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Food Security: The Role of Agricultural Trade

BY ROBBIN JOHNSON

FROM IPC CHAIRMAN AND CEO

Upon his retirement from Cargill, where he served as Senior Vice President and Director of Corporate Affairs, we asked Robbin Johnson* who has been an active and valued IPC member since 1992, to reflect – based on his vast knowledge of the international marketplace – on the impasse in the Doha Round agricultural negotiations and the increasing tendency of countries to equate food security with self-sufficiency. He has provided us with his fascinating account of how agriculture has been dealt with both within and among countries since the 1950s, which concludes that successful agricultural trade liberalization requires a shared vision of a global food system which ensures food security, food safety and sustainability.

This paper was discussed at IPC's plenary meeting in May 2009. We decided to release it as an IPC Discussion Paper. IPC Discussion Papers explore a topic but do not represent an official IPC position. Rather they are issued to generate thought and discussion in the aim of furthering an open trade system as a vital element of food security.

We hope that you enjoy this thoughtful reflection.



Carlo Trojan
IPC Chair



Charlotte Hebebrand
Chief Executive, IPC

*Robbin Johnson retired as Senior Vice President and Director of Corporate Affairs from Cargill in January of 2007. In that role he worked with Cargill's senior leadership team on public policy and communications strategies. Johnson serves on The Cargill Foundation and chaired the former Cargill Citizenship Committee. Johnson graduated from Yale University in 1968 with a bachelor's degree, did graduate study as a Rhodes Scholar at Oxford University in England and attended Yale Law School. Johnson currently serves on the board and executive committee of BlueCross/BlueShield of Minnesota (chairing the Governance Committee) and on the board of the International Food & Agricultural Trade Policy Council. He is a past chair of the U.S. Feed Grains Council and the Canada-Minnesota Business Council. Johnson also is a member of the USDA/ USTR Agricultural Policy Advisory Council and the Council on Foreign Relations.

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Executive Summary

Food security is fundamentally about achieving reliable access to adequate, affordable and nutritious food supplies sufficient to avoid chronic hunger, crisis hunger and stunted development.

Once basic caloric needs are met, a second stage of food concerns surfaces around safety and healthfulness. This safety dimension involves securing food supplies free from contamination, adulteration or food-borne diseases and healthy foods that reduce the influence of diet-based diseases and promote well-being.

Alongside security and safety has emerged the new concern of sustainability—the ability of one generation to meet its food needs without compromising the ability of future generations to meet theirs. Its economic component must ensure the continued profitability of farming. Its social component must make both those who farm and those who leave farming better off. And its environmental component must steward natural resources more carefully.

Agricultural trade historically has failed to play a constructive role in addressing these food security, safety and sustainability concerns. Many poor developing countries have taxed or ignored their agricultural systems, and international financial institutions often have abetted this by neglecting agriculture within their lending programs. These policies have led to low productivity and degraded resources in many poor countries.

Other countries have protected their farming systems--using domestic supports, import protections and export/consumption subsidies to achieve food security within national borders, treating the rest of the world as a residual market. This has depressed prices of basic food staples on international markets in surplus periods and amplified price spikes and supply unreliability in periods of tight supplies. Loss of confidence by net food-importing countries in global markets has reinforced self-sufficiency impulses and, most recently, led to purchasing of foreign agricultural land as a means to ensure supplies.

Development assistance, food aid and trade preferences or exceptions for the benefit of poor, developing countries have been used to soften the external effects of such self-protecting initiatives. But these efforts have generally been too modest to offset the concerns of food-importing countries and in any case do not represent a cost-effective long-term solution to food security, safety and sustainability concerns.

When the General Agreement on Tariffs and Trade (GATT) was created after World War II, the idea of attacking such agricultural protection was too politically sensitive. Instead, exceptions for agricultural support and protection were carved out from the general architecture of liberalization. Subsequent negotiating rounds by and large preserved these instruments of self-protection.

In fact, the Kennedy Round tried to extend support and protection globally through an International Grains Arrangement, which quickly collapsed. The Tokyo Round occurred during a period of food scarcity globally, yet it turned its back on food security concerns and the opportunity to lower protective walls at little immediate cost.

The Uruguay Round created a structure for incrementally dismantling the instruments of protection. The Uruguay Round Agricultural Agreement that resulted, however, did little to reduce actual levels of support and protection or to build a comprehensive foundation for greater reliance on trade to meet food security, safety and sustainability concerns.

The Doha Development Round tried to create that vision around the concept of “development.” The principal

players, however, never seemed to agree on either agricultural trade's role in an effective global food system or the additional institutions and resources necessary to create such a system.

The collapse of the Doha negotiations and the emergence of a food crisis in early 2008, a financial crisis in mid 2008 and an economic crisis in late 2008 have reinforced autarchic instincts and weakened support for trade reform. To counteract these developments, we need a better understanding of the significant contribution agricultural trade reform can make to increased food security, safety and sustainability and the additional institutional changes and resources needed to achieve that potential.

The global food system faces substantial challenges. It must help eliminate chronic and crisis hunger and nutritional deficiencies while smoothing the transition of developing countries from agricultural to industrial societies and increasing security and opportunity for the world's poor. It must move food through longer, more integrated supply chains while meeting consumers' rising expectations for safer, healthier products. And it must double food production in a sustainable manner by 2050, which means using no additional land area, consuming less fresh water and mitigating and adapting to climate change.

Achieving these outcomes requires both a much more open global food system and institutional and resource support to make that system more equitable and trustworthy. Disassembling the instruments of protection through reciprocal concessions is necessary but not sufficient. It fails to address several core issues of an open and equitable global food system—confidence in its performance, ability to pay in the face of challenging times and efficiency in feeding the world's people in an environmentally sound and socially equitable manner. It will require a package of ambitious reform commitments, institutional innovations in managing food security, safety and sustainability risks and sufficient resources to ensure food and nutrition for the hungry, safety and value for the well-nourished and sustainability for all.

Dealing with Food Security

Food security exists when all people, at all times, have affordable access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Thomas Malthus' "principle of population" laid out the basic challenge of chronic hunger and its roots in poverty: unchecked, population grows exponentially while food production rises arithmetically. Yet today only about one-sixth of the world's population—some 900 million—face chronic hunger. How did the rest of the world's people escape this Malthusian trap? They did so essentially through economic development.

Birth rates began to slow down under the impact of economic opportunity; family formation was postponed, women began having fewer children on average and spacing between children widened. As a result, the world as a whole, although not every part of it, has passed an important inflection point in the demographic transition to lower birth rates and more stable population numbers.

