreover, every five years countries will submit updated and increasingly ambitious plans.

Also in December, the World Trade Organization's (WTO) ministerial meeting in Nairobi resulted in a package of decisions, including a commitment to eliminate subsidies for farm exports and to seek a permanent solution for treatment of countries' public holdings of food stocks for food security purposes—an unresolved issue that has been an important point of contention.

Along with these global decisions, many developments in 2015 served to underline the interconnectedness of the world's countries and people. Economic and natural forces, as well as people, crossed borders and had wide-ranging impacts across countries.

Overall global economic growth was disappointingly slow in 2015, at 2.4 percent, amid slow growth

in the emerging economies.[4] At the same time, world food prices continued their downward slide, falling for the fourth year in a row. The Food Price Index of the Food and Agriculture Organization of the United Nations (FAO) averaged 19 percent less in 2015 than it did in 2014.[5] Plentiful supplies coupled with modest demand, as well as appreciation of the US dollar, appear to underpin the fall in food prices. World oil prices slid dramatically, reaching their lowest level in 11 years at the end of 2015.[6]

A series of shocks buffeted countries, regions, and food systems across the world in 2015. Flooding in southern Africa, drought in Central America, and a major earthquake in Nepal led to widespread food insecurity. In March, a strong El Niño weather pattern commenced, with severe effects for food security in several regions. It led to one of the worst droughts in decades in Ethiopia, leaving millions of people in need of relief assistance.

The year also saw the numbers of displaced people reach unprecedented crisis proportions. Although conflicts in various countries contributed to the massive movements of people, the civil war in Syria is responsible for the bulk of the displaced. The flow of refugees represents not only hardship and risk for the displaced people themselves, but also daunting challenges for the host communities and for the international humanitarian system.[7]

In Africa, although the continent as a whole did not meet the MDG 1 goal of halving poverty and hunger, 18 countries did achieve the poverty goal.[8] African countries have pursued other goals as well, with mixed results. East Africa surpassed the Comprehensive Africa Agricultural Development Programme (CAADP) target of 6 percent agricultural growth in 2008–2014, reaching a rate of 6.6 percent growth. But total public spending on agriculture as a share of public spending in Africa fell far short of the CAADP target of 10 percent. In early 2016, the World Health Organization declared that Ebola transmission had ended in Guinea, Liberia, and Sierra Leone. This outbreak of the virus killed more than an estimated 11,000 people.[9] Conflict in several countries, including Central African Republic, Nigeria, Somalia, and South Sudan, jeopardized food security there. And as climate change effects began to be felt, several initiatives were launched to promote the spread of climate-smart agricultural policies and practices across Africa.

Developments and conditions in the Middle East and North Africa in 2015 were troubling, even beyond the conflicts in Syria and elsewhere. With the price of oil falling, the revenues of the oil-rich Gulf Cooperation Council countries were expected to fall by 50 percent in 2015, putting a strain on their finances. For oil-importing countries, the benefit of lower oil prices was counteracted by reduced demand for goods and services from the Gulf states. Hunger and malnutrition remain serious problems in many countries in the region, even as obesity rates in some countries soar.

In contrast, South Asia benefited from rapid economic growth in 2015. Poverty and hunger have fallen in the region but remain high. Weather extremes and disasters, including earthquakes, droughts, and heat waves, posed challenges for the region's food security. Yet the countries of South Asia made a number of food policy advances, including new initiatives related to nutrition policy and food safety in Bangladesh, a new sanitation program and an irrigation program in India, and programs to improve farmers' inputs in India and Pakistan.

In East Asia, rice prices—an important indicator of food security—fell slightly in 2015, even though production was modest, probably due to large stockpiles of rice in the region. In 2016, however, as the weather effects of El Niño decrease production, stockpiles could decline and prices could become more volatile; the East Asian countries may find it difficult to ensure an affordable supply of staple grains for the poor and hungry in the region.

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2015 FOOD POLICY TIMELINE: ISSUES, ACTIONS & EVENTS

JANUARY

Spotlight on Soils. The United Nations declares 2015 the "International Year of Soils" to focus the world's attention on "healthy soils for a healthy life."

