How the United States Benefits from Agricultural and Food Security Investments in Developing Countries:

Overview

America's commitment to foreign agricultural aid is rooted in the dual benefits that accrue both to developing countries and to American farmers, companies, workers, and consumers. Agricultural development raises household incomes abroad, which boosts demand for U.S. agricultural and manufactured exports. New agricultural and food-system technologies developed with U.S. assistance become global goods that raise agricultural productivity both at home and abroad. And improved agricultural supply chains in developing countries contribute to a safe and steady supply of off-season fruits and vegetables, coffee, chocolate, and spices in the United States.

HOW U.S. PRODUCERS AND CONSUMERS BENEFIT

In 2018, U.S. agricultural exports totaled $140 billion, with developing countries accounting for $90 billion, or nearly two-thirds of total agricultural exports. This is an increase in the developing-country share of U.S. agricultural exports from just 50 percent in 2000. Most of the inflation-adjusted growth in agricultural exports over the last 20 years is a result of expanding exports to developing countries, up 103 percent over the period while exports to developed countries grew only 19 percent.

Each dollar of agricultural exports stimulates an additional $1.87 in business activity in the United States, and every $1 billion in U.S. agricultural exports supports 8,619 full-time jobs in the American economy. In 2018, agricultural exports generated an additional $261 billion in economic activity in the United States, resulting in a total increase in economic output of $401 billion produced by an estimated 1,203,000 full-time U.S. workers.

Many U.S. agribusinesses and food and agricultural product exporters view developing regions of the world as their best opportunity for market expansion. As low-income economies grow, demand for food rises more rapidly than in high-income countries, where appetites are already largely satiated. Foreign aid that makes agriculture more productive boosts incomes throughout the economy and increases demand for U.S. exports. The end result is more jobs for Americans producing goods and services for export, and more income in the American economy.

U.S. agribusinesses invest in developing countries, benefiting from developing-country policy reforms and from markets developed through foreign agricultural assistance. Foreign investment abroad increases the earnings of American firms, increases the demand for

American technology used abroad by the investing firms, and increases the supply of diverse food products in the United States.

Technology Spillovers

Many new agricultural technologies solve problems common to both developing countries and the United States, and reduce the international transmission of plant and animal diseases. For crops, problem-solving innovations often take the form of new varieties bred to improve the volume and quality of the harvested output.

- ***Wheat and rice technology spillover:*** U.S. farmers received benefits estimated at $3.4 to $15.6 billion between 1960 and 1993 from new varieties of wheat and rice developed at the international agricultural research centers of CGIAR (formerly the Consultative Group on International Agricultural Research), which is supported by USAID. Each 100 dollars of benefit to the U.S. economy from higher productivity in wheat and rice production cost taxpayers only two cents. A recent study estimated that, for wheat alone, the financial impact in the United States of the CGIAR wheat research center is $140 to $180 million annually, representing a benefit-cost ratio of between 32:1 and 40:1.

- ***Sorghum technology spillover:*** Many American producers of sorghum now plant improved varieties developed since 1979 through a USAID-supported sorghum research program at American land-grant universities. An economic impact study found that USAID's greenbug aphid–resistant sorghum varieties saved American farmers $389 million in 1989 alone. At that point, funding for the sorghum program had totaled $44 million (in constant 1989 dollars). Therefore, in a single year, the U.S. sorghum research generated nine times its total cumulative cost, and the benefits can reasonably be expected to have continued for many subsequent years.

- ***Bean technology spillover:*** USAID-sponsored research on beans generates innovations that benefit U.S. bean producers and consumers. An important function of the bean research program is the collection of germplasm from around the world. Using this germplasm, the researchers have developed new high-yielding varieties with resistance to economically important bean diseases. USAID's long-term support of the bean breeding program has resulted in the development of 40 bean varieties now commercially grown in the United States.

Health and Nutrition

USAID agriculture-related investments in developing countries help prevent global transmission of animal diseases, protecting American producers and consumers as well as animal populations. Approximately 75 percent of all new and emerging diseases affecting humans today originated in animals. To increase scientific understanding of the causes and spread of animal diseases and to develop ways of controlling them, USAID supports animal-disease research conducted in developing countries by CGIAR, American universities, and other organizations.

