INTERNATIONAL TRADE AND AGRICULTURE:

SUPPORTING VALUE CHAINS TO DELIVER DEVELOPMENT AND FOOD SECURITY

Global Harvest Initiative

International Food & Agricultural Trade Policy Council

TransFarm Africa
Routes to prosperity

NML
New Markets Lab

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www.globalharvestinitiative.org

OUR MISSION

The Global Harvest Initiative (GHI) is a private sector voice for productivity growth throughout the agricultural value chain to sustainably meet the demands of a growing world. GHI believes the right policies can improve global food and nutrition security, accelerate productivity gains, and conserve natural resources.

OUR APPROACH

GHI advocates a comprehensive approach to food and nutrition security that emphasizes increased productivity, access to nutritious food, improving incomes for producers, and strengthening the productivity and resilience of smallholder farmers. GHI particularly recognizes the critical role that women farmers and pastoralists play as engines of productivity and food security in the developing world.

MEMBERS

CONSULTATIVE PARTNERS

POLICY PRIORITIES

IMPROVING AGRICULTURAL RESEARCH FUNDING, STRUCTURE AND COLLABORATION

Reversing the decline in agricultural research funds and establishing competitive processes will spur needed innovation and knowledge to grow more food using less resources.

ENHANCING PRIVATE-SECTOR INVOLVEMENT IN AGRICULTURE AND RURAL INFRASTRUCTURE DEVELOPMENT

Improving the policy environment is a powerful incentive for more private-sector investment and will help channel capital to improve food systems along the entire value chain.

EMBRACING SCIENCE- AND INFORMATION-BASED TECHNOLOGIES

Empower farmers with information to support better agricultural decisions, make improvements in post-harvest technology, improve the nutritional and food safety performance of supply chains to meet growing consumer demand.

STRENGTHENING AND COORDINATING DEVELOPMENT ASSISTANCE PROGRAMS

Ensure greatest possible impact of global development assistance programs through effective, market-based investments.

REMOVING BARRIERS TO GLOBAL AND REGIONAL TRADE IN AGRICULTURE

Farmers, processors, and other food value-chain participants can meet consumer demand more effectively if predictable and rational trade systems are in place.

INTERNATIONAL TRADE AND AGRICULTURE: SUPPORTING VALUE CHAINS TO DELIVER DEVELOPMENT AND FOOD SECURITY

EXECUTIVE SUMMARY

Feeding the world in 2050 when our global population is expected to reach over 9 billion is one of the most daunting challenges of our time. In the face of climate change, and with scarce land and water resources, we must rapidly address this challenge and lay in place the right frameworks to boost food production and freeze the environmental footprint of agriculture all along the food value chain. We must also unlock the potential of millions of small producers who could be part of the solution to feed the planet.

The Global Harvest Initiative (GHI) and its consultative partners take a holistic approach to increasing agricultural productivity worldwide in order to meet food security needs and respond to significant systemic factors, including urban and population growth, changing demand for food, climate change, and, ultimately, a rapidly developing, more interconnected global agricultural market. Increasing agricultural productivity essentially means growing more while using less land, water, energy, labor, and other inputs. ***To meet the demands of a growing world and changing diets, we must foster an appropriate policy enabling environment and harness innovation and technology to create sustainable food systems.***

GHI's five areas of policy focus – investing in agricultural research and development, enhancing private sector involvement, embracing science- and information-based technology, strengthening and streamlining development assistance programs, and improving regional and global trade – are all critical, closely connected elements of closing the productivity gap.

Trade is an integral aspect of increased productivity and food security. All farmers – regardless of size – will only produce more when they see an available market. These decisions are no longer as local as they once were. With agricultural value chains becoming more complex, actions taken in far off capitals – and regional and international institutions as well – will have an impact on the rural small farmer more than ever before. The laws and regulations governing the different aspects of value chain development, many of which are part of trade agreements and institutions, also directly tie into market opportunity and productivity.

The potential gains associated with increased trade and easier movement of goods and services are becoming increasingly clear. Trade has now become a significant component of food security efforts and the broader agricultural development agenda. ***As the following paper will illustrate, fully unlocking the power of trade to deliver development and food security benefits will require a deeper dive into the particular issues that are necessary for spurring innovation and opening up value chains.*** Lowering tariff and non-tariff barriers to trade will continue to be a priority, as will approaching the rules and regulations around agriculture in a holistic, market-driven way.

A strong enabling environment – with transparent and well-implemented laws, regulations, and trade policy – is central to value chain development. One of the biggest challenges in creating this enabling environment will be closing the gap between the system on the books and the realities in the market. This applies to domestic and regional laws and regulations, implementation of trade agreements, and transparent regulatory systems alike.

There are positive developments taking place at the intersection of trade, agriculture, and food security, but trade needs to be further integrated and better used as a tool for market development and productivity enhancement. In order to open markets effectively and to the benefit of all, innovation from both the public and private sectors will be increasingly important, as will creative and practical ways to combine the two.

The findings in the attached paper, which were produced in consultation with companies engaged in global agricultural trade as well as other sector experts, discuss a number of the elements necessary to this holistic system-wide approach to promoting agricultural value chain development through trade. The key findings of the paper include the following:

- Consistent, transparent, and science-based frameworks for regulating food safety, along with reliable processes for administering sanitary and phytosanitary (SPS) rules, are critical to value chain development and increased agricultural trade;
- Legal and regulatory issues play a significant role at all stages in value chain development – including inputs, production, processing, transport, and end markets – and many of these issues are covered by trade rules and disciplines;
- Trade policy instruments can help foster the development of reliable systems for moving goods – including food, inputs, and equipment – and services through necessary legal and policy infrastructure and appropriate trade facilitation interventions;
- A stronger focus on services will be increasingly important to agricultural trade, with laws and regulations needed that can support open systems for transport and distribution services; financial services; and wholesale, retail, franchising, and other services;
- In places like sub-Saharan Africa where so many markets are small and landlocked, regional integration and harmonization of laws and regulations will be critical to agricultural growth, and particular focus should be placed on how laws and regulations are being implemented in practice;
- Adequate and equitable intellectual rights protection is becoming increasingly important as technology, information sharing, and communication play an even larger role in value chain development;
- With agricultural markets becoming more and more global, inward-looking policies – including forced localization – will need to be handled carefully so that they do not pose a threat to agricultural development and food security; and
- There is a widespread need for commercially-focused capacity building designed to facilitate market development and generate regulatory reform in the agricultural sector.

The above issues should all be addressed through a variety of trade policy vehicles, including the Trans-Pacific Partnership (TPP) negotiations, the US-EU Transatlantic

Trade and Investment Partnership, the US-East African Community (EAC) Trade and Investment Partnership, the World Trade Organization (WTO) Doha Round and Bali Ministerial, existing free trade agreements (FTAs), and regional efforts and ongoing discussions under the US Trade and Investment Framework Agreements (TIFAs).

As an overarching finding, improved systems for collecting and sharing data will play a key role in improving agricultural productivity. While aspects of this are outlined in the attached, GHI and its consultative partners are developing plans for better mapping and understanding untapped potential along value chains and the factors that affect this potential. For example, GHI is working with the New Markets Lab (which houses TransFarm Africa) to assess the impact of the legal, regulatory, and policy environment in developing markets on value chain development. More analysis and collaboration in this area will allow for promising approaches in trade and agricultural development to be brought to scale.

Overall, the 21st century will require a trade policy that is forward-looking and innovative in order to take advantage of future market opportunities. Trade can and should impact individuals positively, add value economy-wide, and deliver broader food security and development benefits. Addressing the areas outlined above and discussed in more detail in the attached paper – individually and as part of a system-wide approach – could yield sizeable gains. This paper presents a more detailed discussion of how to do so, tying these issues into a number of current trade discussions. We hope that it will provide the foundation for a fruitful discussion on trade going forward.

INCREASING OPPORTUNITY IN A CHANGING GLOBAL MARKET

More than ever before, trade and open, sustainable markets hold the potential to unlock economic opportunity, spur development, and increase food security. As economies around the world become increasingly interconnected, decisions at the local level are intricately linked to markets near and far. Across sectors, production processes now include an increasing number of individuals, functions, and locations,[1] with the potential to create opportunity for all involved.

