



## NEW PLAYERS

# Stepping into the Global Food System

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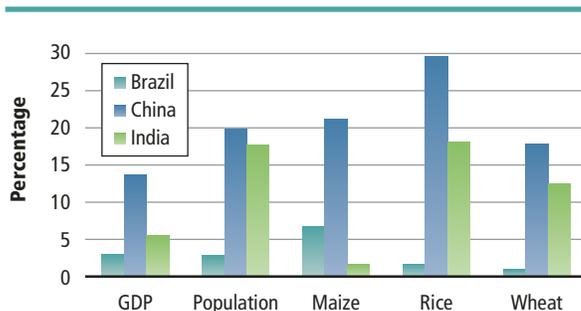


**E**NSURING GLOBAL FOOD SECURITY HAS TRADITIONALLY been perceived as the responsibility of a few industrial countries and United Nations agencies, but the strengthening of many developing countries and institutions is also contributing to the global agenda of ensuring food security, alleviating poverty and ending hunger. The emergence of new players has been a growing trend for several years. In 2011, key developments marked an unprecedented degree of influence by new players, including countries such as Brazil, China, and India; new institutions such as charitable foundations; and the private sector, on the global food governance system.

## RISE OF THE EMERGING ECONOMIES AS NONTRADITIONAL DONORS

The emerging economies—particularly Brazil, China, and India—have grown at remarkably high rates in the past decade,<sup>1</sup> and in 2011 these three economies accounted for more than 20 percent of global gross domestic product (Figure 1). These are not the only emerging economies assuming roles as major global players. The Group of 20 (G20) countries, representing two-thirds of the world's population, 90 percent of world gross domestic product, and 80 percent of world trade, are quickly overtaking the G7 and the G8 as

**FIGURE 1** Emerging economies' share in global gross domestic product (GDP), population, and crop production, 2011



**Source:** GDP and population data are from the International Finance Corporation. Crop production data are from the Food and Agriculture Organization of the United Nations, FAOSTAT database, faostat.fao.org. **Note:** Share of crop production is for 2010.

the principal forum for managing global economic problems. These emerging economies are changing the structure and nature of the global landscape and global governance, and their important role in addressing global food security, in particular, was frequently acknowledged and discussed at high-level ministerial meetings in 2011.

On June 22 and 23, 2011, for example, the G20 agricultural ministers met in Paris to develop an

action plan on food price volatility and agriculture. And on October 30, 2011, the agriculture ministers of Brazil, China, India, and Russia met in Chengdu, China, to discuss agricultural development and cooperation among themselves and with other developing countries. These ministers believe that the stable and robust agricultural development of their countries is important to world food security and see this as an especially critical strategy for reducing hunger in the South.<sup>2</sup> Emerging economies increasingly affect growth and development prospects in developing countries through direct links, such as aid, trade, and foreign direct investments, and through indirect linkages, such as commodity prices and competition in Third-World markets.<sup>3</sup>

In December 2011, the Fourth High-Level Forum on Aid Effectiveness, held in Busan, South Korea, highlighted the increasing importance of South–South cooperation in development.<sup>4</sup> South–South cooperation is now seen as a seamless part of the International Fund for Agricultural Development's country program.<sup>5</sup>

A number of emerging economies—including Brazil, China, India, Malaysia, South Africa, Turkey, and a number of countries in the Middle

## BOX 12

# China and African Agriculture: Rumors and Realities

Deborah Brautigam, IFPRI

Separating rumors from realities about Chinese engagement in African agriculture is not easy. Reports have claimed the Chinese set up a US\$5 billion fund for African agriculture, sent a million farm workers to Africa, pledged US\$800 million to modernize agriculture in Mozambique, or farmed huge tracts in Zimbabwe or Ethiopia. Fieldwork by several researchers presents a different picture: Chinese engagement in African

agriculture is both more diverse and smaller than is often believed.