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Indeed, global population growth rates peaked around 1960 at more than 2 percent per year, but they have since fallen to 1.26 percent in 2000 and likely will fall to 0.46 percent by 2050. This means world population will reach 8 billion by 2025, compared to projections 40 years ago of 10 to 12 billion.¹ By 2050, it should be just over 9 billion.²

This global picture, however, has many different facets buried within its averages. Countries like Japan and Italy have populations that are aging, with aggregate numbers actually declining. At the other extreme, many poor countries in Africa and Asia will double their numbers between now and 2025. They also have large portions of their populations under the age of 15, with nutritional needs driven by growing minds and bodies. Virtually all of the projected population growth over the next four decades—roughly 2.6 billion—will occur in the low-income countries of the developing world, with especially large concentrations in Sub-Saharan Africa and South Central Asia.³

It was not population growth rates alone, however, that enabled large parts of the world to escape the Malthusian trap. “According to the UN we produce 23 percent more food per capita than we did in 1961... In spite of this dramatic increase in demand the price of food fell by more than two-thirds from 1957 to early 2001.”⁴ It is these technology-driven increases in agricultural productivity and the resulting dramatic fall in real (i.e., inflation-adjusted) commodity prices that have led to the sharp decline in chronic hunger.

Today, food insecurity expresses itself in three ways. At the most extreme level, some 900 million people remain so poor that they are chronically hungry or malnourished. They have no margin of insulation. Another 500 million people live on less than \$1.25 per day, mostly in rural areas and mostly dependent on farming for their meager incomes. While their subsistence-oriented economies mean that they are not chronically hungry, they are vulnerable to food crises brought on by civil disorder, natural disaster or politically-imposed famine.⁵ The third group, primarily comprised of women and children, faces nutrient deficits that stunt physical and mental development while increasing vulnerability to disease.

All three extract a terrible human price through both suffering and lost productivity. Some 8 million people die each year of hunger-related causes, and more than half of these are children. Millions more reach adulthood with impaired physical and mental abilities, constraining their ability to support themselves, their families and their communities.

Nearly 3 billion people live on the equivalent of less than \$2 per day, making their hold on adequate diets tenuous. The malnutrition they face accounts for half of the world’s disease burden. Price variability, supply reliability and ability to pay remain huge concerns for them. The countries in which these people live also need to stimulate economic development to lift these burdens permanently and to achieve the social and economic aspirations of their populations. Agricultural trade and productivity growth are critical to assuring food security for the world’s poor.

Rapid urbanization, especially in the developing regions of the world, is creating another form of acute or crisis hunger. These people are vulnerable to sudden spikes in grain prices, as were experienced in early 2008. As the German Marshall Fund of the United States’ “Transatlantic Taskforce on Development” noted, wrenching price changes of 75 to 120 percent in staples like wheat and rice “prompted riots and social unrest in 33 countries.”⁶ The UN Population Office projected that the percent of the population living in urban areas will rise from 39 percent in 2007 to 62 percent by 2050 in Africa and from 41 percent to 66 percent in Asia.⁷ These projections indicate that the number of people vulnerable to volatile commodity prices and unreliable supplies will only continue to grow.

To summarize this curse of food insecurity, nearly 3 billion people live on the equivalent of less than \$2 per day, making their hold on adequate diets tenuous. The malnutrition they face accounts for half of the world's disease burden.⁸ Price variability, supply reliability and ability to pay remain huge concerns for them. The countries in which these people live also need to stimulate economic development to lift these burdens permanently and to achieve the social and economic aspirations of their populations. Agricultural trade and productivity growth are critical to assuring food security for the world's poor.

Safety and Wellness

While the poorest face chronic or crisis hunger anchored largely in commodity supplies and prices, safety and wellness are related to changes occurring in the global food economy. Agricultural economist Robert Thompson describes the challenge in this way: "between per capita incomes of \$2 and \$10 per day people eat more animal protein, fruits, vegetables and edible oils, causing rapid growth in raw agricultural commodity demand; after about \$10 per day, people buy more processing, services, packaging, variety and luxury forms, but not more raw agricultural commodities."⁹

The former category means that grain demand will continue to grow even while population growth slows. These shifts in dietary patterns put additional stress on the world's food-producing resources. As a result, world grain demand is projected to increase for this reason alone by 40 percent between 1997 and 2025 while world meat demand rises 69 percent.¹⁰ Higher incomes for many in the developing world will mean even more pressure on basic commodity prices for their poorer neighbors, and it introduces new stresses on the food system and its agricultural resource base.

Against this backdrop, it is interesting to consider how rapidly globalization is bringing on an "emerging global middle class." Martin Ravallion of the World Bank suggests defining this group as those making from \$2 per day (the upper level of the global poverty threshold) to \$13 per day (the U.S. poverty threshold), based on 2005 purchasing power parity (PPP). Between 1990 and 2005, this emerging global middle class grew from 1.4 billion to 2.6 billion people. Most of that growth (all but 95 million) occurred among those making \$2 to \$9 per day, meaning that their hold on this new middle-class status is still tenuous.¹¹

Above a per capita income of roughly \$10 per day, such middle-class consumers, especially in urban settings, typically require more processing, handling, preparation and distribution services. The rapid global dissemination of modern supermarkets, cold-chain distribution systems, fast-food restaurants and brand-name food manufacturers only helps to accelerate these trends, making food systems in the developing world resemble those in wealthier countries more quickly and at lower income levels than the initial experience in the industrial world.

At higher income levels, food choices also become more heavily influenced by value preferences. For example, consumers may manifest a higher aversion to certain perceived risks, seeking pesticide-free, trans-fat-free or hormone-free foodstuffs. Or they may prefer certain production practices they perceive as better, like locally-produced food, organic products or "free-range" animal products. And they seek out more services embedded in their food supplies—health attributes like cancer or heart-disease risk reduction, entertainment values from exotic to ethnic foods or time-savings from "ready-to-eat" products.

This advanced food economy is very different from the commodity-based sector that defines food security for the world's poor. Final-product prices are more insulated from commodity markets and more dependent on labor, packaging and preparation costs. Supply chains have lengthened and become more diversified in order to respond to these tastes, separating the producer from the consumer by a growing army of middlemen. And caloric or nutritional needs have been replaced by demands for safety, convenience, healthfulness and the like.

Though this advanced food economy rests on top of the food security concerns of the world's poor and influences supply and price within it, it brings many more attributes or demands on the global food system that must serve both. One of the most important is food safety. Lengthening and diversifying food supply chains mean that ingredients can come from many different sources, including imports. When ingredients come from developing countries, there may be greater risk of contamination because of weak standards or lax enforcement, as the recent experience with melamine-contaminated products from China illustrates. But such problems can arise in developed countries as well, as the BSE crisis showed. New lines of defense will be needed to prevent contamination of foodstuffs and to allay consumer concerns about such risks.

Consumers desire other attributes besides safety, as demonstrated by trends such as “buying local,” “organic” or “free range.” When these ideas go beyond preferences expressed—and paid for—in competitive markets to attributes that should characterize—or be imposed upon—national food or farm practices, however, they can also serve protectionist agricultural interests.