Technology is playing a significant role. As many in the global economy get closer to the technology frontier and more efficient inputs become available, even greater productivity increases become possible. Innovation and the ability to integrate into global value chains are fast becoming as important as price in this changing global economy.[2]

Changes in global markets are opening up new possibilities for farmers, agribusinesses, and consumers around the world. Inclusion in global value chains presents great potential for increased employment and wages for the poor in developing countries.[3] ***Comprehensive global value chains and systems to support them can change the world's ability to move food from areas of production to areas of processing and consumption. They can also encourage value addition in developing and developed economies alike.*** More dynamic and diverse markets can lead to increased future growth, which will be central both to productivity increases and new possibility for a growing population.

Global population and income levels are rising, and the world is becoming increasingly urbanized. Population is expected to grow from 7 billion in 2011 to more than 9 billion by 2050.[4] Most of that growth, some 2 billion people, will be concentrated in developing countries where population will reach 7.9 billion, more

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1 Michael J. Ferrantino, "Using Supply Chain Analysis to Examine the Costs of Non-Tariff Measures (NTMs) and the Benefits of Trade Facilitation," ERSD Working Paper (WTO, February 15, 2012).

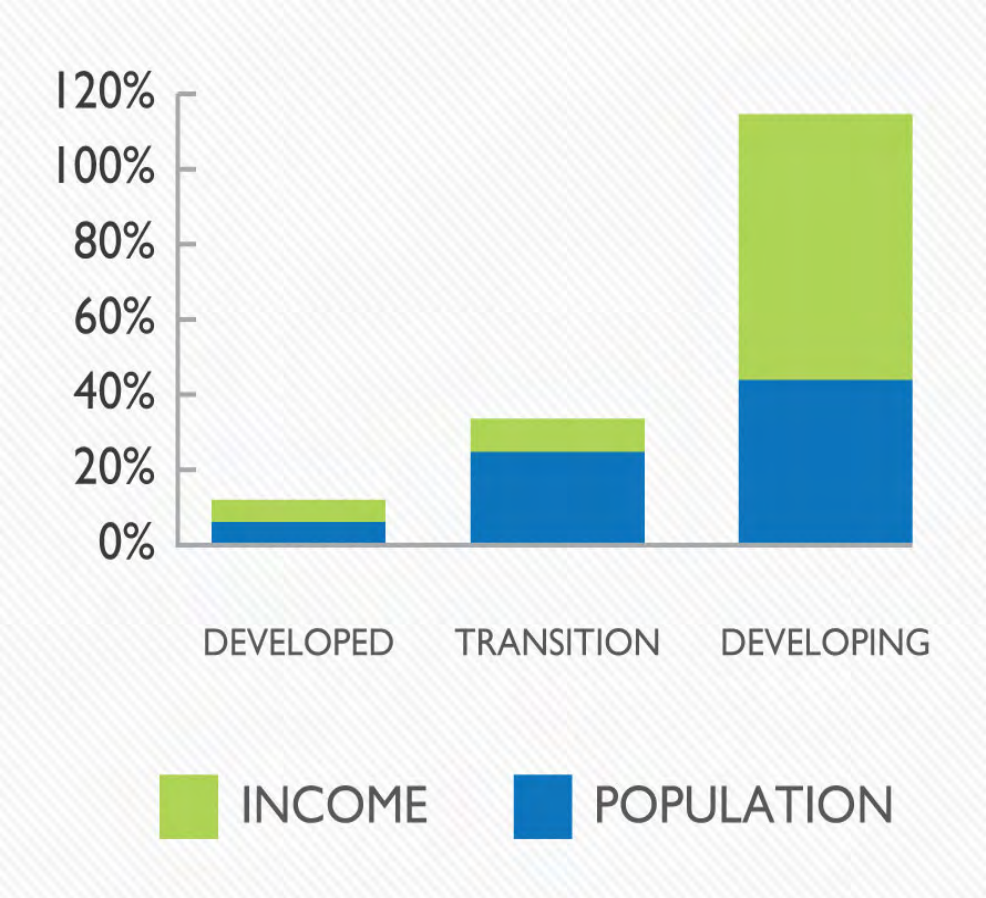
2 *See, e.g.* Grant Aldonas, "Trade Policy in a Global Age," May 15, 2013.

3 Khalid Nadvi and Stephanie Barrientos, "Industrial Clusters and Poverty Alleviation: Towards a methodology for poverty and social impact assessment of cluster development initiatives" (UNIDO, Vienna, 2004).

4 UN Population Division, DESA, "World Population to Exceed 9 Billion By 2050," (press release, New York, March 11, 2009), http://www.un.org/esa/population/publications/wpp2008/pressrelease.pdf.

than today's global total.[5] As urban centers grow and economies gain wealth, food preferences are also changing, moving away from traditional grain-based diets toward dairy, meat, fruits, and vegetables. The related increase in demand for food will occur primarily in developing countries (See Figure 1).

FIGURE 1. PERCENT INCREASE IN FOOD DEMAND 2000 – 2030



Source: Global Harvest Initiative (2012). Calculations based on data from Fischer (2009) and Tweeten and Thompson (2008).

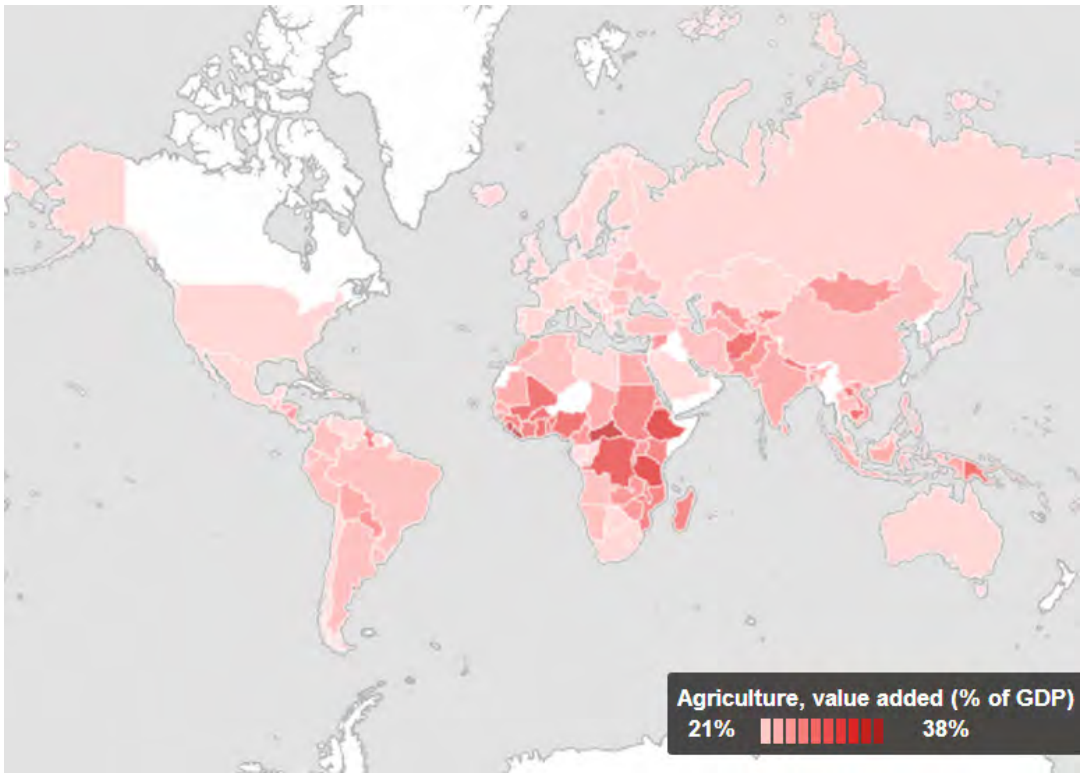
Consumption levels are expected to grow to reach one billion tons of grain and 200 million tons of meat. Yields of the world's most important crops—rice and wheat—are rising more slowly than the number of mouths to feed, with experts predicting

5 FAO, "How to Feed the World in 2050" (issue brief prepared for the High-Level Expert Forum – How to Feed the World in 2050, Rome, October 12–13, 2009).

that global food production must rise by 70 percent and all agricultural output by even more by mid-century in order simply to keep pace with population growth.[6]

Within this changing global economy, agriculture remains of paramount importance (See Figure 2) and is a significant component of GDP in many parts of the world. Seventy percent or more of the poor in rural areas continue to be dependent upon agriculture to support their livelihoods.[7] Quality of life is often closely linked to individual agricultural productivity. Productivity gains will help feed local populations, and increases in demand will create opportunity for small farmers, larger enterprises, and entire communities.