FEBRUARY

Growing Numbers of Refugees. Turkey becomes the world's biggest refugee-hosting country, with nearly 1 million refugees from Syria alone. Intensified conflict in Yemen leaves 12 million people food insecure and 1.8 million children malnourished.

MARCH

Ebola Outbreak in West Africa. The epidemic in Guinea, Liberia, and Sierra Leone disrupts markets and trade, and 1.2 million people face crisis levels of food insecurity.

APRIL

Major Earthquake Hits Nepal. A magnitude 7.8 quake leaves an estimated 1.4 million people in need of food assistance and destroys 52,000 metric tons of grain stocks.

MAY

Showcasing Food for the World Expo Milan. A global exposition on "feeding the planet energy for life" opens, showcasing technologies for a sustainable future.

JUNE

Pope Calls for Earth Stewardship. Pope Francis's encyclical highlights the impact of climate change on the poor and stresses our responsibility to care for the Earth.

Ambitious Goals Set by G7. For the first time, the G7 commits to ending extreme poverty and undernutrition by 2030 and sets a zero-carbon economy goal for the end of the century.

GLOBAL TRENDS & ENVIRONMENT

THE SUSTAINABLE DEVELOPMENT GOALS LEAD THE WAY TO 2030

GLOBAL ECONOMIC RECOVERY REMAINS SLOW

GLOBAL AGRICULTURAL PRICES FOR MAJOR COMMODITIES DECLINE FOR FOURTH YEAR IN A ROW

JULY

Agenda Set for Financing Development. In Addis Ababa, Ethiopia, 193 UN member states meet and agree to a new social compact to provide critical public services—health, education, energy, water, and sanitation—for all.

SEPTEMBER

SDGs Adopted. The UN General Assembly formally adopts 17 Sustainable Development Goals with 169 targets covering a broad range of sustainable development issues. SDGs 1 and 2 are "no poverty" and "zero hunger" by 2030.

NOVEMBER

El Niño Brings Ethiopian Drought. Suffering the worst drought in decades, 8.2 million Ethiopians are in need of relief assistance.

AUGUST

Low, Stable Food Prices. Bumper crops lead to notably low and stable international food prices, which hit a six-year low.

DECEMBER

COP21 in Paris. World leaders negotiate an unprecedented agreement on climate change, committing all countries to limit global warming to 2°C and offering poorer countries financial help to cut emissions and cope with the effects of climate change.

Focus on Food Waste. By invitation from 20 agricultural ministers, IFPRI and FAO launch the G20 Technical Platform on the Measurement and Reduction of Food Loss and Waste.

Agricultural Export Subsidies to Be Eliminated. Tenth WTO Ministerial Conference culminates in historic Nairobi package, includes a commitment to abolishing subsidies for farm exports.

CLIMATE CHANGE REMAINS AT THE TOP OF THE GLOBAL POLICY AGENDA

THE STRONGEST EL NIÑO IN 18 YEARS CAUSES DROUGHTS AND FLOODS THAT THREATEN FOOD SECURITY IN AFRICA, CENTRAL AMERICA, AND ASIA

THE REFUGEE CRISIS, AND ITS IMPACT ON LIVELIHOODS AND FOOD SECURITY, DEEPENS AND BECOMES THE FOCUS OF POLICYMAKERS

After a series of food safety scandals, food safety is a pressing issue in China, which passed new regulations in 2015. Other countries in the region have also been working toward bringing local food-safety inspection guidelines up to regional standards.[10]

> Latin American countries achieved several of the MDGs, including the poverty and hunger goals.

Final agreement on the Asian Infrastructure Investment Bank was reached, and this new institution is expected to help East Asia meet its substantial infrastructure needs.

Central Asia remains vulnerable to shocks in the wake of an economic downturn in Russia—due in part to low oil and gas prices and international sanctions, which substantially reduced remittances from migrants. Inflation is high, and economic growth is expected to slow. Still, all Central Asian countries except Tajikistan managed to meet the MDG target of cutting poverty and hunger by half by 2015. And several countries in the region are adopting new policies to promote food security and improved nutrition.