A third challenge is that consumers at one and the same time seem to be eating more in less healthy ways—witness that roughly 70 percent of Americans are overweight or obese—but becoming more conscious of how their food and lifestyle choices affect their well-being. The latter manifests itself in growing demand for foods with health-related attributes.

Overall, this global nutrition industry “is projected to continue its annual growth rate of 7 to 9 percent in 2007 to reach an estimated \$375 billion within five years.” Interestingly, developing countries are seen as the focus of the major growth, and all of the major global food companies are making acquisitions and other deals to capitalize on the growing interest in “nutritional supplements, functional foods, natural and organic foods and personal care.”¹²

Animal diseases pose special challenges. Often, transmission among animals is rapid and hard to contain, especially with many traditional agricultural practices common to developing countries or with evasion of hygienic requirements. There also are concerns that animal diseases can modify and attack humans; avian influenza in particular has highlighted such worries.

Most recently this food economy has added another, explosive demand feature—the conversion of raw agricultural commodities like sugar, corn, oilseeds or wheat into biofuels. Governments have implemented policies to encourage the development of alternative energy industries as concerns about oil supply and greenhouse gas emissions from fossil fuels have increased. The scale of this intervention can be massive. For example, the share of the U.S. corn crop going to ethanol rose from 10 percent in 2005 to 35 percent in 2009, an unparalleled realignment. And the form of these policy interventions can be disruptive, with mandates, subsidies and import barriers distorting markets.

A second and separate concern is that biofuel mandates in a short crop year will divert scarce grain from food and feed uses to fuel uses, creating a price spike that would force harsh adjustments onto traditional livestock and export customers while exposing the poor to a food price crisis like—or worse than—the early 2008 run-up. At the other extreme, political support for the biofuels industry could wane, energy prices could become erratic or new economic priorities could command resources, confronting the industry with difficult adjustment challenges.

In summary, when consumer preferences get translated into policy mandates, they can intensify the chronic hunger, crisis hunger and malnutrition experienced by the poor and result in new demands for agricultural protection. Lengthening supply chains create risks around food safety (e.g., the melamine-contamination issue centered on China) and food-borne diseases (e.g., rapid cross-border transmission of diseases like avian influenza or BSE). They also give voice to new demands for health and wellness in the diet, from avoiding

diet-related diseases like diabetes, some cancers and heart disease to enhanced protection against these scourges of aging. And industrial uses of commodities add a whole new set of uncertainties. The policy challenge at its most stark is whether these new issues will be addressed with an eye to global well-being or become a further rationale for protecting one's own producers at the expense of others.

Sustainability

It was noted above that virtually all of the anticipated population growth will come in developing countries. These same countries also are most likely to see dramatic shifts toward more resource-intensive diets. For a variety of reasons, however, they are ill-equipped to meet that rising demand. Many of the most populous developing countries lie predominantly in tropical zones that either are inhospitable to grain production for climatic reasons, have pest and disease issues that are more difficult to manage than those in temperate zones, or have fragile ecosystems to be preserved.

Moreover, the effects of climate change are likely to add to these handicaps. In a recent assessment, Robert Thompson concluded that, while total world food production is likely to be little affected by foreseeable climate change, there will be significant regional changes. The northern hemisphere's higher latitudes are likely to play a significantly larger role in meeting global food needs. There also will be some positive effects for agriculture in highland tropical areas and temperate regions. But semi-arid tropical areas are likely to be among the most adversely affected under the impact of both higher temperatures and lower and more variable precipitation. Sub-Saharan Africa and Southwest and South Asia in particular could suffer.¹³

Perhaps more problematic and definitely more certain, the ratio of land and water to population militates against sustainability in many developing regions. The high-income countries of the OECD have 26 percent of the world's arable land but only 14 percent of the world's population (and virtually none of its anticipated population growth or income-driven demand growth). By contrast, the countries of South Asia have 15 percent of the arable land but 22 percent of the people, and East Asia possesses 14 percent of the arable land, on which is crowded 31 percent of global population. Both regions also likely face large food demand increases.¹⁴

This inequity has been compounded by the neglect and overexploitation of land resources often found in poor societies. Tropical soils, sometimes thin and nutrient poor to begin with, frequently have been abused through "slash and burn" cropping rather than sound soil management. Similarly, lack of control over rainfall and poor management of water resources are typical of many poor, tropical regions. Yet water withdrawals for agriculture often exceed 90 percent of supply in poor countries. Water demand for irrigation in developing countries will grow at 3 times the rate of availability between now and 2025, potentially reducing achievable crop production by 140 million tons.¹⁵

Soil degradation affects 65 percent of Africa's cropland, compared to 51 percent in Latin America, 38 percent in Asia and only 25 percent in North America, Europe and Oceania.¹⁶ Sub-Saharan Africa is of particular concern because food output gains have come largely from cultivating more land while yields—equal to those in South Asia in the 1960s—are now only two-thirds as high.¹⁷

All of these challenges underline the importance of increasing agricultural productivity in poor, developing regions in order to jumpstart their development processes while improving their environmental performance. And Africa, which has 11 percent of the world's population, 11 percent of its arable land and an agricultural economy that is underperforming relative to what would be economically efficient and environmentally sustainable, has the potential to anchor a significant part of its development in agriculture.¹⁸ But none of the world's remaining poor regions can sustain rising per capita incomes on agriculture alone. Indeed, all need to develop diversified manufacturing and service sectors that can absorb labor released from rural and agricultural employment, so that both those who leave farming and those who remain can enjoy better incomes.

This process of development, however, disturbs traditional economic and social arrangements. On the economic side, income inequalities widen as some individuals, regions and economic sectors move ahead faster than others. On the social side, traditional communities and family arrangements often are torn asunder by migration to cities in search of a better life, while those cities find their infrastructure overwhelmed by the influx of people.

The poverty that shapes these traditional economic and social arrangements is the cause of much hunger, malnutrition and related diseases, morbidity and death. It is neither desirable to preserve such poverty nor useful to pretend that small-scale agriculture alone can lift people out of such squalor. The sustainability challenge on the economic and social fronts is to find effective ways to assist in the development transition and to cushion the adjustments necessarily involved.

Moreover, it is important that the structure of the economy driving this diversification is market-based rather than statist. According to Abhijit Banerjee and Esther Duflo of MIT's Poverty Action Laboratory, private-sector-oriented middle classes are more supportive of educational opportunities, more entrepreneurial and more pluralistic and tolerant in their views. They also favor more open markets and are wary of inflation and economic populism.¹⁹ Statist economies risk creating off-farm opportunities that are dependent on protection, are an inefficient drag on rural and urban growth, push many into the informal sector (which undermines tax revenues needed for safety nets and public goods investments) and are prone to waves of hyperinflation, stagnation and populism.