FIGURE 2. RELATIVE SIGNIFICANCE OF AGRICULTURE IN THE GLOBAL ECONOMY



Source: World Bank (2013)[8]

6 Nikos Alexandratos and Jelle Bruinsma, "World Agriculture Towards 2030/2050," ESA working paper (FAO, June 2012), http://www.fao.org/docrep/016/ap106e/ap106e.pdf.

7 World Bank, World Development Report 2008: Agriculture for Development (Washington: World Bank, 2007).

8 "Agriculture, Value Added (% of GDP)," *World Bank,* accessed July 17, 2013, http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries/1W?display=map.

Investing in agriculture will pay off exponentially, and the gains from increasing agricultural productivity and growth are significant (Figure 3). Yet, greater attention will be needed to make sure these opportunities can be realized. As changes in population and wealth increase demand for food, resources are diminishing, soils are being depleted, and climate change is touching off fierce competition for water and land. Climate change will also likely bring more severe weather – increasing exposure to pests – and rising temperatures, which will increase farmer vulnerability. One particularly significant challenge will be to meet changing dietary needs using less arable land and fresh water even as the climate shifts. In addition, since agriculture contributes significantly to total greenhouse gas (GHG) emissions, the sector may well be called upon to make the necessary productivity gains with reduced GHG emissions.[9] Many of these long-term structural factors driving demand are here to stay and will continue to affect food prices for years to come.

FIGURE 3. GROWTH IN AGRICULTURE SURPASSES GROWTH IN OTHER SECTORS FOR REDUCING POVERTY

AGRICULTURE	EFFECT	POVERTY INDICATOR	OTHER SECTORS
Agricultural GDP growth per agricultural worker	is 2.9 times more effective	in increasing the average income of the poorest 20%	than growth in nonagricultural GDP.
Agricultural GDP growth per capita	is 2.7 times more effective	in reducing the extreme poverty rate	than nonagricultural growth.
Agricultural GDP growth	is 2.9 times more effective	in reducing the extreme poverty rate	than growth in manufacturing.
Agricultural GDP growth	is 3 times more effective	in increasing household spending in the poorest households	than nonagricultural growth.
Agricultural GDP growth	is 4 times more effective	in reducing the extreme poverty rate	than nonagricultural growth.
	and 1.3 times more effective	in reducing the $2 a day poverty rate	than nonagricultural growth.

Source: Bravo-Ortega and Lederman 2005; Christiaensen and Demery 2007; De Janvry and Sadoulet 2010b; Loayza and Raddatz 2010; Ligon and Sadoulet 2008; Christiaensen, Demery, and Kühl 2011.

9 David A. Fahrenthold, "US joins effort to research farm emissions," *Washington Post*, December 17, 2009, http://articles.washingtonpost.com/2009-12-17/world/36913442_1_emissions-agriculture-secretary-tom-vilsack-manure.

Even in an increasingly interconnected world, many small farmers and their households survive in systems that remain largely closed and isolated. These farmers operate primarily in informal markets without recourse to legal and social institutions and with great vulnerability to shifts in weather and prices. Weak transport systems leave many unable to move food from where it is produced to where it is consumed, and market information can be difficult to obtain and share. Incomplete infrastructure and regulatory systems can severely limit access to badly needed agricultural inputs, such as high-quality seeds, fertilizer or pesticides, leaving many at a disadvantage.[10] Many farmers also lack access to productivity-enhancing modern machinery, adequate irrigation and appropriate storage, including cold chain infrastructure.[11] Lack of reliable access to land and water –also governed by laws and regulations – can be significant as well. Basic education remains an issue, and transfer of skills and technology often do not reach those who need the help the most. As a result of these challenges and the inaccessibility of markets, productivity remains low and opportunities limited.

THE POTENTIAL OF TRADE AND VALUE CHAIN DEVELOPMENT

While trade policy cannot address all of the challenges that exist, improvements to legal and regulatory systems – which lie at the heart of the global trading system – could open up new opportunities for these farmers and their families. In particular, legal and policy responses to better address challenges along value chains will be needed. These will include effective laws, regulations, and processes around science-based standards and conformity issues, which are critical to increased agricultural trade and can present a particular challenge for small- and medium-sized agricultural producers when not managed well.[12] The key will be using trade and economic policy to empower farmers to become more productive through access to better inputs and larger, more open markets. This will require both opening up new opportunities all along value chains – particularly in areas where value can be added locally to generate revenue for rural communities – and taking concrete steps to make it easier to do business.

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10 Evdokia Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries," OECD Trade Policy Papers, No. 142 (OECD Publishing, 2013), doi:10.1787/5k4c9kwfdx8r-en.

11 Ibid.

12 *See, e.g.* Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries"; *Enabling Trade: Valuing Growth Opportunities*, in collaboration with Bain & Company and the World Bank (Geneva: World Economic Forum, 2013).

Approaching trade as an interconnected system could produce significant gains. Some of the greatest opportunities for growth and food security will come when the farmer, supplier, and customer are all closely and quickly connected. Not only will well-functioning markets enable faster and more reliable delivery of food, they give rise to multiple opportunities for value creation and off-farm economic activity. Ultimately, this will help close the gap between surplus and deficit, open up new opportunities for countries and enterprises around the world, and create the ability to respond to demand for high-quality, safe food and other goods in record time.[13] At the international policy level, global value chains and the systems needed to make them work also provide a practical, concrete map for both development assistance interventions and trade policy.

The changing nature of global trade calls for such a new approach. Global economic analysis shows a shift away from traditional patterns of concentrated growth in high-income countries towards much more dynamic growth rates in lower- and middle-income countries. The composition of world trade is also shifting, with a much larger percentage of world trade – nearly 60 percent – in intermediate goods.[14] While global GDP totals still show a balance on the side of high-income countries – 2010 global GDP was just over $63 trillion, with $43 trillion falling to high income countries – these balances may soon start to dramatically shift as asymmetrical growth rates take hold. Of this total, the $20 trillion global GDP in low and middle income countries grew at an average of 6.4 percent per year from 2000-10, 3.6 times faster than the 1.8 percent growth rate in high income countries.[15]

In dollar terms and taken at decade average rates, the growth in low and middle income countries experienced during just one year (2010) would have added 66 percent more to GDP than the income growth in high income countries (Figure 4).

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13 *See, e.g.* the "Measuring Trade in Value Added (TiVA)" database, a joint initiative of the OECD and WTO, http://www.oecd.org/industry/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm.

14 Timothy J. Sturgeon and Olga Memedovic, "Mapping Global Value Chains: Intermediate Goods Trade and Structural Change in the World Economy" (UNIDO, Vienna, 2011), Figure 1.

15 Selected Development indicators, World Bank Development Report, 2012.

FIGURE 4. GLOBAL WEALTH AND GROWTH, DEVELOPED AND DEVELOPING COUNTRIES

	GDP 2010	Share	ROG 2000-10		Merchandise Trade, 2009		FDI
	(T $)	%	%	$T 2010	Exp (T $)	Imp (T $)	$ T
World	63	100	2.8	2.1	12.5	12.6	1.2
Low and mid income	20	32	6.4	1.28	3.8	3.7	0.4
High income	43	68	1.8	0.77	8.7	8.9	0.8
Source: WB Development Report, 2012							

Not only does the more interconnected nature of global markets signal great potential for producers and consumers, it marks a fundamental shift in viable domestic economic development and trade approaches as well. While commitments to self-sufficiency were once widely shared, this approach has proven unworkable. Although every country should have a strategy for internal growth, the enormous bureaucratic establishments needed to make self-sufficiency work and poor resource allocation patterns these policies have often generated have led to social tensions and slow growth.[16] In contrast, economies like Singapore, Taiwan, South Korea, and Hong Kong have benefitted from policies to foster competition and free markets, as Japan did earlier. Policy decisions that recognize the potential of markets and trade – and development of the institutions to support them – have contributed to this growth.

Despite the importance of balance in a country's trade policy, once in place largely inward-focused policies can be difficult to reverse politically. Many economies that have pursued self-sufficiency in the past are now using "forced localization" policies to influence the actions of outside investors. China, India and Russia, for example, have relied on such policies to protect local businesses from international competitors and to insulate their economies and population from developed country influences.[17] While developing local industries is essential, these policies

16 Claudia Taser, "Rostow Model of Development with Examples vs. self- sufficiency," *Lewis Historical Society*, last modified April 25, 2010, http://www.lewishistoricalsociety.com/wiki/tiki-read_article.php?articleId=72.