American consumers also benefit from foreign agricultural aid that supports the search for solutions for soil- and plant-borne toxins, such as aflatoxin, produced by a mold that grows in peanuts, corn, and grains. Estimated annual U.S. losses from aflatoxin in corn, wheat, and peanuts are up to $2.3 billion. USAID, an early sponsor of aflatoxin research, has supported CGIAR research centers and Feed the Future Innovation Labs at U.S. universities to find ways of reducing aflatoxin. Many of the solutions researchers have found to be effective in developing countries are also relevant for controlling aflatoxin in the United States, resulting in reduced losses.

U.S. consumers have access to tropical foods and off-season fruits and vegetables imported from developing countries. Climatic conditions prevent or limit domestic production of these foods in the United States, and importing them improves Americans' diets, making them more nutritious and diverse. Imports account for nearly 100 percent of the coffee, cocoa, and spices consumed in the United States and 50 percent of fresh fruit and fruit juice. U.S. foreign agricultural aid contributes to improvements in the efficiency and hygienic standards of agricultural value chains in developing countries and to a safer and more reliable supply of these U.S. food imports.

Global and U.S. Security

Foreign assistance increases global stability by reducing poverty and stimulating economic growth in low-income, aid-recipient countries. Agricultural development complements U.S. global security efforts. Agriculture, as a source of employment and income for most of the working population in low-income developing countries and as a source of food for all, is closely tied to various aspects of human well-being that, if jeopardized, cause conflict. Economic growth overall, and agricultural growth in particular, improves the real income and material well-being of a large share of the population, strengthening the economic foundations of social and political stability. Another channel through which foreign aid may contribute to global stability is by reducing international migration. A recent study found that foreign aid reduces international migration from recipient countries in the long run but not in the short run, underscoring the importance of long-term commitment by donor countries. The effectiveness

of foreign aid in reducing international migration depends on the sector or subpopulation it targets. A 2018 study examines the migration effects of rural development aid versus urban development aid, finding that rural development aid reduces international emigration while urban development aid does not.

Agricultural development assistance creates an opportunity for the United States to build relationships in developing countries before global crises occur. Once a pandemic, environmental disaster, or violent conflict breaks out, it is too late to acquire the knowledge, build the trust, and establish the cooperation essential for finding and implementing solutions.

HOW AID-RECIPIENT COUNTRIES BENEFIT

At the farm level, new farming technologies and practices promoted by USAID raise the productivity of land, labor, and capital used in agricultural production. To create an economic, political, and social environment conducive to agricultural development, USAID works with local partners to improve the functioning of agricultural institutions (producer groups, markets, universities, research institutes, and government agencies). Agricultural education sponsored by USAID prepares future farmers, entrepreneurs, and agency officials to acquire the skills and competencies needed to transform the agricultural sector.

The entire agricultural and food system grows and improves when transformation at the farm and agribusiness level is supported by research and transformation at the institutional level. As domestic markets develop and mature, they become increasingly connected to international markets, strengthening developing countries' links to the global economy.

Investments in developing country agriculture raise household incomes, improve nutrition and health, and build stronger national and regional economies. As income rises, households typically increase their spending on food and other items, including healthcare and education. The composition of the diet tends to shift, bringing about consequences that are both positive (e.g., more protein intake) and negative (e.g., rising levels of obesity). Adequate nutrition contributes to improved health, which has many benefits, including lower maternal and infant mortality and greater labor productivity. More efficient and effective food systems, higher household incomes, and better human health contribute to sustainable growth of national economies. The changes in the agricultural sector and the larger economy are intertwined and mutually reinforcing.

LOOKING AHEAD

Between 2015 and 2050, 98 percent of global population growth is projected to occur in developing countries, with sub-Saharan Africa accounting for more than 55 percent of that growth. With income growth rates and urbanization rates projected to be higher in developing countries, much of the increase in global demand for meats, dairy, fruits and vegetables, and processed food products will come from these economies.