In summary, poverty, hunger and disease and land degradation, rapid population growth and constrained land and water resources all tend to cohabit in poor, underdeveloped countries. These conditions are neither desirable nor sustainable in face of expected demographic and climatic changes. Though the resulting low yields mean that such countries have ample room for productivity gains, they will likely continue to require some imports of grains, oilseeds and livestock products, even with growth and development in their agriculture sectors. These imports are an efficient way for resource-poor areas to borrow more abundant, better-managed arable land and water resources from other regions of the world.

Very simply, agricultural trade is not just an expression of economic comparative advantage but also a tool for optimizing "environmental comparative advantage." Sustainability will require economic diversification, transformed social institutions (including more livable urban areas) and greater stewardship of the environment.

Among prosperous societies, another vision of sustainable agriculture has emerged. It favors reduced inputs, substituting labor for capital, skepticism toward new technologies and a preference for local production and use rather than reliance on global markets. This vision responds well to the increasing weight that some well-off consumers give to value preferences over cost. But it is not a model that can be universalized. To meet rising

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quantitative global food demand, it is essential to capture the efficiencies trade and technology can bring; to meet rising qualitative global food demand, it also is necessary to align productivity better with rising social and environmental expectations.

The remainder of this paper briefly traces the history of a food and agricultural system built around agricultural protection, describes the traditional and developmental roles agriculture plays in economies and their differential effects on the politics of trade, and sketches out a more open, equitable global food system built on trade reform, institutional and resource supports and access to critical technologies.

Agricultural Protection and Food Security

Food security is a concern of all governments as both a foundation for economic development and the cornerstone of political stability. Not surprisingly, this has been used to defend agricultural protection and the notion of producing one's own needs. It is important to distinguish between maximizing domestic production regardless of cost and maximizing domestic production at competitive cost. The former, popularized by Via Campesina^a in the mid-1990s as "food sovereignty," relies on protection; the latter is consistent with open markets.

As a means of assuring food security, closed markets have several limitations in general and some very specific limitations with respect to developing countries. In general, it is a high-cost approach. Countries do not all enjoy favorable climatic conditions for producing the grains, oilseeds and rice that are the typical commodity staples that are relied on to fend off chronic hunger. These limitations can be made more constricting by a lack of arable land per capita, limited water availability or special pest problems.

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Many poor developing countries compound these resource-based handicaps with policy-based ones. They may tax their agricultural systems directly or disadvantage them indirectly through over-valued exchange rates, protection of domestic input or processing industries or neglect of rural infrastructure.

Whether driven by cheap food goals or rural neglect, such policies discourage agricultural productivity gains, further impoverish the rural poor and often contribute to a forced migration to urban centers.

OECD countries are the most profligate agricultural subsidizers, but some developing country governments also over-compensate for rural neglect by providing generous subsidies on either the purchased inputs necessary to raise productivity, the output of the desired commodities, or both. This raises the costs of achieving the target country's food security and promotes farm consolidation by rewarding scale. These efforts also can complicate the task for others by inflating input prices, depressing output prices and shifting adjustment burdens onto a

^a Via Campesina defines food sovereignty as the right of peoples, countries, and state unions to define their agricultural and food policy; it gives priority to local production and consumption and allows for national policies that shield the domestic market from imports. [La Via Campesina: International Peasant Movement – Organization, http://www.viacampesina.org/main_en/index.php?option=com_content&task=blogcategory&id=27&Itemid=44 (June 17, 2009).]

narrow(ing) international market. This tends to compel other countries to up their domestic subsidies, increase their import protections and, in some cases, to augment their surplus disposal programs. Cumulatively, such practices embed agricultural protection and support in national trade policies and global trade rules, distorting the markets for food and agricultural goods.

The logical progression of these steps is not just an escalation in the scale of subsidies and protection but also a transformation in their character from marginal to absolute. This made import quotas, variable levies, fixed price guarantees to domestic producers and surplus dumping through food aid, export credits and export subsidies (and, most recently, biofuels subsidies and mandates) the tools of the trade for countries that could afford them. It also is why, when the General Agreement on Tariffs and Trade (GATT) was created (in the wake of the failure to create a more empowered International Trade Organization), exceptions were carved out for agriculture that preserved room for countries to ensure absolute levels of protection for domestic commodity producers.

It also may be why early efforts under GATT to deal with agricultural trade aimed not at opening international markets but at managing them within price bands that ranged between negotiated minimum and maximum levels. The International Grains Arrangement that came out of the Kennedy Round was the culmination of this cartelization approach. It collapsed within a year of implementation because of its interference with national efforts to minimize the high costs of protection by dumping unwanted surpluses onto international markets. The pursuit of such international commodity deals continued with respect to some non-staple tropical commodities like sugar and coffee for some time, but for the global food system it became clear that universalizing the instruments of protection was self-defeating.

The world food crisis of 1972-74 demonstrated that protectionist approaches to food security not only were costly in normal circumstances but also highly disruptive in years of poor crops. The United States imposed an embargo on soybean exports in June 1973 that created a “soybean shock” in Japan. The United States also imposed food and feed price controls internally and limited grain exports to the Soviet Union, first informally and later under a series of long-term grain agreements.

Perhaps the largest stress during this period came from the European Community. It had long protected domestic producers with price guarantees roughly double the prices prevailing in world markets (except on oilseeds and non-grain feed ingredients because of liberalizing concessions granted in the Dillon Round). In the early 1970s, however, as world market prices soared, the European Community converted its variable import levy—which had assured EU producers an absolute margin of preference—into a variable export levy, retaining domestically produced grains for local animal feeding rather than making them available to more pressing overseas needs.

This also was a period when oil producers organized their cartel and raised prices—first in 1973 and again in 1977—and when American farmers were lured into a false belief in “food power”—the idea that, in a Malthusian world of short food supplies, food exporters could not only command good prices but also exert political influence through agricultural trade.

In fact, a version of this already had played out in the mid-1960s, when poor harvests and rising population in India were making that sub-continent increasingly dependent on food aid. The United States, enmeshed in an unpopular Vietnam War, sought to condition its food aid shipments to India, which were a significant share of total U.S. wheat exports (the rest of which only moved abroad through export credits and subsidies), on Indian support for U.S. policy. India’s desire to maintain neutrality between the United States and the Soviet Union reinforced its resolve to pursue national strategies of food self-sufficiency and to reduce dependence on foreign aid. The two made a very receptive climate for the seed and input packages that came to be known as the “Green Revolution.” Over the following decades, India doubled its grain production, making itself self-

sufficient while staving off extreme hunger. Production of other crops—like oilseeds and pulses—suffered under this single-minded initiative, and the competitiveness of Indian agriculture remains burdened with high levels of import protection capitalized into land values.