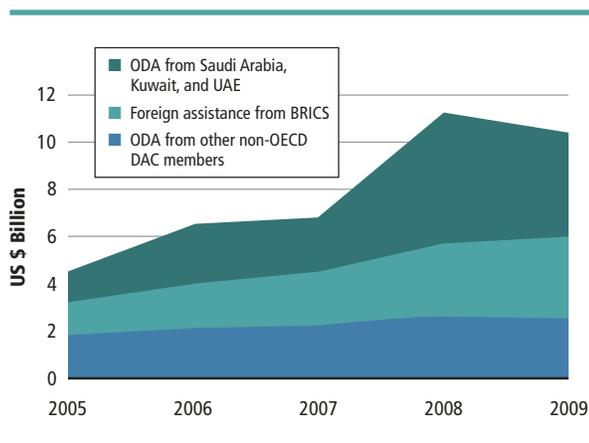
Take Chinese aid, for example. Between 1964 and 2009, Chinese aid teams constructed at least 142 agricultural projects, including state farms, irrigation schemes, and demonstration centers for African governments. Yet these projects' poor sustainability caused the Chinese to revise their approach and give Chinese companies a leadership role.

Thus, in an experiment launched in 2006, Chinese aid is financing 20 agrotechnology research, training, and demonstration centers in Africa. A Chinese research institute or agribusiness firm is building each one at a cost of US\$6 to 9 million. The centers will specialize in activities chosen by the host country. For example, Ethiopia wants its center to demonstrate the complete value chain for horticulture exports. China will provide additional aid to help run each center

East—have recently emerged as active partners in technical and economic cooperation in developing regions, especially Africa. Official development assistance—or foreign aid—from the emerging donors rose from US\$4.6 billion in 2005 to US\$10.4 billion in 2009 (Figure 2). These donors contributed about 10 percent of global aid flows in 2008.<sup>6</sup>

China is fast becoming a major investor in Africa, although Chinese engagement in African agriculture is both more diverse and smaller than is generally perceived (see Box 12). In 2000, China moved to consolidate this cooperation by establishing the Forum on China–Africa Cooperation, which meets every three years. As part of this initiative, China has significantly boosted its aid budget in recent years, with a stronger emphasis on agricultural development. Overall aid from China to Africa is estimated to have almost quadrupled from US\$684 million in 2001 to US\$2,476 million in 2009.<sup>7</sup> At the 2010 United Nations High-Level Meeting on the Millennium Development Goals, China pledged to establish 30 demonstration centers for agricultural technologies in other developing countries, dispatch 3,000 agricultural experts and technicians to these countries, and invite

**FIGURE 2** Aid from emerging economies, 2005–09



**Source:** Reproduced from K. Smith, *Non-DAC Donors and Humanitarian Aid: Shifting Structures, Changing Trends* (Somerset, UK: Development Initiatives, Global Humanitarian Assistance, 2011). **Notes:** Aid data are for official development assistance (ODA). OECD is Organisation for Economic Co-operation and Development; BRICS is Brazil, Russia, India, China, and South Africa; and DAC is Development Assistance Committee.

5,000 agricultural personnel from these countries to China for training. By 2011, China had already established 14 centers for agricultural research in a number of African countries.

India is also bolstering its cooperation with Africa. For example, the Africa–India Forum

for at least three years. During this time, Chinese experts will demonstrate how the centers can develop income-generation activities to boost sustainability (while also looking for new business opportunities for their institutes and firms).

In another experiment, Chinese companies began to lease some of the old Chinese aid projects in the 1990s, as they were privatized: Sukula sugar complex in Mali, Magbass in Sierra Leone, and Koba in Guinea, for instance. In 2004, China’s Ministry of Commerce started to encourage country-specific opportunities for Chinese agricultural investment: cotton in Egypt, fruit and nuts in Nigeria, sisal

in Tanzania, tobacco in Zimbabwe, and nonspecific crops in Zambia, Ethiopia, Guinea, Benin, the Democratic Republic of the Congo, and Cameroon.