While economists argue over the economic and social developments that have allowed trade to become a central development force, many point to the shift during the last century away from reliance on the colonial model that underpriced many production resources relative to consumption goods and the development of commercial markets for these goods that generated capital for internal development.

17 Problems associated with self-sufficiency policies have been considerable. Without competition, companies became increasingly inefficient compared with the rest of the world and relied on government support for their make a profit. Government costs increased dramatically, and the system generated increasingly large bureaucracies that were corrupt and easily bribed. As a result, the system relied increasingly on black markets for goods and services.

can act as a drag on investment and have significant implications for food security. Forced localization policies can also weaken the environment for business and limit value chain development, impacting access to critical inputs and slowing innovation.

Forced localization policies have come up in Africa as well. For example, African governments have offered R&D and other industry incentives only to local firms, in addition to requiring that foreign firms source a significant amount of labor and goods locally. Many African countries are simply too small for self-sufficiency to be a real possibility, however. Not only does the changing nature of the global economy make self-sufficiency difficult, working in an integrated fashion is critical when agro-ecological zones and natural markets for food lie across national boundaries.[18] As a result, in sub-Saharan Africa and other parts of the world, many countries' futures are inextricably linked to the trade policies of their neighbors.

Developing stronger value chains across borders, which will strengthen countries' abilities to feed their populations, highlight the need for open trade (e.g., to bring in higher yielding seeds, more diverse products for the consumer market, etc.). Stronger value chains will open up larger markets for inputs, semi-finished and processed goods, and machinery. Each stage of the chain is necessary, and local, regional and international trade are closely linked (Box 1).

BOX 1. NUTELLA® VALUE CHAIN CASE

> Nutella®, the hazelnut and cocoa spread sold in seventy-five countries around the world, is an example of an integrated global value chain. The company that produces the 250,000 tons of Nutella®, Ferrero International SA, is headquartered in Italy, with five production factories in Europe and additional factories in Russia, North America, South America, and Australia. Some inputs are locally supplied – for example packaging and some ingredients like skimmed milk – but many others come from around the world. The product's hazelnuts come from Turkey, palm oil comes from Malaysia, cocoa is imported from Nigeria, sugar comes from both Brazil and Europe and vanilla flavoring is brought in from China.[19]

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18 Steven Haggblade, "Unscrambling Africa: Regional Requirements for Achieving Food Security," International Development Working Paper (East Lansing: Michigan State University Press, October 2010).

19 "Mapping Global Value Chains," Working Party of the Trade Committee, Trade and Agriculture Directorate (OECD, Paris, December 4-5, 2012), http://www.oecd.org/dac/aft/MappingGlobalValueChains_web_usb.pdf.

With the right policies and systems, global agriculture shows tremendous opportunity for growth. As consumer demand shifts, new opportunities for farmers and agribusiness will continue to arise – particularly outside of commodity trade – with tremendous potential in value-added processing and milling, protein production and processing, storage, and transportation. For example, along the west coast of Latin America, changing global demand has led to a shift into more specialized crops. In Peru, quinoa, which was once produced primarily for domestic consumption, is now sold internationally, increasing producer profit and livelihood security. Other countries in Latin America have also taken advantage of increased opportunities associated with diversifying into higher value-added trade. Chile, for example, invested over $12 million in food processing equipment, contributing to a 25 percent increase in agricultural exports in 2011.[20]

Trade preferences for Haiti have also been built around a value chain approach, with focus on meats, grains, and other products such as packaged goods all part of the trade and development strategy. In Africa, milling of wheat and grain holds particular opportunity, especially as Africa looks to expand value-added, job-creating activities and commodities companies look for additional processing capacity.

Several other elements contribute to value chain development. One significant factor is the right mix of incentives to create value at the next stage in the chain, including technical support to expand into activities like processing of grains and meats. Another important aspect is the system of rules, institutions and other processes needed to drive development at each stage in the chain. As these systems are developed, the participation of farmers and their associations will be critical.

The strong balance between public and private activity in the agricultural sector – where many new opportunities exist through public goods that neither the public nor private sector can fully develop on its own– will also necessitate innovative partnerships (See Box 2) and can give rise to new developments.

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20 "Doing Business in Chile," *Export.gov*, last modified August 16, 2012, http://export.gov/chile/doingbusinessinchile/eg_cl_052194 asp.

BOX 2. THE AFRICA AGRICULTURE TECHNOLOGY FOUNDATION

The Africa Agriculture Technology Foundation (AATF) is a public-private partnership created to serve as an honest broker in negotiating royalty-free transfer of technologies held by public and private organizations in industrialized and developing countries to smallholder farmers in Africa. It was created to open up a critical stage of the value chain – the transfer of higher-yielding seed technology – reduce costs, and speed up adaptation and use. Based in Kenya and created with support from the Rockefeller Foundation and others, AATF also has strong support from global seed companies, enabling it to respond to farmer "demand" and access technologies not available in Africa that can address intractable problems such as Striga, a plant parasitic weed that significantly reduced yields of infested crops. The Water Efficient Maize for Africa (WEMA) initiative is a multilateral consortium led by AATF, which includes the International Maize and Wheat Improvement Center (CIMMYT), the Bill and Melinda Gates Foundation, Monsanto and the U.S. Agency for International Development (USAID). The project was designed to use marker-assisted breeding and biotechnology to develop African maize varieties with the long-term goal of making drought-tolerant maize available royalty-free to African small-scale farmers.

In order to open up opportunity along global value chains and avoid increasing economic pressure on the poorest of the poor, the world will need to rely more on trade and better systems for facilitating it. Doing so will require shifting focus to use trade policy and accompanying programs to address policy obstacles that now impede efficient distribution of, and access to, food across national borders.

CHALLENGES IN OPENING MARKETS AND DEVELOPING VALUE CHAINS

As markets become increasingly interconnected, the need for strong legal institutions and clear rules and standards becomes more pressing. With many complex changes occurring in the global economy, trade policy must also move into a new phase. Trade is no longer an arm's length transaction but a multi-layered process centered on value chain development.[21] The rapid changes in technology taking place in the global economy hold tremendous potential for farmers, agribusinesses, and consumers alike. Yet, practical approaches that connect local producers and consumers to larger regional and global markets will be needed to unlock this new opportunity.

Trade also requires the right environment in which to flourish. Around the world, the laws and policies around trade will determine the extent to which value chains – and entire economies – succeed. This enabling environment for trade will directly impact farmers and consumers, regardless of how removed from markets they may initially be. More specific policies will also be important at the domestic, regional, and international levels to respond to opportunities in this changing global market.[22]

The challenge will be finding ways to use trade and investment law and policy to open up widespread new opportunity in markets and respond to needs on the ground without leaving those who could benefit the most behind. One example is working along the value chain to address pressure points that limit new business activity, ideally taking a holistic approach that will spread benefits sector-wide and bring smaller farmers into the market (See Box 3). Another example is using trade policies like trade preference programs to open up new opportunities in multiple markets – examples include importing shea nuts from Chad to develop cosmetics in the southern United States and exporting noug (an oilseed used primarily for birdseed) from Ethiopia under the African Growth and Opportunity Act (AGOA).[23]

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21 See, e.g. Enabling Trade: Valuing Growth Opportunities.

22 *See, e.g.* Dani Rodrik, *One economics, many recipes: Globalization, institutions, and economic growth* (Princeton: Princeton University Press, 2008). Rodrik argues that in order to prosper in a more globalized economy, countries will require a more context-dependent set of policies driven by opportunities in the global market.

23 *See, e.g.,* Edward Gresser, "AGOA at Ten", *ONE*, July 3, 2011, http://www.one.org/us/2011/07/03/agoa-at-ten/.

Yet the trade preference programs could be even more successful if coupled with efforts to address other issues that prevent market growth. The Development Corridors discussed below are another example of a holistic approach that could have even more application in agriculture. In all of these cases, scaling up efforts will be critical.