The collision of all of these nationalistic efforts with the destructive effects of communism on the agricultural systems of the Soviet Union and the People's Republic of China produced three major consequences. First, it created an unprecedented spike in the price of staples even as food assistance contracted, exposing the vulnerability of many developing countries not only to chronic but also to crisis hunger. This triggered calls—including from the First World Food Conference—for accumulation of grain reserves. But D. Gale Johnson^b and others demonstrated that global grain production in 1972-74 fell only about three percent below trend, meaning that it was not physical shortages but trade barriers that insulated major producing and consuming areas from the minor adjustments needed to accommodate the shortfall. This experience was repeated in 2008, when more than 30 countries imposed price or export controls that had the cumulative effect of causing extreme and unnecessary price-rationing.

Second, the 1970s world food crisis set off in China the first major revisions in its domestic agricultural policies to increase domestic grain output and reinforced India's commitment to the Green Revolution. Both were large re-commitments to national self-protection strategies. During the same period, the European Community converted from an annual importer of roughly 20 million tons of grain per year to a subsidized exporter of around the same quantities. These policy measures and their ramifications underlined the high costs of neglecting agricultural trade protection during the high-price years around the Tokyo Round of negotiations.

This led to the third consequence of these turbulent years. The loss of the Indian food aid market, the decline in the Soviet grain import market after President Carter's Soviet grain embargo, and the emergence of the European Community as a (subsidized) grain export competitor re-focused U.S. agricultural policy thinking while boosting the formation of the Cairns Group of "non-subsidizing" grain exporters (which is not to say that they were all fully open market players). As preparations for the Uruguay Round began, there was a new resolve to address agricultural protection.

The emergence of agricultural protection as a central focus had much to do with prolonging the Uruguay Round well beyond its planned completion in 1989. What finally emerged was a framework for addressing protectionist policies that had three component parts. The first was domestic supports, where the approach was both to reduce their overall level and to create a pathway from highly trade-distorting forms of support (e.g., minimum price guarantees) through less trade-distorting forms of support (e.g., income supports or production-limited supports) to minimally trade-distorting forms of support (e.g., decoupled income supports or provision of public goods).

The second avenue for reform addressed export subsidies. Again, a two-track approach was developed. One track sought to limit the quantities that could be subsidized. The other sought to limit the size of subsidy budgets. Together, these were to squeeze down direct export subsidies. Ignored were some of the indirect forms of export subsidization, such as food aid, export credits and state-trading enterprises.

The third pathway for reforming national self-sufficiency strategies addressed import protections. Here the idea was to convert the widespread use of absolute forms of protection like import quotas and variable levies into tariff equivalents and then to reduce the degree of protection afforded by them gradually but progressively. Some of the most highly protected sectors, however, retained import quotas in exchange for commitments to expand imports' shares of consumption.

^b Leading researcher in agricultural and developmental economics, who traveled the world researching farm and trade policies and the economies of developing nations, and whose books included "Agricultural Policy and U.S.-Taiwan Trade" and "Long-Term Agricultural Policies for Central Europe",

Together, these three prongs of reform proved a useful and ultimately acceptable framework for completing the negotiation. As most evaluations of the Uruguay Round have concluded, however, what was accomplished in theory by this framework did not translate into much progress on the ground in curbing actual protection and altering trade flows. There also were commitments negotiated for increasing food aid flows and making them more reliable, but these, too, languished in their implementation.

All of the above had to do mainly with concerns about food security—the effects of agricultural trade policies on chronic hunger, crisis hunger and malnutrition. Food safety issues were also addressed in the Uruguay Round by concluding an agreement forged around sanitary and phytosanitary standards, which affirmed reliance on international, science-based safety standards. This SPS Agreement also attempted to respect the rights of countries to impose higher standards while circumscribing their discriminatory effects on imports compared to domestic production. But the tension between the United States and the European Community around genetically engineered agricultural products shows that this issue is far from settled.

Little attention was placed on sustainability issues. The concept of sustainable development was relatively new. Measures to control pollution were largely matters of national concern. Global issues tended to be addressed in separate protocols, and regional concerns were more directly addressed in regional organizations, like the European Community, the North American Free Trade Agreement and the Asia-Pacific Economic Cooperation forum. Climate change and agriculture's role within it was largely unexplored.

Foreign Assistance and Food Security

As the above discussion suggests, the role of foreign assistance in pursuing food security was often of secondary importance. PL 480, the principal U.S. law authorizing food aid, grew out of an environment of burdensome food surpluses in the wake of the Korean War. Its role peaked in the mid-1960s and then declined under the impact of the Green Revolution. Other significant food aid donors—like Canada and Japan—also backed into the process as a by-product of surplus management/disposal.

Efforts to negotiate international food aid commitments tended to result in stronger rhetoric than performance. Even efforts in the mid-1970s to create food reserves dedicated to crisis needs were only partially successful. Why was this the case?

First, accumulating reserves is a costly exercise. Costs for storage, financing and provision for deterioration or loss are roughly 20 to 25 percent of the commodity's value per year. There also often are bureaucratic delays that result in shipments arriving too late for the peak needs and occasionally in the face of a recovery in normal supply channels. Avoiding this problem through forward-positioning of reserves adds in additional transportation expenses to their carrying costs and reduces their flexibility in meeting unanticipated needs elsewhere.

During the 1970s world food crisis, a limited food-financing facility was created that countries could tap whenever their food import capabilities were stressed from greater needs, higher prices or reduced foreign exchange. Though less costly than reserves, this approach failed because its scale was too modest and its implementation by the International Monetary Fund was tied to conditions that made it unappealing to recipients. It also may have been undercut because the self-interest of food aid donors tends to prefer commodity to cash commitments.

Second, it is difficult to separate some forms of food aid—especially in non-crisis situations—from export subsidization. Displacement of commercial sales can occur through soft credit terms, and “market development” applications may help to build commercial demand over time but can displace commercial sales in the short term.

Finally, food aid recipients recognize the risks of such dependency. Food aid supplies tend to be a function of surpluses in donor nations rather than needs in recipient countries. They can depress prices in the recipient country, discouraging development of local production and marketing capabilities. And they may not match either local tastes or local nutritional requirements.

A more subtle but important downside to food assistance is that it reinforces an urban bias in the economic development strategies of many countries by ensuring coastal food needs can be met from imported sources. Rural infrastructure within the recipient country and land-based infrastructure connecting to neighboring countries continue to be neglected. This seriously retards the development of both physical infrastructure to bring inputs to rural producers and to move their output to more distant markets and the institutional infrastructure—credit, commercial adjudication, marketing information and agribusiness specialization—that is needed to support economic development.

The other principal means of providing foreign assistance were official development assistance (ODA) and various trade preferences. Often these trade preferences followed colonial ties and favored some developing countries over others but generally not poor-country producers over farmers in the preference-granting, developed countries. In more recent years, this idea has been expanded to more generalized preference systems, including a “duty free/quota free” proposal discussed in the Doha negotiations. Conditioned as such preferences are, they usually leave other trade-distorting policies in place, weakening their long-term development value. And, while agriculture’s share of ODA rose briefly to around 20 percent, the collapse of commodity prices in the 1980s pushed agriculture’s share back below 5 percent.