Latin American countries achieved several of the MDGs, including the poverty and hunger goals, thanks in part to strong agricultural and economic growth and expanded social safety nets. Hunger and undernutrition remain problems in some areas, though, such as Central America and the Caribbean, and the whole region suffers from serious rates of overweight, obesity, and related noncommunicable diseases. In January 2015, most countries in the region adopted a regional plan for food security that commits them to eliminating hunger by 2025.

BUILDING A FOOD SYSTEM THAT WORKS FOR PEOPLE AND THE PLANET

As the events of 2015 showed, while our current food system has major strengths, it also suffers from significant weaknesses. On the one hand, it feeds more than 6 billion people—more than many in earlier decades and centuries would have believed possible. On the other hand, it leaves nearly 800 million people hungry. It does not provide all people with a healthy, safe, and nutritious diet; many of those who get sufficient calories are still malnourished. The food system does not generate adequate livelihoods for millions of people employed in the food system. And in a context of scarce natural resources and advancing climate change, it is not environmentally sustainable.

A food system that promotes the well-being of people and the planet should have six characteristics: it should be efficient, inclusive, climate-smart, sustainable, nutrition- and health- driven, and business-friendly.

Efficient

To begin with, we need a food system that produces more food using the fewest resources possible. The UN reports that the world's food producers will need to produce 70 percent more food by 2050 to feed a projected world population of 9.6 billion.[11] Yet the world's land and water resources are already under serious pressure. Technologies, institutions, and policies must all be designed to promote the efficient and productive use of these resources. Value chains, markets, and trade systems need to work more efficiently. By reducing distortions in trade policies, the recent WTO agreement to end export subsidies is a promising step in this direction.

In addition, there is growing awareness that loss and waste of the food we produce constitute a large source of inefficiency in our food system. Estimates of the share of food lost and wasted globally through the various stages of the food value chain fall in the range of 30 percent, and even higher for some products.[12] Food loss is particularly high during agricultural production and processing in developing countries, and food waste is common at the consumer stage in industrialized countries. Moreover, lost or wasted food has high environmental costs—perhaps 30 percent of the world's agricultural land is devoted to producing food that will never be eaten. International organizations, research institutions, national governments, and others have undertaken

initiatives to reduce food loss and waste, but so far these efforts have resulted in few major success stories (see Chapter 3, "Toward a Sustainable Food System: Reducing Food Loss and Waste"). Becoming more efficient will involve improving infrastructure, technology, transportation, and distribution along the supply chain, and educating consumers about food waste. A new G20 Technical Platform on Food Loss and Waste, launched by the International Food Policy Research Institute (IFPRI) and FAO in 2015, will provide knowledge on best practices in these areas.

Inclusive

We need to make sure that opportunities and economic growth reach poor and marginalized people, such as smallholders, women, and youth, who have important roles to play in ending hunger and malnutrition. These groups often face constrained access to assets and markets and are at risk of exclusion from increasingly complex food value chains. Maximizing the potential of commercially viable smallholder farms and empowering women and youth are not only critical for food security and nutrition, but also central to achieving several other SDGs, especially those related to reducing inequality.

An overwhelming majority (84 percent) of the world's 570 million farms operate on less than 2 hectares of land. Small farms are a critical source of income, employment, and food for billions of people in many developing countries,[13] but they are also home to half of the world's hungry.[14]

Smallholders are not always the most efficient producers in agricultural systems. Given that labor on small farms is often supplied by family members, such farms typically benefit from the low cost of supervising workers, which can make them more efficient than larger farms. But this advantage diminishes as agriculture becomes more capital intensive and as large farms benefit from economies of scale with the increased use of tractors and other machines.[15] Policies should help smallholders shift either toward producing more nutritious and profitable foods or toward engaging in off-farm employment.[16]

Empowering women is also a vital step in boosting agricultural output and productivity. Female farmers' yields are estimated to be 20–30 percent lower than men's. This is mainly because women have less access to resources, such as land titles, inputs, and financial services, and they face the additional demands on their time of household work and childcare.[17] Removing these inequalities and closing the gender gap in agricultural yields could increase developing countries' agricultural output by between 2.5 and 4.0 percent and in turn reduce the number of undernourished people by 12–17 percent (100–150 million people).[18]

> Maximizing the potential of smallholders, including women and youth, is critical to food security and nutrition, and to achieving multiple Sustainable Development Goals.