Tariffs remain an aspect of agricultural trade policy that should continue to be addressed, and tariff barriers tend to remain higher for agricultural goods than for manufactured goods. Other measures like tariff-rate quotas are also more prevalent in agriculture. The OECD reports that addressing tariffs would have a significant payoff; reducing tariffs by 10 percent would increase trade value by 3.7 percent.[24]

Historically, trade policy has focused more significantly on reduction of tariffs, and most tariffs have steadily decreased since the 1940s through multiple rounds of General Agreement on Tariffs and Trade (GATT) and WTO negotiations. As tariffs have gone down, however, non-tariff measures are increasingly being used to alter global trade flows.[25] As non-tariff measures become more central – with a particularly pronounced impact in agriculture – strong regulatory and legal institutions will be particularly important.

Both the strength of legal institutions and the degree to which regulatory processes function are critical to doing business in all sectors, including agriculture. Not surprisingly, the difference between laws and trade measures on the books and the reality in markets remains significant. This gap can greatly distort signals in the market, limiting efficiency and equity gains.

Overall, improving legal systems and regulatory institutions will require focusing on the bottlenecks – or "binding constraints" – that matter most and simultaneously pressing for a framework for systemic change.[26] Such an approach would involve not only government but also a range of key stakeholders— including the private sector, and civil society—and include the harmonization of different laws,

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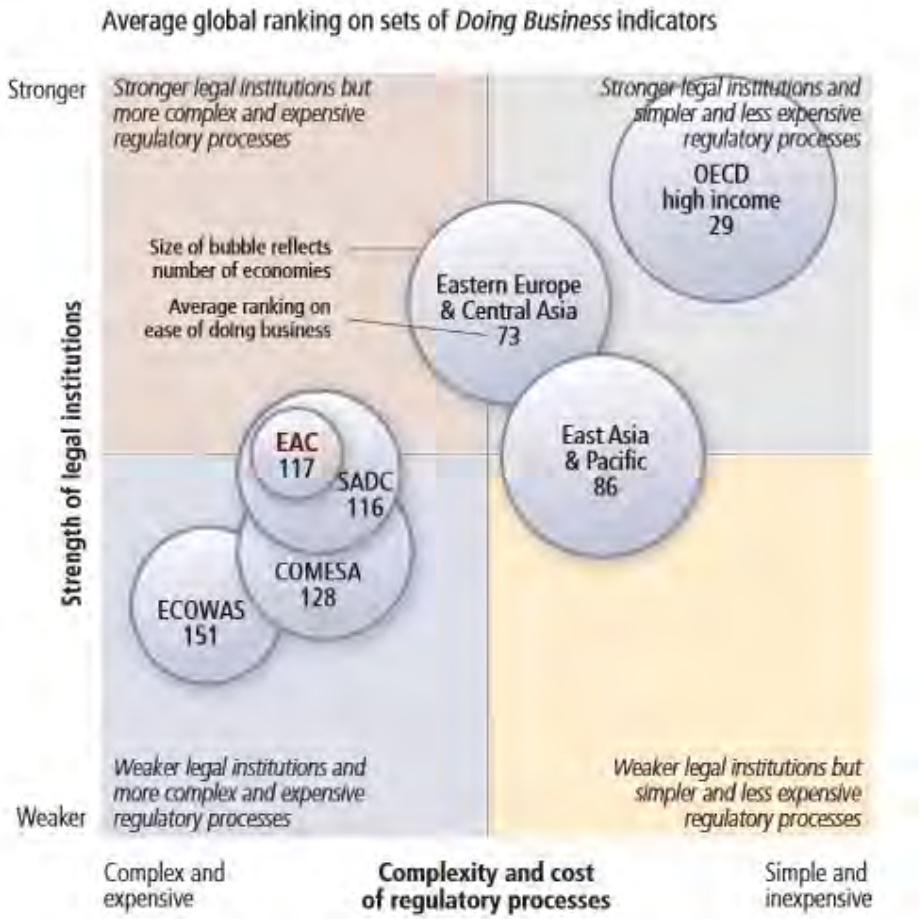
24 Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries."

25 Ferrantino, "Using Supply Chain Analysis to Examine the Costs of Non-Tariff Measures (NTMs) and the Benefits of Trade Facilitation."

26 *See, e.g.* Hausmann, R., Rodrik, D., and Velasco, A. "Growth Diagnostics", Kennedy School of Government, Harvard University2005; *Enabling Trade Report 2013* (World Economic Forum, 2013). Achieving systemic change can involve identifying and addressing interconnected "sets" of barriers. For example, Brazil's adopted an electronic freight system but did not invest in supporting information and communications technology (ICT) infrastructure, perpetuating significant delays due to unreliable ICT systems and processes.

development of state capacity to implement them, and garnering of political will and public support.[27]

FIGURE 5. THE STRENGTH OF LEGAL INSTITUTIONS AND REGULATORY PROCESSES VARY ACROSS REGIONS



Note: Strength of legal institutions refers to the average ranking on getting credit, protecting investors, enforcing contracts and resolving insolvency. *Complexity and cost of regulatory processes* refers to the average ranking on starting a business, dealing with construction permits, getting electricity, registering property, paying taxes and trading across borders. COMESA = Common Market for Eastern and Southern Africa; ECOWAS = Economic Community of West African States; SADC = Southern African Development Community.

Source: World Bank Doing Business (2012)[28]

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27 Anna Nadgrodkiewicz, Maiko Nakagi and Marko Tomicic, "Improving Public Governance: Closing the Implementation Gap Between Law and Practice" (CIPE, 2012), http://www.cipe.org/publications/detail/improving-public-governance-closing-implementation-gap-between-law-and-practice.

28 *See, e.g.* "Doing Business in the East African Community 2013" (The World Bank, 2013), http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Special-Reports/DB13-EAC.pdf#page=13&zoom=72,0,792.

At present, numerous challenges stand in the way of agricultural value chain development in local, regional, and global markets. Bottlenecks often continue despite laws or international standards designed to address them and not only limit economic potential but also make it difficult for food to reach those in need. Examples include: weak or inconsistently applied food safety systems and sanitary and phytosanitary (SPS) measures; lack of uniform application of laws and regulations at the local and regional levels; duplicative licensing and registration requirements; and inefficient customs systems and procedures. Effective trade policy can help address these constraints and pave the way for market development, economic opportunity and increases in productivity.

BOX 3. OPENING THE MARKET FOR SEED POTATOES IN TANZANIA

Navigating the legal and regulatory system related to the seed potato market in Tanzania highlighted the direct link between the enabling environment and unexplored opportunity along value chains. The Mtanga Farms case study (for more information see report by the Global Impact Investing Network),[29] also illustrates the close links between domestic and regional markets in sub-Saharan Africa and the importance of real partnership between the public and private sectors to work through legal and regulatory issues and open up the possibility for new economic activity.

Development of the commercial potato market in Tanzania began with entrepreneurs who saw potatoes trucked in from South Africa while 150,000 smallholder farmers – many of them women – struggled to feed their families with low-yielding seed potato seed stock (Potatoes can be prone to pests and disease, particularly in the tropics, and before Mtanga, locally available seed potato varieties generated yields of only one-fifth to one-tenth of global averages). The local entrepreneurs quickly realized that they would need to work through the legal and regulatory system on paper and partner with their government counterparts to establish a system that worked in practice. The challenge was getting new seed potato varieties to market quickly enough to preserve commercial viability of the investment while addressing any needs on the regulatory side to ensure high-quality new seed varieties, including compliance with SPS standards. Although the farm and investment were located in Tanzania, the high-quality, high-yielding seed potato

29 "Improving Livelihoods, Removing Barriers: Investing for Impact in Mtanga Farms" (Global Impact Investing Network, November 2011).

varieties had to be brought in from Kenya and approved for use in the Tanzanian market, making cross-border trade critical to the success of the investment.

Opening the market required a close public-private partnership and strong technical team to work through one concrete step after another and address issues as they arose – which included securing the appropriate registrations, ensuring application of Tanzania's SPS law in a commercially viable way, and implementing an agreement among East African countries to allow one country to rely on the field test data of another in approving new seed varieties. Today the enterprise is a thriving, inclusive, mixed-use commercial enterprise with a commercial greenhouse-based seed potato business that plans to sell improved potato seed to producers throughout Tanzania. It is one of the successful companies along the Southern Agricultural Growth Corridor of Tanzania and a good signal to other investors. The Tanzanian government used the process to offer its officials deeper technical training, and the variety approval process in Tanzania has been strengthened and presents a good model. The legal and regulatory lessons learned have been spread to other investments and regulators, and regional seed systems are being developed and enhanced based on this model as well.