As of yet, few of the existing Chinese investments in Africa appear to be larger than 5,000 hectares. Several larger Chinese biofuel projects proposed in Zambia (jatropha), Ethiopia (sugarcane), and the Democratic Republic of Congo (maize) have stalled or been abandoned. As a Chinese official commented in Tanzania: “Agriculture is risky. It is hard to have [a] ‘win–win.’”

Land transfers frequently present food security risks for local

communities, and large Chinese farms are no exception. However, surprisingly little evidence exists for the common assumption that the Chinese plan to use African land for China’s own food security. China imports no grain from Africa—instead, cotton, sesame seeds, and tobacco head the list. Chinese agroprocessing companies have contractual partnerships with local smallholders who grow cotton (in Malawi, Mozambique, and Zambia) and tobacco (in Zimbabwe). The majority of Chinese farms appear to produce food for local markets. The evidence, at least for now, does not support the rumors.<sup>1</sup>

## Brazil: An Emerging Power in Agriculture

Beatriz da Silveira Pinheiro and Geraldo B. Martha Jr., Embrapa

In 2011, Brazil's agricultural export surplus exceeded US\$70 billion. The overall performance of Brazilian agriculture in the last four decades has transformed the country from a net importer of several products to one of the most relevant players in the international agricultural commodities market. To a great extent, the huge transformation was a response to an increased demand for agricultural products prompted by the industrialization process of the 1960s to the 1980s. This industrialization period was associated with a growing and increasingly richer and more urban population. The increased opportunity cost of labor for farmers led to a favorable environment for agricultural modernization. Huge investments were made in agricultural research and development efforts during the last four decades, even in the first years (1970s and 1980s) when the modernization of Brazilian agriculture was still just a promise.

As food production increased more than food demand, real food prices decreased: in the period 1975–2010, consumer food prices decreased by half. This huge drop in food prices, along with associated reduced price volatility, has alleviated inflationary pressures and ensured

national food security. In addition, lower food prices have effectively boosted other sectors in the economy because paying less for food frees up more income, especially for the poor. Brazil strongly focused on technology-driven productivity gains, which became an important additional characteristic of agricultural production expansion. Without these gains, meeting 2006 production levels would have required an additional agricultural area 30 percent larger than the Amazon Biome in Brazil.

This vigorous increase in agricultural production also allowed for increased exports. In the last two decades, Brazil diversified exports, and oilseeds, grains, and meats acquired great relevance. The resulting export surplus has guaranteed positive results for the Brazilian balance of trade and supported food prices in domestic markets, with positive effects on Brazilian farmers' income. From a global perspective, the increased volume of Brazilian agricultural exports has made an important contribution to reducing world hunger and food-price inflationary pressures in developing countries.

Brazil's experience in producing agricultural commodities in the tropical

region and its fast achievements in low-carbon agricultural technologies, such as highly productive integrated crop–livestock systems, will reinforce its influence on world markets. So far, the country uses less than 50 percent of its geographic area as agricultural land. This fact, along with the possibility of using agricultural technologies to ensure environmental protection and expand production, will further strengthen the country's role in agricultural markets.

Unsurprisingly, Brazilian agriculture's success story has awakened the intense interest of other developing countries, mainly in Africa and in Latin America and the Caribbean, that want to know more about tropical agricultural technologies developed by Brazil. Responding to this increased demand, the Brazilian Agricultural Research Corporation (Embrapa) significantly expanded its participation in cooperation projects in other tropical regions in the last five years, broadening the possibilities for fruitful partnerships with other countries. The focus of Embrapa's cooperation is on technology transfer, capacity strengthening, and research cooperation.

Summit, launched in 2008, is paving the way for greater cooperation, such as through the transfer of agricultural technologies that meet the real needs of small-scale farmers in Africa. India is a leader in tropical technology—not only improved varieties but also resources management technologies, which are just as important for meeting farmers' needs. India is also an active player in the Interregional Initiatives for India, Brazil, and South Africa—which established the Facility Fund

for Alleviation of Poverty and Hunger in Africa in 2003.