Climate-smart

Climate change is modifying the environment in which agriculture operates by bringing about changes in temperature, precipitation, and weather volatility. It is already having significant negative impacts on crop yields and is expected to decrease yields even more in the coming decades, just as the world requires higher yields to meet future food needs. For example, global cereal yields are projected to fall by 20 percent by 2050.[19] Moreover, commercially viable smallholder farmers, who have such an important role to play in achieving food security and in meeting the SDGs, are particularly vulnerable to the extreme weather events associated with climate change, because they are already operating with limited resources, assets, and capacities (see Chapter 2, "Climate Change and Agriculture: Strengthening the Role of Smallholders").

Of course, the food system itself is a significant contributor to climate change. The FAO estimates that the global food system is responsible for about one-fifth of GHG emissions (see Figure 3 in Chapter 7). A climate-smart food system, therefore, is crucial. Such a system would integrate

2016 GLOBAL FOOD POLICY REPORT SURVEY

Over 1,000 individuals representing more than 80 countries responded to a Global Food Policy Report survey on perceptions about food policy and food security now and for the future, and on priorities among the Sustainable Development Goals.

The respondents, most of whom work in agricultural or economic development, or the health and nutrition field, are pessimistic about the possibility of eliminating hunger and undernutrition by 2025 globally. They are more optimistic, however, about eliminating hunger and undernutrition in their own countries. Among the 17 Sustainable Development Goals, most respondents give priority to ending hunger.

GLOBAL FOOD POLICIES

More than half are dissatisfied with global food policies.

Even more are dissatisfied with food policies in their own country.

Men and women have different views.

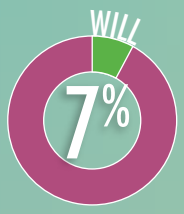
Yes, I'm satisfied with current **global** food policies.

Yes, I'm satisfied with current food policies **in my own country.**

HUNGER & UNDERNUTRITION

People are more optimistic about ending hunger and undernutrition in their own country than globally.

Yes, global hunger CAN be eliminated by 2025.



Yes, global hunger WILL be eliminated by 2025.

Yes, hunger **in my country** CAN be eliminated by 2025.

Yes, hunger **in my country** WILL be eliminated by 2025.

Young people are more pessimistic about ending global hunger.

Yes, global hunger WILL be eliminated by 2025.

Yes, hunger **in my country** WILL be eliminated by 2025.

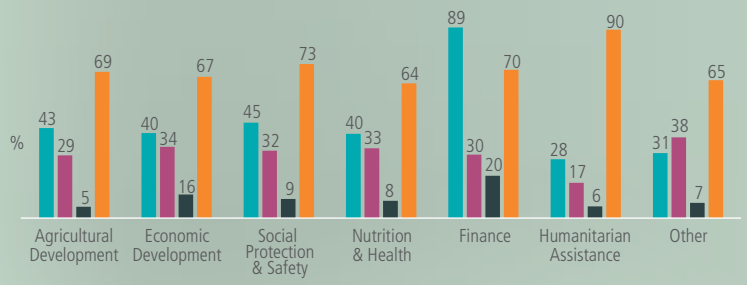
SUSTAINABLE DEVELOPMENT GOALS: PRIORITIES

SDG2, end hunger, achieve food security and improved nutrition, and promote sustainable agriculture.

Yes, ending hunger and undernutrition is a prerequisite to ending extreme poverty.