The World Bank and World Economic Forum estimate that reducing supply chain barriers to trade – many of which can be traced to law and regulation – could increase world GDP six times more than the removal of all tariffs.[30] Although non-tariff measures and other regulatory challenges are becoming increasingly prevalent, they are more difficult to isolate and measure than tariffs, and better data and new tools will be required to fully assess their reach and impact. Some of the most pressing non-tariff issues are discussed in greater detail below.

FOOD SAFETY STANDARDS AND SCIENCE-BASED REGULATORY FRAMEWORKS

Perhaps one of the most significant hurdles to open agricultural markets is the lack of predictable, transparent, science-based regulatory frameworks for ensuring and monitoring food safety, which harms both consumers and producers alike. While different approaches to food safety standards exist, ensuring that standards are

30 "The Shifting Geography of Value Chains: Implications for Developing Countries and Trade Policy" (World Economic Forum, 2012).

strongly underpinned by science and consistently applied are of paramount importance.

Applying international guidelines for food safety evaluation will add transparency and predictability in a complex global market, to the clear benefit of local economies. As commodities are transformed into higher value-added products, many standards become more exacting, and adequate transport and storage become even more critical and expensive. ***As effective food safety laws and systems are developed and implemented, not only will better, more productive inputs become available but additional domestic investment will flow as well.***

The strength of systems regulating food safety differs across countries and regions, where a number of different laws, regulations and institutions exist. For example, the Chinese Food and Drug Administration has reportedly shown promise, encouraging local entities to come into alignment with national policies. Other countries have set ambitious goals in improving food safety and SPS systems as well.

BOX 4. VIETNAM'S SANITARY AND PHYTOSANITARY SYSTEM

Vietnam has undertaken development of a comprehensive food safety system, an approach that is increasingly being looked to as a model within Asia, with Cambodia, Laos, and Thailand following. In collaboration with the WTO and international donor agencies, including USAID, the Government of Vietnam has committed to implementing a comprehensive and extensive SPS system that includes: (1) transparency of SPS-related laws and regulations, (2) harmonization with other countries' processes, (3) equivalency of standards, (4) risk assessment, (5) import inspection and approval procedures, and (6) ongoing technical assistance.[31] Despite these significant strides, however, gaps still remain in implementation of the program, and Vietnam's regulations are not yet fully consistent with international standards and norms. Moreover, the lack of technical capacity and resources to carry out certain requirements, such as Pest Risk Analyses, often result in products being turned away at the border. Commitment at the highest political levels does exist, however, and these issues will tie in closely with the ongoing Trans-Pacific Partnership discussions discussed below.

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31 *See e.g.* "The Government of Vietnams Implementation of the WTO Agreement on the Application of Sanitary and Phytosanitary Measures," RAISE SPS Country Diagnostic Report No. 26 (USAID, March 2007).

Food safety regimes also vary across sub-Saharan Africa, but overall the capacity to enforce existing laws is weak and many legal systems have significant gaps. Some countries have made progress in implementation – for example, World Health Organization (WHO)-supported improvements in disease surveillance programs in West Africa countries – while challenges still exist in many other countries and regions.[32] In East Africa, reports indicate that Kenya's food safety system still has issues to overcome, especially in maize, and other countries have significant improvements to make as well.[33]

The methods and processes used to implement SPS measures can add a significant cost element to agricultural trade. A recent Organization for Economic Co-operation and Security (OECD) study shows the effect this can have in places like sub-Saharan Africa, where poor implementation of SPS measures can contribute to significant increases in the price of food staples, increasing costs between 12 and 25 percent.[34] For some products these costs can be even higher, with 42 percent increases to rice import prices in Kenya and 29 percent increases in edible oil import prices in Uganda.[35] When combined with the costs of other non-tariff measures and post-harvest losses in East Africa, this can leave as little as 20 percent of the product's price to the smallholder farmer.[36] To improve the situation, the authors of the OECD study urge that systematic inspections be replaced by risk profiling, paperwork be simplified and consolidated into single forms made available online, and testing, when necessary, be outsourced to competent labs.[37]

In some cases not enough transparency exists around application of SPS rules and regulations. Often little information will be given on why a product has been tested at the border, and testing is often done without notification or release of test results. Better, more transparent processes will increasingly be needed. More consistent sharing of data and streamlined requirements would also help facilitate movement

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32 WHO, "Integrated Disease Surveillance Programme" (WHO, 2013), http://www.who.int/csr/labepidemiology/projects/surveillance/en/index.html.

33 *See, e.g.* Erastus Kang-ethe, "Situation Analysis: Improving Food Safety in the Maize Value Chain in Kenya" (FAO, 2011); L. Mwamakamba et al., "Developing and Maintaining National Food Safety Control Systems: Experiences from the WHO African Region," *Africa Journal of Food, Agriculture, Nutrition, and Development* 12, no. 4 (June 2012): 6291-6304.

34 Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries."

35 Ibid.

36 Ibid.

37 Ibid.

of goods in more established markets and create better processes in emerging markets such as those in Africa.[38] Transparent rapid response mechanisms could also greatly facilitate trade in products like grain and meat and could contribute to keeping the spread of disease under control.

Biotechnology is also playing an increasingly prominent role in the global economy, as new approaches are developed to deal with concerns around disease, nutrition, and resilience (See Box 5).

BOX 5. HAWAIIAN VIRUS-RESISTANT PAPAYA

> Hawaiian virus-resistant papaya illustrates the role biotechnology can play in addressing a pressing issue of plant disease, which could have wiped out an important sector in the local economy. In 1992, Hawaii's papaya industry faced potential extinction when Papaya Ring Spot Virus (PRSV) was discovered in the Puna district of Hawaii, where 95 percent of Hawaii's papayas are grown. The region had not been exposed to PRSV previously and therefore had a low resistance to the virus. After six years and reduction in production levels of over 50 percent, a virus-resistant papaya cultivar (Rainbow) was released for commercial use after a large-scale field trial in Puna. Rainbow significantly increased Puna's papaya production, restoring them nearly to pre-PRSV levels. Its impact is most visible in the transgenic papaya's field testing in 1995, where it yielded 125,000 lbs per acre per year in an infected field, in contrast to yields of only 5,000 lbs per acre per year with the non-transgenic varieties in the same field.[39]

As the adoption of biotechnology increases globally, related challenges of trade in products produced through biotechnology continue. A major barrier to trade relates to the lack of timely regulatory approvals. In China, for example, technology providers have not been able to submit applications for safety certificates until full regulatory approval has been granted in the country of origin.

Regulatory approvals are further delayed by institutional sequential review (as opposed to simultaneous review) and requests for data requirements that go beyond international standards. ***Encouraging standardization for data requests***

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38 See, e.g. Enabling Trade: Valuing Growth Opportunities.

39 Dennis Gonsalves et al., "Transgenic Virus Resistant Papaya: From Hope to Reality for Controlling Papaya Ringspot Virus in Hawaii" (The American Phytopathological Society, July 2004), http://www.apsnet.org/publications/apsnetfeatures/Pages/papayaringspot.aspx.

consistent with international standards and simultaneous review paths, along with other approaches, can help reduce the gaps between regulatory approvals in the country of origin and country of import, thereby improving the ability for uninterrupted trade.

Without question, biosecurity – the prevention of transmission of disease, pests and other invasive species –will be an increasingly important element of science-based food regulation in a rapidly changing global economy. Numerous countries have been required to undertake eradication or containment measures to be eligible to export products and avoid spreading animal or plant disease. For example, outbreaks of foot and mouth disease have prompted countries like Botswana to put in place measures for exported products, and concerns with aflatoxin contamination have led to development of a public-private, Africa-wide platform to comprehensively deal with aflatoxin control and help small farmers improve food quality and better access markets.[40]

More and more innovative solutions are emerging, and priority must be placed on moving forward in a commercially viable, and science-based way. ***Development assistance and trade capacity building are also essential to improving food safety systems, but solutions must be market-driven with the private sector engaged from the start in order to ensure that these systems function effectively.***

As a result of the many different SPS systems and procedures worldwide, many producers – including smaller producers and those from developing countries – can face significant difficulty entering markets. While these rules and regulations must remain science-based, some coherence in application could be achieved to the benefit of trade and development. International standard setting bodies, including the Codex Alimentarius Commission, the World Organization for Animal Health (OIE), and the International Plant Protection Convention, have an important role to play in advancing the science behind food, animal, and plant safety.