South Africa, itself a leader in agricultural technology, is a key player in the transfer of technologies to fellow African countries. In Latin America, Brazil has been actively involved in South–South cooperation for agricultural development, both within Latin America and in other developing regions, particularly Africa. In Africa, Brazil initially focused on the Portuguese-speaking

countries of Angola, Cape Verde, Guinea-Bissau, and Mozambique, but the opening of Embrapa, Brazil's agricultural research agency, in Ghana in 2006 points to a new phase in its South-South cooperation. More recently, other African countries, including Benin, the Democratic Republic of the Congo, Ethiopia, Ghana, Guinea, and Kenya, signed technical cooperation agreements with Embrapa and began implementing joint projects.

## THE PRIVATE SECTOR

The private sector is also taking on a larger role in agricultural research, poverty alleviation, and environmental sustainability. In January 2011, the World Economic Forum released an innovative road map for the agricultural development of its stakeholders.<sup>8</sup> The roadmap, developed by 17 global companies, was designed to leverage public- and private-sector investment; share environmental best practices; develop agricultural markets, including opportunities for small-scale farmers; and improve access to affordable and nutritious food. It represents an important milestone in the private sector's increased engagement in the global discourse on agricultural development and food security.

The private sector has now become one of the World Food Programme's top 10 donors. Furthermore, new emergency protocols that emphasize partnerships with the private sector were put in place to help the World Food Programme improve its ability to save lives and livelihoods in disasters and emergencies, most recently in Haiti, Pakistan, and the Horn of Africa. Another initiative, the Food Retail Industry Challenge Fund by the United Kingdom's Department for International Development (DFID), is supporting African farmers through innovative business partnerships. The fund aims to improve the lives of African farmers by increasing European imports of agricultural products from poorer countries in Sub-Saharan Africa. So far, the fund supports 11 innovative partnerships linking farmers with European markets.

In developing countries, the value chains of most food commodities are inefficient, with high

transaction costs that lead to high food prices. At the G20 agriculture ministers' meeting on food security in Paris, participants discussed how the private sector could help stabilize global food markets and reduce price volatility. They jointly made a commitment to leveraging private-sector investment, using technology and information to stabilize global food markets and provide opportunities to poor farmers and consumers in the event of price spikes and volatility and extraordinary hunger levels. Their deliberations emphasized that the private sector can help to solve food insecurity, but that its activities must be conducted in collaboration with governments as part of an integrated strategy to make the global food system more sustainable.<sup>9</sup> The global leaders agreed on ways to better coordinate public- and private-sector efforts, including the formation of national-level partnerships to engage the private sector in sustainable agricultural development and the creation of a global forum to exchange best practices and provide inputs to the G20 on a regular basis.

## PHILANTHROPIC ORGANIZATIONS

Private philanthropic and civil society organizations are promoting the global agricultural development agenda on a much greater scale than just a decade ago. Many international nongovernmental organizations are transforming themselves with new goals and approaches, by mobilizing resources for development programs, and by acting more independently from government-financed programs.

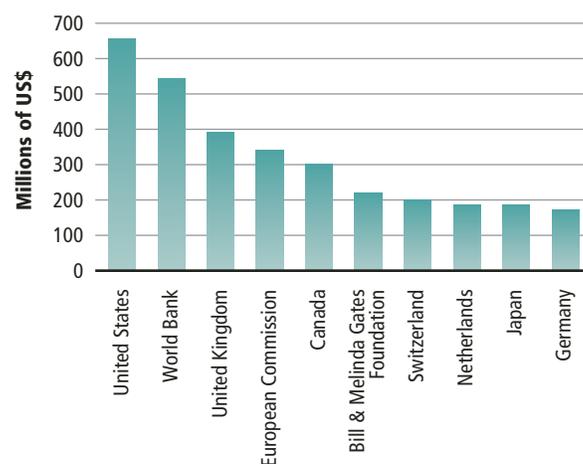
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The Bill & Melinda Gates Foundation has invested in an agricultural development program intended to help small farmers in Sub-Saharan Africa and South Asia boost their productivity, increase their incomes, and build better lives for

their families. In the past decade (Figure 3), it has become an important donor to the Consultative Group on International Agricultural Research (CGIAR). As of June 2011, the Foundation had committed about US\$12 billion to agricultural research and development, agricultural policies, and access to market systems, as well as financial services for the poor, water sanitation and hygiene, and policy advocacy.