For all of these reasons, food aid can at best play only a supplemental role in pursuit of food security. It can soften the effects on the poor of an imperfect trading system, playing a bridging role in global food security. More could be done with ODA by increasing the share going to agriculture and rural development, sustaining those funding levels across commodity price cycles and focusing it on developing the production and marketing capabilities a country needs to achieve its agricultural potential, whatever it is. That means support for agricultural research and development, land titling, financial and commercial infrastructure in rural areas, good roads and railroads and other aspects of commercial development. Only as these fall into place can rural areas lift their incomes and provide the health, sanitation and educational services they need for sustained economic and social development.

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Doha and Development

The Doha Development Round was launched in November of 2001, missed its trade-promotion-authority related deadline of July 2007 and went moribund in the latter days of 2008. It was not the food crisis of early 2008 nor the bursting housing and financial bubbles of mid 2008 nor the onset of global recession in late 2008 that caused this impasse. No doubt each helped. But the problem was more structural and agricultural.

In its broadest strokes, all of the major players defined “development” in different terms. For the United States, it was agricultural export market development, which farm groups, their Congressional allies and U.S. trade negotiators all equated with lowering market access barriers.

For the European Union, development had both industrial and agricultural components. The manufacturing

and services goal was access to the markets of the larger developing economies. The agricultural goal was to preserve its growing internal agricultural enclave (achieved through expansion) for European farmers. Japan, Norway, Switzerland and a host of developing countries shared a similar protective ideal. All preferred to shift the development focus from agricultural trade reform to trade preferences.

For the larger developing countries, the agricultural component of development meant eliminating domestic and export subsidies in the developed world, which were seen as depressing global prices, restricting their exports and impoverishing their farmers. They generally overlooked the analyses of most trade and development economists, who argued that: South-South agricultural trade was the most likely growth component; rural neglect by developing country governments was the primary cause of rural poverty; and that the offending subsidies account for only about 7 percent of the welfare loss from agricultural protection, compared to 93 percent for market access barriers.²⁰

The least developed countries saw development in the most one-sided way. To them it meant trade preferences—both preserving those they already had and enlarging them through a duty free/quota free initiative—and aid. It was to be a “round for free,” even though most economists would have advised them to reduce their own trade and investment barriers, since poor countries that have done so have typically grown up to five times faster than those who have not.²¹

In other words, the Doha Development Agenda took the Uruguay Round agricultural framework and turned it into a prism with differing facets that enabled each party to understand development differently. And as Paul Blustein notes in a recent Brookings article, all parties—and especially India and the United States—saw development as it was refracted through respective domestic farmer political lenses.²²

The resulting negotiation appeared to take away with one hand what was offered with the other. Formulas proposed to cap rich country trade-distorting subsidies and to cut agricultural tariffs by 50 to 73 percent (with developing countries making cuts two-thirds as great), with the highest duties cut the most. But exceptions are foreseen for “sensitive” products in wealthy countries and “special” products in developing countries. Together with the demand by some that the “special safeguard mechanism” allow duties at pre-Uruguay Round levels in case of import surges, there appeared to be much less agricultural market-opening than one had hoped.²³

Without a shared vision of development, the agricultural negotiations turned the means of reform—the three pillars of domestic support, export competition and market access—into tools by which each country pursued its narrowly conceived self-interest. Without a broader motivating vision, ambition was whittled down through defensive negotiating postures.

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or limit the institutional changes and supplemental resources that would enable trade to deliver food security cost-effectively. And there was little confidence that implementation of commitments would be sustained long enough to harvest these benefits.

More generally, there was little consensus on the positive role agricultural trade and trade reform could play in reducing food insecurity. The trade-negotiating forum also tended to preclude

Food safety and wellness concerns also were growing with the increasing global reach of the food system, its lengthening supply chains and its mounting complexity. Tariff escalation and differential export taxes were the main issues addressed in this area; problems with differing approaches to food safety or biotechnology were largely ignored, and marketing issues like those around private standards were barely scratched. Instead,

the field was largely left to critics of trade and globalization to add such concerns to the rhetoric supporting protection.

The nexus of emerging concerns around sustainability also fell outside the focus of these negotiations. Here, a large opportunity for capturing the potential benefits of trade reform by extending the gains from comparative advantage to environmental concerns was lost.

With Doha mired down, the trade agenda is in need of reshaping. Blustein notes several options. One would be to broaden the agricultural reform agenda to include new issues that have emerged since 2001, including “the food crisis, the energy crisis, the unfair manipulation of currencies, and climate change.” Others “favor abandoning the idea of big rounds” and going for “smaller, more doable deals,” but this “approach means giving up the vast opportunities for horse-trading afforded by traditional, multi-issue rounds.”²⁴

Support for broadening the agricultural trade reform agenda also was expressed in a recent Foreign Affairs article. In it, Aaditya Mattoo and Arvind Subramanian conclude that “overall trade has flourished but the multilateral process that governs trade has languished.”²⁵ They criticize the lack of ambition in the Doha agricultural negotiations, which they attribute to traditional protectionism and the failure of the talks to address food export controls and biofuels policies. “The [agricultural] trade agenda needs to be enlarged to include a discussion of all trade barriers—on imports and exports—and biofuel policies, including tariffs on imports.”²⁶

Their critique is part of a larger assessment of global issues, which concludes that most of these issues—but not agricultural trade—need new global venues:

“At the moment, the WTO is the lone official forum for most negotiations on trade issues. That makes it an appropriate venue for discussing trade restrictions in the agricultural sector, but not necessarily for discussing the other major economic issues of the day.

Cooperation is needed between the WTO and the IMF on questions involving exchange rates and SWFs [sovereign wealth funds]. For energy issues, both organizations that represent oil exporters, such as OPEC, and those that represent importers, such as an expanded version of the International Energy Agency, need to be involved. On the environment, and specifically climate change, the WTO should be subordinate to forums such as the upcoming Copenhagen summit.”²⁷

As with foreign exchange, energy and climate issues, food trade may need reconsideration and repositioning of a more fundamental nature. That re-positioning should be guided by two principles: acknowledging the benefits of trade reform for food security, safety and sustainability; and supplementing a traditional trade negotiation with the institutions and resources needed to optimize these benefits and to build trust and confidence in an open, equitable global food system.

It seems odd to conclude that agricultural trade reform has foundered for lack of ambition and a failure to include relevant food security and energy security concerns but then consign a broadened negotiation to the same old forum and format. As with foreign exchange, energy and climate issues, food trade may need reconsideration and repositioning of a more fundamental nature. That re-positioning should be guided by two principles: acknowledging the benefits of trade reform for food security, safety and sustainability; and supplementing a traditional trade negotiation with the institutions and resources needed to optimize these benefits and to build trust and confidence in an open, equitable global food system.