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40 *See e.g.* "Support for Innovative Partnership for Aflatoxin Control in Africa", Bill and Melinda Gates Foundation, last modified February 23, 2012, http://www.gatesfoundation.org/media-center/press-releases/2012/02/support-for-innovative-partnership-for-aflatoxin-control-in-africa.

SYSTEMS FOR MOVING FOOD: HARD AND SOFT INFRASTRUCTURE AND TRADE FACILITATION

Markets are only as effective as the infrastructure that connects them and policies that create them. Open national, regional and international markets could make a critical difference in improving food delivery, opportunities, and livelihoods worldwide.

In many markets, physical infrastructure challenges do remain. While hard infrastructure development lies largely beyond the scope of trade policy, the connection between infrastructure development and functioning trade systems has been increasingly noted.[41] In many developing markets infrastructure investment has not always gone where it is needed most,[42] and infrastructure systems often do not extend to isolated rural areas that are most in need of market connections.[43] While these can be particularly acute in large, fragmented markets like sub-Saharan Africa, "soft infrastructure" or policy bottlenecks can be even more significant. A number of legal and regulatory issues related to infrastructure systems are covered by trade disciplines, including regulation of transport, distribution, and storage markets, and trade facilitation.

Highlighting the need for a stronger role for trade policy, experts estimate that only 25 percent of the delays in African markets are due to hard infrastructure, while 75 percent of the delays are caused by soft infrastructure challenges – including legal and regulatory barriers – and poor trade facilitation.[44] This suggests a more significant role for trade policy in helping to address bottlenecks and creating an effective commercial enabling environment that can facilitate investment and the movement of goods and services.

Moving agricultural goods from one place to another can be an expensive and time-consuming venture, and weak rules and regulations regarding storage, distribution,

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41 Nuno Limão and Anthony J. Venables, "Infrastructure, Geographical Disadvantage, Transport Costs, and Trade," *World Bank Economic Review* 15, no. 3 (2001): 451-479.

42 World Bank, World Development Report 2009: Reshaping Economic Geography (Washington: World Bank, 2009).

43 Vivien Foster and Cecilia Briceño-Garmendia, PowerPoint presentation, March 2010, based on: *Africa's Infrastructure: A Time For Transformation* (World Bank, 2009).

44 L.M. Harmon, B. Simataa and A. van der Merwe, "Implementing Facilitation on Trade and Transport Corridors," Proceedings of the 28th Southern African Transport Conference (Pretoria, South Africa, July 6-9, 2009): 612-619.

processing, and transport can perpetuate high spoilage rates. The World Bank estimates that Africa's transport costs are the highest in world, [45] at well over twice the level of other developing regions.[46] It also takes longer to both export and import goods in Africa than anywhere else in the world, with more documents and duplicative paperwork required and multiple, overlapping policies and agencies involved.[47]

In any market, the system for physically moving things from one place to another is closely connected with the legal and regulatory system for moving goods and services that trade law and policy regulates. Solutions must be holistic and capable of addressing multiple factors at once. Historically some approaches, such as Development Corridors, have proven effective in both improving infrastructure and the policy and regulatory environment needed for markets to grow.

BOX 6. DEVELOPMENT CORRIDORS

Since ancient times, trade and development have often taken place along trade corridors.[48] Corridors have been heralded as a way to develop and better connect markets in sub-Saharan Africa, Asia, and the Middle East. One of the most historically significant trade corridors, the ancient Silk Road that covered 4,000 miles and connected China, India, the Middle East and Central Asia to markets in the Mediterranean and Europe, is once again being developed. In India, plans are afoot for a massive new $90 billion industrial corridor—including nine special industrial zones, power systems, and new ports and airports linked to a high-speed freight line—that will stretch from Delhi to Mumbai, encompassing a region that contains a seventh of the country's population.[49] The African Development Corridors movement has

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45 "Land Transport for Exports: The Effects of Cost, Time and Uncertainty in sub-Saharan Africa" (Washington: U.S. International Trade Commission, 2009).

Transport costs can account for up to one-third of GDP and can represent much of the export value for many landlocked countries. In Rwanda, for example, transport costs accounted for up to 40 percent of the value of coffee exports in 2009.

46 "Trade Facilitation to Promote Intra-African Trade" (Committee on Regional Cooperation and Integration, Addis Ababa, Ethiopia, March 24-25, 2005).

47 World Bank, "Non-Tariff Measures on Goods Trade in the East African Community" (Synthesis Report Prepared for the East African Community, September 29, 2008).

48 John Arnold, "Best Practices in Management of International Trade Corridors" (Washington: World Bank, December 2006).

49 Bruce Stokes, "Failure to Launch," National Journal, February 12, 2011.

> hinged upon economic policies shared across regions, greater collaboration between business and government, and better transportation infrastructure between Africa's vast interior and international maritime trading routes. Bringing the benefits of Corridors to agriculture can require government commitment and ways to use public policy to leverage private sector investment, since many agricultural enterprises are often not large or profitable enough to build infrastructure or alone command the changes required in the enabling environment.[50]

In many parts of the world, such systems are particularly critical in agriculture, where weak systems for moving goods weigh most heavily.[51] Transport costs are relatively high for many farm products, including cotton, fruits and vegetables. Delays and uncertainty in transportation can lead to spoilage, additional warehousing or port payments, and the need to maintain extra inventory. Weak storage and distribution markets further add to the costs of agricultural trade. Numerous checkpoints along transport routes exponentially increase transport delays, running up costs and hampering trade.[52] An additional day's delay due to transport and customs issues can cause exports of certain agricultural goods to decrease by as much as seven percent.[53] This is due to the perishable nature of many agricultural goods and the time-sensitivity of certain inputs — a delay in the arrival of harvesting equipment, for example, can prevent the optimal harvest timing, thereby limiting yields. Developing country agricultural exports are particularly responsive to improvements in trade and transport systems, with a 10

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50 See e.g. Dave Perkins and Glen Robbins, "The Contribution to Local Enterprise Development of Infrastructure for Commodity Extraction Projects: Tanzania's Central Corridor and Mozambique's Zambezi Valley," Making the Most of Commodities Programme (MMCP) Discussion Paper No. 9 (March 2011).

51 Todd Moss and Alicia Bannon, "Africa and the Battle over Agricultural Protectionism" (Washington: Center for Global Development, 2009).

Weak infrastructure and intra-regional trade barriers particularly impact agricultural trade, as do low technology, poor skills, high internal taxes, continued dependence on a small number of commodities, high transport costs, the spread of HIV/AIDs and pricing and marketing policies that penalize small farmers.

52 "Doing Business in Landlocked Economies" (Washington: World Bank, 2009).

While the costs of transport delays are significant, the benefits of reducing transport times can be immediate and transformative. Mali and Senegal signed a border cooperation agreement that reduced the number of checkpoints from twenty-five to four, and transport time quickly went from seven to ten days to just one or two.

53 Losses due to delays in agriculture are higher than average losses. See e.g. Simeon Djankov, Caroline Freund and Cong Pham, "Time Costs as a Barrier to Trade," Policy Research Working Paper 3909 (World Bank, 2009).

percent improvement in transport and trade-related infrastructure expected to increase exports by 30 percent.[54]