Other philanthropic organizations have also emerged as major supporters of agricultural development, poverty alleviation, natural resource management, and risk management. For example, the Sir Ratan Tata Trust and the Navajbai Ratan Tata Trust in India are funding activities related to drought proofing, microfinance, and a revival of the Green Revolution. During 2010–11 the Trust allocated US\$31 million, of which 75 percent was for rural livelihoods and communities.<sup>10</sup> The Howard G. Buffet Foundation has funded projects in more than 74 countries, including 32 African countries, on agriculture for nutrition. These projects are designed to benefit more than 1.5 million people by addressing poor crop yields, limited success with livestock, low incomes, and chronic hunger

**FIGURE 3** Top 10 donors to the CGIAR, 2000–10



**Source:** Consultative Group on International Agricultural Research, *The CGIAR at 40 and Beyond: Impacts that Matter for the Poor and the Planet* (Washington, DC, 2011).

among vulnerable communities. The Foundation is also supporting global initiatives on conservation agriculture. Similarly, the PepsiCo Foundation (PepsiCo’s philanthropic arm) is developing partnerships and programs to improve health, environment, and education in underserved regions.

## BOX 14

### Private Philanthropy and Public Policy

Prabhu Pingali, Bill & Melinda Gates Foundation

The rise of private nonprofit organizations during the past fifteen years has transformed the nature of aid supply in a significant way. By 2011, the philanthropic sector had added to the number of organizations operating internationally and to total aid flows. Although no consolidated statistics exist, it is estimated that global private aid doubled between 2004 and 2009. Likewise, at US\$52.5 billion in 2009, the value of private donations to developing countries may well have become comparable in

scale to sector-allocated official development assistance.<sup>1</sup>

In the agriculture sector, the growth of philanthropic giving in parallel to the emergence of new bilateral donors—such as Brazil, Russia, India, China, and South Africa (BRICS), and Korea—comes at a critical time, when levels of investment in agricultural development remain largely inadequate. The significant withdrawal of donor support and national government attention to agriculture in the mid-1980s following the

success of the Green Revolution left the global food system in a stagnant state. The resulting stagnation and decline in agricultural productivity growth has been felt throughout most of Africa and South Asia. The international community recently renewed its interest in agriculture following the 2007–08 and 2011 food price crises, and the trends in private and bilateral giving may signal the beginning of a new surge in international agricultural development and, ultimately, in improved food security worldwide.

Developments of 2011 continued into 2012, with Unilever launching a charitable foundation at the World Economic Forum 2012 with the goal of helping more than 1 billion people improve their health and well-being. It is also working with the World Food Programme's Project Laser Beam to help eradicate hunger and poverty in Bangladesh and Indonesia. It, in partnership with other organizations, has committed US\$50 million over five years to create a replicable and sustainable solution targeted at the ultra-poor, especially women.<sup>11</sup>

The Rockefeller Foundation has reoriented its philanthropic mission to promote human well-being with greater focus on Africa. It launched the Alliance for a Green Revolution in Africa (AGRA) in partnership with the Bill & Melinda Gates Foundation in 2006. This Africa-based and Africa-led organization is charged with sustainably increasing the productivity and profitability of smallholder farms throughout Africa. It seeks to provide access to more resilient seeds that produce higher and more stable yields, promote soil health and productivity, build more efficient local, national, and regional agricultural markets, promote better policies, and build partnerships to

develop technologies and institutional changes needed to achieve a green revolution. AGRA received a grant of US\$5 million for 2011 and 2012 from the Bill & Melinda Gates Foundation and the Rockefeller Foundation to improve the productivity and incomes of small-scale farmers in Africa by integrating its programs with those of partners such as African governments, CGIAR centers, the private sector, and various network programs in the breadbasket regions of key countries.<sup>12</sup>