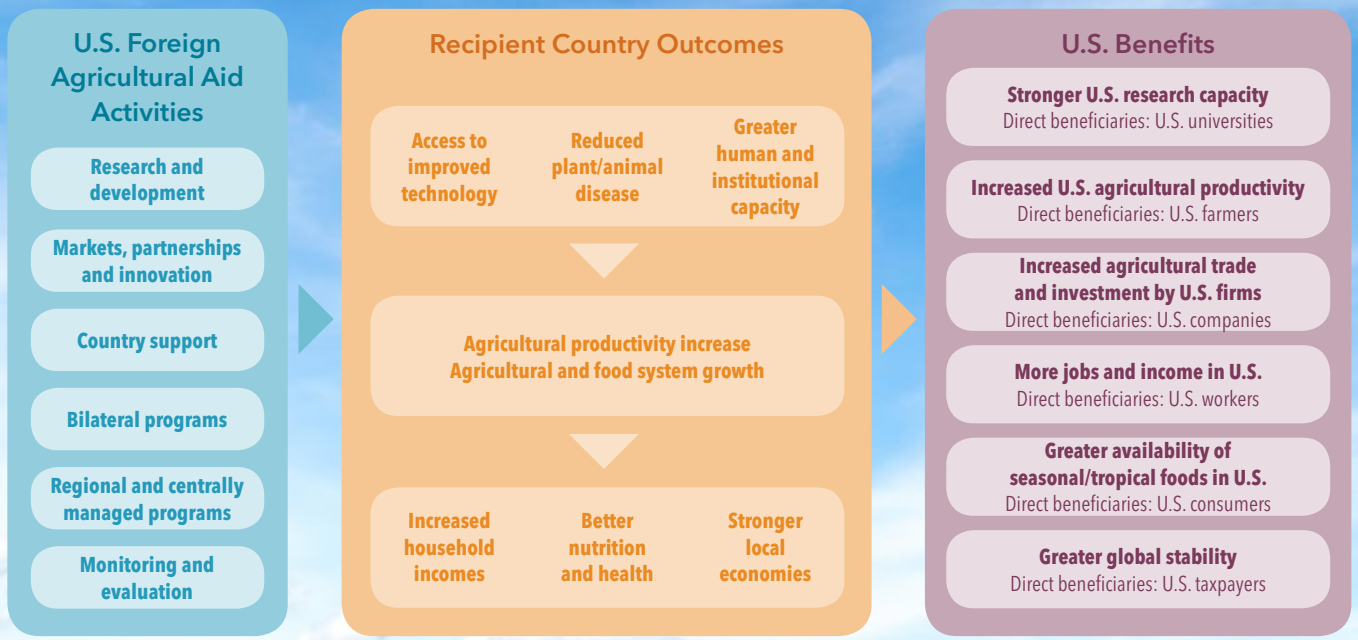
The growth of global demand for food creates opportunity for continued expansion of U.S. agricultural exports. For that to happen, the agriculture sectors and the entire economies of developing countries must continue to grow. Given that agriculture is the driver of economywide growth in countries that are the largest source of demand for U.S. exports, it is vital that American investments in foreign agriculture continue. Productivity growth still lags in many of the poorest regions of the world. While progress has been made, to be successful, foreign agricultural assistance needs to be sustained.

By strengthening agricultural and food systems in developing countries, U.S. foreign agricultural assistance contributes to global and national security. The benefit to both developing countries and U.S. producers and consumers far exceeds the costs and helps secure a better future for all.

Photo credit: G.N.B. Akash / Panos

U.S. FOREIGN AGRICULTURAL ASSISTANCE

Total U.S. nonmilitary assistance to developing countries was $33.3 billion in Fiscal Year (FY) 2017. This level of funding was 0.17 percent of total U.S. gross domestic product (GDP) and accounted for 0.84 percent of total U.S. budget authority in FY 2017. Foreign agricultural aid is a minimal percentage of total nonmilitary assistance. In 2017, U.S. foreign agricultural expenditure totaled $1.41 billion, accounting for 4.2 percent of total nonmilitary assistance and 0.04 percent of total U.S. government expenditure. The inflation-adjusted level has declined since 2011. The largest share of federal expenditure on foreign agricultural aid is implemented by the U.S. Agency for International Development (USAID). In 2017, USAID implemented 72 percent, the U.S. Department of Agriculture implemented 20 percent, and 8 percent was implemented by other government agencies. Expenditures by USAID for implementation of foreign agricultural assistance totaled $1.01 billion in 2017.



U.S. foreign agricultural assistance investments bring substantial economic, health, and security benefits to the United States. This brief highlights a report commissioned by the Board for International Food and Agricultural Development (BIFAD) on how the United States benefits from agricultural and food security investments in developing countries. The full report is available for download at: https://doi.org/10.2499/p15738coll2.133419

This report was prepared for the International Food Policy Research Institute by David Kraybill and Stephanie Mercier under the direction of Joseph Glauber.

This report is made possible by the generous support of the American people and through support provided in part by the Bureau for Food Security, United States Agency for International Development (USAID), under agreement AID-OAA-A-14-00031 to the Association of Public and Land-grant Universities (APLU). The author's opinions expressed in this publication do not necessarily reflect the views of USAID, the U.S. Government, APLU, or IFPRI.