The Global Food System Challenge

There are substantial challenges facing the global food system:

- for food security, the world needs to double food production by mid-century and to do so without increasing and hopefully decreasing real food prices in order to reduce and eventually eliminate chronic hunger, food crises and nutritional deficits.
- for food safety, the world needs to meet the burgeoning demand for greater safety and healthfulness of food supplies while shaping ever longer, more global, more integrated supply chains and to do so while reducing risks of food-borne illnesses.
- for food sustainability, the world needs to meet these tests: the environmental test of feeding itself with less stress on land and water resources, more adaptability to changing climate and a greater mitigation role for agriculture; the economic test of transitioning 1.5 to 2 billion people out of farming and into manufacturing or service activities in ways that leave both them and those remaining in agriculture better off; and the social test of doing this while increasing both the security of and the opportunities for the world's poor.

These are the real development challenges that must be faced. Agricultural protection cannot accomplish these tasks, which obviously require much greater multilateral collaboration. Food assistance will not meet these challenges because it neither enhances agricultural productivity in the recipient country nor builds the non-farm economy needed to provide job alternatives. Only a more global, more integrated approach to these challenges shows much promise of succeeding. What would such an approach entail?

Three changes in the approach to global food issues need to occur to build such collaboration. One is to distinguish more clearly between the traditional roles of agriculture in the economy and its developmental roles. The second is to distinguish more clearly between market access and market growth as drivers of agricultural trade. And the third is to separate protecting consumers from scarcity or farmers from competition compared to coping with market fluctuations. Each is described briefly below.

Agriculture's Traditional and Developmental Roles

Agriculture's most familiar and universal role in any economy is the traditional one of producing food, feed, fiber and (sometimes) fuel while providing jobs and incomes for farm families. Agricultural interests organize around these traditional roles, with commodity groups (e.g., wheat, corn, soybean, cotton and rice growers) forming to pursue the perceived economic interests of that crop and farm trade associations (e.g., farm bureaus or unions) speaking for the general interests of farmers. A similar structure exists in dairy, livestock, horticulture and other commodities.

The politics of agriculture in any particular country tend to orient around the views of these commodity and farmer organizations. Nor is the practice limited to developed countries with budgetary resources to spend on their producers. As Kamal Nath's statements around the Doha negotiations made clear, he was extremely aware of and responsive to the political agendas of India's "650 million subsistence farmers."

Agriculture, however, plays other important roles in an economy. It can be a source of productivity gains—making two blades grow where one did before. By raising factor productivity, agriculture contributes importantly to the creation of wealth in a society.

Agriculture also can become an engine of demand for products from the rest of the economy. The transformation from subsistence to commercial farming generates demand for inputs (e.g., fertilizers, seeds, implements,

tractors, etc.), marketing services (e.g., warehousing, processing, transportation, financing, risk management, distribution, etc.) and consumer goods (e.g., refrigerators, TVs, phones, trucks, etc.). This stimulates economic diversification and growth of the non-farm economy. Much of the specialization that results also feeds back into production agriculture by making it more efficient.

Third, agriculture is the primary source for labor and capital in kickstarting development and supporting the growth of manufacturing and service industries. Undeveloped countries typically have 60-70 percent (or more) of their workers engaged in low-yield farming. India, for example, has 62 percent of its workforce in agriculture, accounting for only 18 percent of gross domestic product. Developed economies typically have less than five percent of their jobs on farms, and they are generally highly productive and often highly rewarding. Indeed, the primary task of development can be summarized as moving people out of farming in a way that leaves both those who move and those who stay better off.

These three roles—raising productivity, providing markets and generating savings for economic diversification—are the core development roles of agriculture. They are the agricultural attributes and goals that should be the focus of any development strategy. Unfortunately, they typically are not as well organized politically as the traditional roles. In fact, traditional farming interests often view productivity enhancement with suspicion, especially if it leads to output expansion or increased competition. Traditional farm and commodity interests also are often deeply suspicious of the commercialization process that generates new demand, output and growth, as they see agribusiness, railroads, banks and the like as competitors for the consumer's dollar rather than value-adding agents. And farmers and their policy representatives talk much more fondly of "saving small family farmers" than of easing their transition into the non-farm economy.

Consequently, one thing that may be a precondition for success in creating and capturing the benefits of more open agricultural markets is to generate more understanding of and political support for the development roles of agriculture in an economy. Beyond economists and academics, the business sectors that grow and see their opportunities enlarged by this development process must become politically engaged. The same mindset shift needs to occur among the many non-governmental organizations (NGOs) that are becoming involved in agricultural negotiations. All need to see the potential of trade reform to enhance food security, safety and sustainability to become coherent, effective advocates for needed change.

Perhaps most important, the policymakers who must steer this social change from an agrarian to an industrial and service society must be given the tools to manage it well and to ease adjustment burdens. The good news is that virtually all of these tools reside in the Uruguay Round Agricultural Agreement's (URAA) "green box" of minimally distorting policies—investments in public goods like education, sanitation, health care, transportation and information systems and generalized welfare support. It is unlikely that the commodity and farmer organizations will voluntarily transfer their allegiance to this more "public goods" roster of supports, but a counterbalancing voice from other sectors could help make the political landscape more attractive for reform.

Market Access vs. Market Growth

One of the unfortunate effects of pursuing agricultural trade reform through balanced and mutually beneficial concessions as a negotiating approach is that it has created the impression that one country's gain was another country's loss. This "win-lose" outlook is rooted in the relatively slow growth in food demand among developed countries and puts inordinate emphasis on market share rather than on market growth.

Both the notion of exchanging market access concessions and the stress on growing market share rather than the market have doomed agricultural negotiations...and perhaps unnecessarily so. It no doubt is useful to bring bound agricultural tariffs down to insure against backsliding. But having applied duties below bound ones also reflects an importing country government's recognition that there is economic and political value in

not taxing their consumers or value-added industries excessively on needed imports.

This is important because much of the opportunity for agricultural trade expansion lies in the developing countries who are going through the commodity-trade expanding income scale from \$2 to \$10 per day or the processed-foods-trade expanding income scale as earnings rise from \$3,000 to \$15,000 per year. Many of these countries have large spreads between bound and applied duties that are not worth defending because they reflect useful changes as their economies grow. These shifts often drive consumption up faster than local production can expand, especially where population presses against available land and water resources. They typically result in circumstances where domestic food production and imports grow side by side.

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In such an environment, the tariff structure takes on a different character. Import duties become less of a factor in protecting farm incomes, since productivity is rising on farms and public resources available for economic diversification are growing. Instead, they become more of a competitive handicap, both by pushing up wage rates through unnecessarily high food costs and by raising the costs of imported feedstuffs and ingredients destined for labor-intensive food production and export.