## MOVING TOWARD A NEW DEVELOPMENT DYNAMIC

The rise of new players has fueled calls for new state and nonstate players to become even more involved in the governance of global food security. The G20, in particular, has filled a gap in global governance by creating coalitions that connect advanced and developing countries. For example, the G20 affirmed its support for a widening role for the Committee on World Food Security at its June 2011 meeting of agriculture ministers.<sup>13</sup> In its Ministerial Declaration, the G20 indicated its support for the ongoing work of the Committee as the

Beyond aid flows, the philanthropic sector has also changed the way in which aid to agriculture is being channeled within countries. International nongovernmental organizations and voluntary organizations have been able to deliver essential services and public goods, thereby assuming critical roles that governments or international donors cannot. Meanwhile, private foundations have focused on strengthening the capacity of local development institutions that can adapt solutions to local conditions. In addition, through investments at all levels of agricultural value chains, private foundations have catalyzed the development and piloting of innovative solutions, approaches, and models—from planting

high-quality seeds and improving farm-management practices to streamlining methods of bringing crops to market.

The Bill & Melinda Gates Foundation has emerged in recent years, alongside major multilateral and bilateral donors, as one of the leading contributors to agricultural development aid. It supplies approximately US\$400 million per year in agriculture-sector grants, with a particular focus on smallholder productivity growth in Sub-Saharan Africa and South Asia. Through 2011, the Foundation committed US\$2 billion to its Agricultural Development Program, which has helped initiate action among partners at both (1) the global level, in support, for instance, of high-end agricultural

research and development by the CGIAR, and (2) national and local levels, in direct support of farmers and the situations (including the knowledge, socioeconomic, and ecological systems) they operate within. Investments have ranged from the development of global public goods (such as improved crop and livestock varieties, farming practices, and agricultural data and statistics) to implementing and targeting successful programs (for example, through efforts to address local market failures or to ensure that improved tools reach the hands of farmers). The Foundation believes that these collaborative efforts will help enhance smallholder productivity and reduce poverty in Sub-Saharan Africa and South Asia.

## The Private Sector and Food Security

Derek Yach, PepsiCo

In 2011, PepsiCo Inc. announced a partnership with the US Agency for International Development and the United Nations World Food Programme intended to create economic stability for smallholder chickpea farmers in Ethiopia. The partners are working together with Ethiopian farmers, local food manufacturers, research institutes, and donors to increase chickpea productivity among smallholder farmers, develop food products needed to reduce hunger, and, in

time, build an export to improve livelihoods and also support part of PepsiCo's supply chain needs.

This is one example of how private companies can contribute to food security. PepsiCo, which has a large and growing chickpea-based hummus business, and other companies are constantly seeking ways to create new markets, invest in emerging economies, advance healthy nutrition, ensure environmental sustainability, and drive the long-term growth

and profitability of their companies. These goals often overlap with the objectives of public organizations and others trying to end hunger and reduce poverty. The World Economic Forum, with its New Vision for Agriculture, has recognized the benefits of these public-private partnerships and is stimulating and developing multistakeholder programs in several countries.<sup>1</sup> The multistakeholder approach to global food policy appeals to food companies because it reduces risks they

foremost inclusive international and intergovernmental platform. In particular, it stressed the Committee's responsibility for enhancing engagement with the private sector and strengthening North-South, South-South, and triangular cooperation.

### The G20, in particular, has filled a gap in global governance by creating coalitions that cut across advanced and developing countries.

At its own summit in October 2011 in Rome, the Committee on World Food Security included both the private sector and philanthropic organizations at the table for the first time.