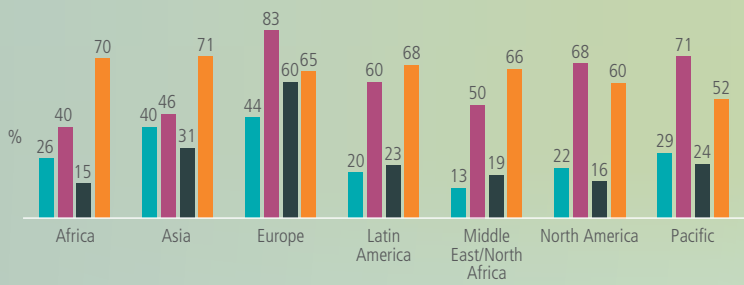
PERSPECTIVES FROM THE FIELD

Respondents working in finance are the most optimistic about eliminating hunger by 2025; those in agricultural development are the least optimistic.



REGIONAL PERSPECTIVES

Europeans are the most optimistic about ending hunger and undernutrition by 2025; Africans are the least optimistic.



Satisfied with global food policies

Think global hunger and undernutrition can be eliminated by 2025

Think global hunger and undernutrition will be eliminated by 2025

Think ending hunger and undernutrition are a prerequisite to ending extreme poverty

Source: The survey was conducted online, from January 25-31. IFPRI invited over 17,000 individuals to participate. Complete survey questions and results are available at www.ifpri.org/gfpr/2016.

agricultural development and responsiveness to climate, while aiming to reduce or remove GHGs and build resilience.

Building a climate-smart food system will proceed faster if we invest in technologies and policies that can meet more than one goal. That is, solutions should be designed not only to increase productivity, but also to improve food security and nutrition and to help farmers mitigate or adapt to climate change. A number of such technologies have already been identified, including zero-till farming; certain crop varieties, such as C4 rice; and agroforestry systems in which farmers grow trees and shrubs on their farmland. Many of these technologies are suitable for smallholder farmers.

Sustainable

A sustainable food system is one that efficiently meets current and emerging demand for food without jeopardizing the availability of scarce natural resources. At present, resource use in agriculture is unsustainable. For example, as much as 85 percent of global water use goes to agricultural irrigation,[20] of which 15–35 percent is thought to be unsustainable.[21] Furthermore, nearly a quarter of all global land has been affected by environmental degradation.[22]

We can avoid sacrificing the environment for food security and nutrition by focusing on sustainable intensification, whereby increased food production goes hand in hand with more efficient use of natural resources and reduced environmental impacts. Although there is debate over exactly what sustainable intensification entails in practical terms,[23] researchers have identified a number of agricultural technologies that can reduce trade-offs among sustainability, food security, and nutrition and even exploit synergies among them, such as nitrogen-use efficiency, heat- and drought-tolerant crop varieties, precision agriculture, and drip irrigation.[24] Sustainable intensification strategies can also help promote soil health and sustainable land management, which are key to producing a sustainable food supply; ensuring ecosystem services, such as habitats for beneficial insects and pollinators; and promoting human health (see Chapter 5, "Land and Soil Management: Promoting Healthy Soils for Healthier Agricultural Systems").

Many ways of using water more efficiently in agriculture already exist. Lining irrigation canals would help reduce water loss, for example, and such technologies as modern drip or sprinkler irrigation systems would improve the application of water to crops. Effective water management through pricing, taxes, subsidies, and quotas can reduce water waste by giving farmers incentives to adopt resource-efficient technologies and penalizing those who engage in unsustainable practices (see Chapter 4, "Water, Nutrition, and Health: Finding Win-Win Strategies for Water Management").

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Energy is required throughout the food system to produce crops, livestock, and fish; to process, store, and distribute food products; and to prepare and preserve foods. To be sustainable, the global food system will need to ensure widespread access to modern energy. Although sustainably meeting the world's needs for food and energy will be challenging, there are several potential opportunities for doing so through greater use of renewable forms of energy, such as hydropower and solar power; carefully managed biofuels; and more efficient cookstoves (see Chapter 7, "Green Energy: Fueling the Path to Food Security").

Global diets are also on an unsustainable trajectory. Three current trends are worrisome: increasing numbers of people are consuming more calories than they need for a healthy and active life; rising numbers of people are consuming more protein than they require and shifting their consumption toward animal-based protein; and demand for beef, which is an inefficient and resource-intensive food source, is rising rapidly (see Chapter 8, "Shifting Diets: Toward a Sustainable Food Future"). These trends

impose high costs not only in terms of human health and nutrition, but also in terms of the environment, through land use and GHG emissions. So far, efforts to shift people's diets, primarily through labeling and consumer education, have had limited success. It is time to develop strategies that correspond better with how people actually make dietary decisions.