Again, one should not expect commodity and farm organizations to abandon their support for protection. But as food consumption grows and commercializes, as two-way agricultural trade expands along lines of comparative advantage and as agriculture's role in the economy declines relative to the manufacturing and service sectors competing more globally, it is possible to build up counterbalancing interests and to make reform more politically palatable.

Protection vs. Coping With Fluctuations

Perhaps the most discouraging aspect in the structure of past agricultural trade negotiations is the absence of the voice of consumers and users of agricultural raw materials in support of reform. Instead, when prices rise suddenly, they demand price controls or export limits, steadying the domestic market by shifting adjustment burdens onto an ever narrowing global market. In 2008, more than 30 countries resorted to these self-protective measures when a little more foresight and understanding would have made them natural advocates for openness and the broadest possible sharing of adjustment burdens in order to minimize them.

The protective reflexes of price and export controls enlarge the burdens of adjustment for those still exposed to market forces. They also blunt the incentives local producers have to step up production while promoting marginal consumption within these sheltered markets at the expense of more needed consumption in the exposed markets. And they benefit rich and poor consumers alike; clearly, targeted food assistance would be more equitable and less globally disruptive. Unfortunately, these issues have so far eluded the WTO agricultural negotiating agenda.

A new manifestation of lack of trust in the trading system and costly self-protection measures is the move by countries to buy foreign agricultural lands. Since 2006 countries like China, Egypt, Japan, South Korea, the United Arab Emirates and Saudi Arabia have purchased as much as 20 million acres of foreign farm land, much of it in Africa, Indonesia and Thailand. This raises the specter of well-off consumers siphoning off scarce food supplies in a tight-supply situation, amplifying the shortage into a crisis just as export or price controls do.

A mirror-image issue, however, has long been front and center—dealing with import surges. That negotiation also has been discouraging. Inadequate distinctions have been drawn among types or causes of an import

Perhaps the most discouraging aspect in the structure of past agricultural trade negotiations is the absence of the voice of consumers and users of agricultural raw materials in support of reform.

surge. One caused by a local crop problem poses different issues from one prompted by overvaluing one's own currency. Under most formulations of safeguard mechanisms, both would authorize a safeguard action when in fact each situation calls for a different solution. At the same time, an increased foreign exchange cost of food imports—either because volume surges, commodity prices spurt upward or the terms of trade shifts against the importer—gets viewed more from the farmer's than the consumer's perspective, even though the welfare consequences for consumers could be much more severe.

One cannot help concluding that the attention devoted to safeguard mechanisms has little to do with either coping with trade fluctuations or providing some insurance to facilitate liberalization. Rather, safeguards, like "special" and "sensitive" exceptions, seem driven by ultimately self-defeating protectionist motives.

A Global, not Multilateral, Approach

All of this—the history of agriculture within the GATT, the practical outcome of the URAA, the collapse of the Doha negotiation and the review of agriculture's developmental role in an economy—suggests that agriculture's negotiating agenda needs to be broadened and its venue reshaped. One may not need to replace the three pillars as analytical, monitoring or implementing tools, but they need to be replaced as the central element or focus of the negotiation. Defining a new goal begins by thinking less about reducing trade barriers through an exchange of concessions and more about building a global food system up to the challenges the world faces and structured to be mutually beneficial. This will require supplementing the traditional WTO negotiation with additional resources and institutional innovations to create the trust and systems necessary to optimize trade reform's contributions to food security, safety and sustainability.

It is difficult to itemize all aspects of what a global-food-system-based initiative should look like, but some of the essential components can at least be sketched out.

For food security, producers and consumers need to strengthen their mutual dependence. That means:

- market access for exporters contingent on assured access to supplies for importers (i.e., no export controls, taxes or distortions, so that domestic and foreign customers are on an equal footing), with meaningful remedies.
- purchasing power assistance, so that food-importing countries are not driven out of the market in years

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of higher needs, less foreign exchange or an adverse shift in the terms of trade. This is likely to be more cost-effective than reserves or traditional food aid. At the international level, such assistance needs to avoid conditions that make it unattractive to potential users. At the national level, it should be available for any foreign exchange disruptions that could impair food imports. And at the household level it should be needs-based.

- the elimination of market-distorting production subsidies or if not eliminated, give importers the right to countervail them.

For food safety, a sharper line needs to be drawn between what governments can require to protect public health and what private actors may seek from their suppliers. That means:

- mandatory standards and labels should be based in science, grounded in legitimate public health concerns and designed to minimize trade distortions. They should be supplemented by cost-effective traceability systems and public-private collaborations around early detection and response to food-borne diseases
- private standards would then be free to seek higher thresholds of performance so long as they are voluntary and cost-effective. These are marketing programs, not safety ones, and should be treated as such.
- public and private capital should be invested in developing countries to modernize food production, processing and handling capabilities rapidly, to raise safety performance locally and to enlarge prospects for global marketing.

For sustainability, the way forward needs to depart the most from historical agricultural trade negotiations, integrating trade more coherently into development policy. That means:

- pursuit of an “environmental comparative advantage” strategy, by which land-intensive food products should flow from land- and water-rich regions to regions with degraded or scarce natural resources and labor-intensive food products should flow from regions of surplus labor to regions of scarce labor. As well, steps are needed to mitigate agriculture’s impact on climate and to adapt to its changes.
- pursuit of agricultural and rural commercialization strategies through the development, sharing and IP protection of technologies that increase production on existing good cropland, reverse degradation on poorer lands and preserve fragile or virgin lands, while using less fossil-based materials and leaving less of their residues on crops or in the land or water supplies.
- to develop and, where necessary, help fund social policies that build up rural physical and institutional infrastructure while targeting aid where needed to ensure access to adequate nutrition, provide needed education and adjustment assistance and maintain a minimum safety net.

To itemize these initiatives, of course, is not the same as showing how they would be brought about. Nor is it to minimize the difficulty of achieving them. But it is to stress three points.

First, an open, equitable global food system has the best chance of meeting all of the food challenges the world faces. Neither self-sufficiency nor food assistance is up to the task. They are too costly in pursuit of food security and largely antithetical to the changes needed to ensure greater food safety and security. Trade reform, buttressed with additional institutional and resource commitments, is less costly, more reliable and most respectful of the needs of the poor.

Second, it is unlikely that we can construct an open, equitable global food system through traditional GATT/WTO-style negotiations alone. That approach is too confrontational and mercantilistic to achieve the degree of collaboration or comprehensiveness of ambition needed. Having a vision of the food system the world needs to build is likely to be more productive than incrementally dismantling the increasingly dysfunctional system we have. Moreover, creating an open, equitable global food system requires bringing trade, investment and

technology together in a much more coordinated way than is possible in a traditional trade negotiation.

Finally, the commercial trends in the global food system are heading toward more openness, integration and technological sophistication. The public interests in curbing food insecurity while promoting food safety and sustainability are pointing in the same direction. It is time for agricultural trade policy to leave its autarchic past and get in step with the needs and realities of the marketplace.

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