South-South cooperation is becoming part of the global agenda for aid effectiveness.<sup>14</sup> Triangular cooperation between traditional aid donors, emerging aid donors, and recipient countries is one way forward. Much of China's commitment to African agriculture is embodied in its donation of US\$30 million in 2009 to the Special Programme for Food Security of the Food and Agriculture

Organization of the United Nations. Many bilateral aid agencies, such as those of Germany, Japan, and the United Kingdom, are closing their bilateral programs in China but are actively exploring new partnerships with China to aid Africa. For example, after closing its bilateral program in March 2011, DFID China started to develop activities under the Global Development Partnership Programme, which is DFID's new framework to engage emerging powers and new partners in global development. The Programme will support collaborative activities with China in sectors such as agriculture, climate change, and health, some of which will target selected developing countries.

The Bill & Melinda Gates Foundation is also initiating its own cooperation with emerging economies in Africa.<sup>15</sup> In November 2011, the Foundation announced a partnership with the government of Brazil aimed at improving the agricultural productivity of small farmers in Sub-Saharan Africa and South Asia. A grant of about US\$2.5 million was awarded to Embrapa to enable Brazilian and African agriculture research organizations to collaborate on agricultural development to improve the productivity of smallholder farmers in the developing world. At almost the same time, the Gates Foundation and the Chinese Ministry

share with other sectors, such as those related to climate change and the volatility of essential commodity prices, and with other private companies, such as the risk of entering new markets. Multistakeholder initiatives allow for deploying blended public and private funding sources in ways that meet the private sector's need for profitability and development agencies' need to enhance rural development and alleviate hunger. They also allow for scaled investments in infrastructure beneficial to business and society.

PepsiCo's involvement in such multi-stakeholder discussions and actions is transforming how the company does business and with whom it partners. For example, in a joint initiative with the

Chinese Ministry of Agriculture, PepsiCo announced it would build and operate demonstration farms that use the most advanced irrigation, fertilizer, and crop management techniques.<sup>2</sup> PepsiCo demonstrated increase in potato yields in China to 45 tons per hectare, meeting the global standard, while achieving up to 50 percent reduction in water consumption in potato cultivation by implementing advanced irrigation techniques.<sup>3</sup> In Mexico, through a partnership with the Inter-American Development Bank and the government, the company has co-invested in building sunflower production capability that will reduce PepsiCo's reliance on palm oil and, through advance-purchase agreements,

lift local farmers out of poverty. In India, PepsiCo works with local academics and consumer insights groups to increase young women's access to reasonably priced, iron-fortified, nutritious products that allow the company to reach poor urban communities and share messages that resonate with them.<sup>4</sup>

Companies such as PepsiCo have fresh perspectives and viewpoints useful in the fight against hunger and poverty. However, the private sector does not have all the answers. Partnerships, collaboration, and knowledge exchange between the private and public sectors, as well as civil society, are what will truly help solve development challenges and benefit communities worldwide.

of Science and Technology signed an agreement to produce innovative technologies to boost the progress of developing countries and promote the achievement of the Millennium Development Goals. These partnerships demonstrate the critical role that emerging economies like Brazil and China can play in driving innovation to reduce world poverty and hunger.

Still, the opportunities presented by these new players have not been fully harnessed.<sup>16</sup> There seems to be a consensus that increased investment in agriculture should give priority to smallholder food production, yet the New Vision for African Agriculture launched by 17 multinational corporations at

the 2011 World Economic Forum made no mention of smallholder farmers' organizations or the Committee on World Food Security.<sup>17</sup> At the same time, the private sector has, until recently, been largely absent from the reformed Committee on World Food Security, and its presence has been essentially limited to multinational corporations, although new forms of private sector participation have been proposed.<sup>18</sup> To involve new players and retain traditional players in the global food security system, it is essential to strengthen collaboration and build trust among different stakeholders through the establishment of strong coalitions of willing partners at the local, regional, and global levels. ■