Nutrition- and health-driven

Our current food system does not provide a nutritious diet to all people. Worldwide, an estimated 2 billion people suffer micronutrient deficiencies, and 795 million people are undernourished. Although undernutrition is slowly declining, 162 million children under age five still suffer from stunted growth, most of them in Africa south of the Sahara and South Asia. Not only is undernutrition the single biggest contributor to child mortality, but it also impairs people's cognitive and physical development, hindering their educational attainment and labor productivity, and ultimately undermining the economic progress of countries.

At the other end of the spectrum, a growing number of people are suffering from overnutrition: currently more than 2 billion people are overweight or obese. Moreover, undernutrition and obesity increasingly coexist in the same households. Many countries are also experiencing increased threats to the safety of food supplies. We need to build a global food system that makes it easier for people to consume safe, nutritious, diverse diets in appropriate amounts, while limiting processed foods of limited nutritional value.

> "Agricultural value chains—from farm to table—need to be designed with both nutrition and sustainability in mind.

Agricultural value chains, which encompass all actors and activities from the farm to the table, need to be designed with both nutrition and sustainability in mind (see Chapter 6, "Nutrition and Sustainability: Harnessing Value Chains to Improve Food Systems"). Various types of value chain interventions are possible: interventions could be designed to result in greater supplies of nutritious foods, greater demand for those foods, or better functioning of value chains through more information or regulation. Such interventions could include, for example, nutrition education for consumers, "cold chains" that can help keep perishable foods fresh, and contract farming arrangements that encourage farmers to grow nutritious crops.

Gender also plays an important role in building a nutrition-driven food system, given women's important roles in agricultural production and as consumers and caregivers. IFPRI's gender-related research shows, for instance, that empowering women in agriculture can help improve their households' dietary diversity and reduce child stunting.[25]

Business-friendly

Global, national, and local food systems must be supported by well-functioning markets and partnerships in food supply chains and by an environment that allows food-system entrepreneurs to promote long-term, market-based solutions. Private sector participation in the global food system, in the form of domestic and foreign investments, can help push forward critical advances in technology, productivity, and other outcomes. In addition to promoting links between private sector parties along the supply chain, the stakeholders in the food system should facilitate partnerships between private sector actors and public bodies, development agencies, and civil society organizations.

It is also important to use market and trade policies to soften the negative effects of market shocks and improve resilience across the supply chain. Governments and civic organizations should provide stability and mitigate the risk of extreme food price volatility through, for example, well-regulated food warehousing and reserve systems.

To function well for the private sector, the enabling environment will require, among other things, adequate transportation, communications, and energy infrastructure; availability of finance; and agricultural research and extension services. It is useful to keep in mind that private sector actors in

the food system are likely to contribute to such goals as nutrition and sustainability if pursuing those goals also expands their potential for profits (see Chapters 3 and 8).

A FOOD SYSTEM WE CAN ALL THRIVE IN

A food system index is needed to help measure progress in these six dimensions and to quantify changes in the many moving parts of the food system. Such an index, along with more research and more experimentation with policies and technologies, will give us a better idea of how to advance, step by step, in making improvements to the global food system.

A food system that is efficient, inclusive, climate-smart, sustainable, nutrition- and health-driven, and business-friendly will promote the well-being of people and the planet, as it helps us achieve many of the SDGs. Such a food system would contribute to, for example, the SDGs related to food security and nutrition, gender equity, water and sanitation, employment, and land use. By operating in a climate-smart way, it would move countries closer to meeting their COP21 commitments. And it could help the world end hunger and undernutrition by 2025, a goal adopted by IFPRI in 2015 and joined by several countries and partners through the Compact2025 initiative.

Changing the global food system in these ways will not be easy. But having a vision of where we want to be is a vital first step. Ultimately, a global food system that supports a healthy, well-nourished population and a healthy planet can be sustained for generations. ■