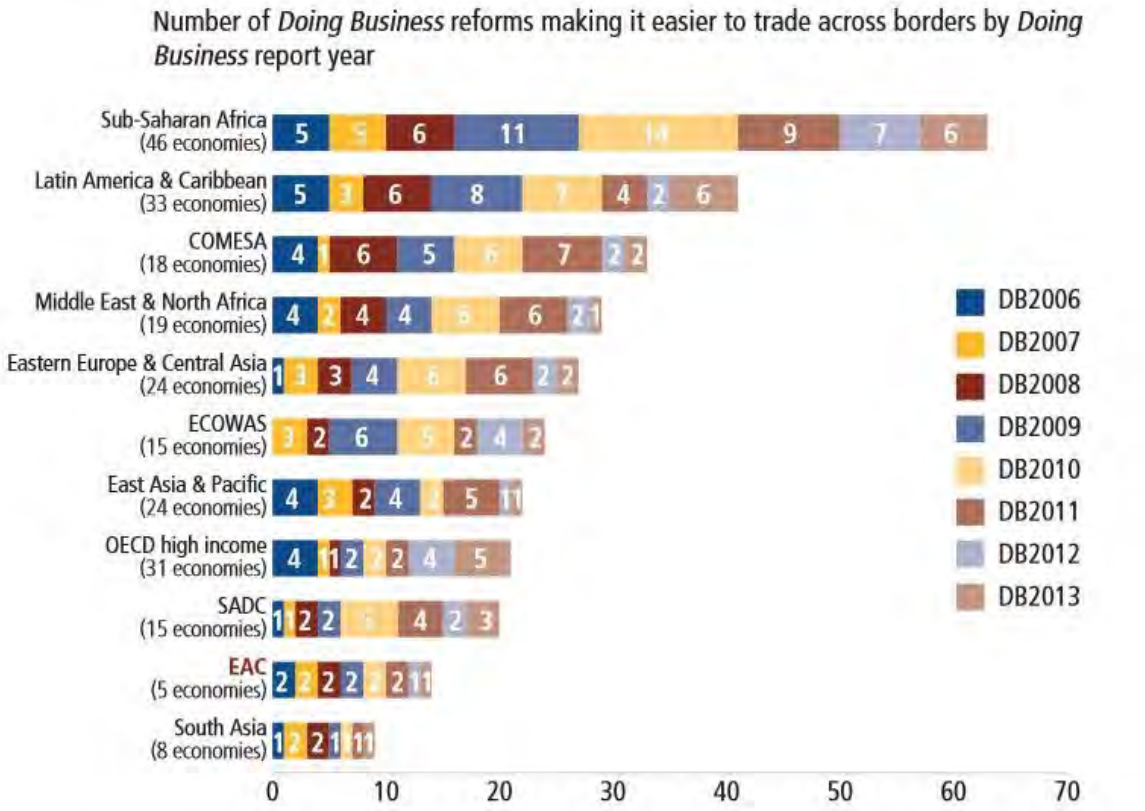
While transport delays do result from weak infrastructure, the legal and regulatory framework for transport can be a significant factor. **Effective regulation is often needed to facilitate transport** of freight on roads and railways, as well as by sea and air. In addition, inefficient regulations around transit charges, freight tariffs, and transport services can contribute to costs and delays. Often these requirements differ within regions; in sub-Saharan Africa, rules and regulations can be widely divergent despite the many trade agreements that seek to harmonize transport standards.

In addition to rules and regulations around transport, effective regulation of distribution services – including wholesale, retail, franchising, and commission agents' services – will be important for value chain development. The lack of clear licensing and operation rules in particular can act as an impediment for new market activity.

Effective customs administration and trade facilitation to lower costs and ease of movement of goods are essential to global value chain development. **Trade facilitation has grown in significance as a trade policy issue, with a focus on improving the speed with which goods are able to move through markets and the regulation, quality and competitiveness of transport and logistics services**. Trade facilitation efforts worldwide have been designed to modernize measures at the border and – in areas like sub-Saharan Africa – reduce customs checkpoints, police controls, and weighbridges that add to long transit times and high costs (See Figure 6).

54 Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries."

FIGURE 6. REFORMS AROUND THE WORLD TO IMPROVE TRADE FACILITATION IN THE PAST 8 YEARS



Note: An economy can be considered to have only 1 *Doing Business* reform per topic and year. The data sample for DB2006 (2005) includes 174 economies. The sample for DB2013 (2012) also includes The Bahamas, Bahrain, Barbados, Brunei Darussalam, Cyprus, Kosovo, Liberia, Luxembourg, Malta, Montenegro and Qatar, for a total of 185 economies.

Source: World Bank Doing Business (2013)

One innovative approach to improve customs and transport is to move as many of these functions away from the border as possible.[55] Other measures include one-stop border posts and enhanced capacity of trucking and shipping agencies.

Converting manual and paper-based documentation into electronic systems using globally-agreed data formats can also have a significant impact. Such measures would not only reduce delays and uncertainty but would also decrease redundancy in data requirements and facilitate pre-arrival clearance and risk management-based policy implementation.[56]

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55 John Arnold, "Best Practices in Management of International Trade Corridors."

56 The Global Enabling Trade Report 2012: Reducing Supply Chain Barriers, (Geneva: World Economic Forum, 2012), http://reports.weforum.org/global-enabling-trade-report-2012/.

OTHER REGULATORY ISSUES ALONG VALUE CHAINS

Other legal and regulatory issues can challenge growth at all stages of the value chain – including complex rules governing seeds and other inputs, weak intellectual property protections, and various non-tariff measures. Developed value chains can deliver inputs for production and processing, give rise to opportunities for semi-finished and further finished goods – and higher incomes along with them – and better serve the end user. Yet neither market systems nor trade policy is currently set up to fully deliver this potential.

Legal and regulatory issues around all aspects of value chain development – including production, inputs, processing, and services – can be especially significant in agricultural development. Regulations are sometimes complex and inconsistently applied, and new producers are often effectively prevented from entering the market. Across value chains, hurdles can include duplicative licensing and registration requirements related to all stages of value chains activity, ineffective measures for ensuring competition in key sectors, and inconsistent processes for application of standards discussed above. For agricultural inputs, inconsistent laws and weak implementation in areas such as seed variety release processes, field inspections, and fertilizer distribution can also hinder enterprise development and food security.

Although often considered outside of the scope of international trade, lack of clear and reliable systems for land use and ownership can also play a significant role in value chain development – impacting the ability to generate agricultural surpluses and increase productivity[57] – and ultimately affecting whether investment and commercial activity will take place at all.[58] Issues related to land, such as financial sector regulation and regulation of markets for inputs such as seeds and fertilizer, do, however, have direct links to trade policy and can directly impact growth potential along value chains.

With new technology becoming an ever-increasing element of the global economy – from technological advances in diverse products ranging from seeds to more

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57 Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries."

58 See, e.g. Douglass Cecil North, Institutions, institutional change, and economic performance (Cambridge: Cambridge University Press, 1990); Timothy Besley and Torsten Persson, Pillars of prosperity the political economics of development clusters (Princeton: Princeton University Press, 2011).

In Africa, the complex history of land regulation in sub-Saharan Africa and tensions between customary and formal land ownership can limit agricultural investment and productivity.

advanced medicines – other important trade issues can arise, particularly around sufficient intellectual property protections. ***Adequate and equitable protection of intellectual property is also increasingly becoming an issue in global value chain development, where technology, information sharing, and communication are essential.***[59]

For seeds, protections in the agricultural sector." with the following text: "For seeds, intellectual property protections to encourage use of higher-yielding varieties – including plant variety protections, effective measures for licensing intellectual property, and improvements in related domestic and cross-border regulatory structures – can strengthen markets. Many other areas of intellectual property are central to agricultural value chain development. These include laws around copyrighted and patented material, trade secrets, trademarks, and integrated circuits, along with contract laws. In addressing these, trade policy should continue to take into account the increasingly diverse uses and stakeholders around intellectual property in the agricultural sector."

Systemic issues such as forced localization or restrictive export measures will impact numerous industries and value chains. As discussed above, forced localization can limit access to high-quality inputs, up-to-date information, and effective infrastructure. Restrictive export measures such as export bans have become particularly prevalent in agricultural trade with the food price shocks and extreme market volatility of the last several years, and they have severely impacted both global producers and businesses on the ground.[60] During the 2007–2008 food crisis, several countries imposed price controls and export restrictions in attempts to prevent domestic food price increases, but those measures themselves contributed to further global price instability and a run on staple commodities. Some of the world's largest rice producers – including China, India, and Vietnam – restricted exports, while Argentina, Kazakhstan, and Russia limited wheat exports.[61]

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59 Aldonas, "Trade Policy in a Global Age."

60 In field consultations, businesses on the ground in Tanzania stressed the detrimental effect export bans on maize and rice exports have had and noted the link between these systemic issues and other non-tariff barriers in the market. Similarly, businesses in Kenya raised similar issues with bans on the import and export of seeds. Fortunately, the Government of Tanzania has pledged to remove any remaining restrictions as part of the New Alliance on Food Security, and removal of these barriers is a good example of market-driven, targeted policy change. Field consultations conducted for TransFarm Africa and the New Markets Lab by the Harvard Law and Development Society.

61 The International Food Policy Research Institute estimates that the elimination of export bans during the 2008-09 price run up would have helped stabilize price fluctuations and reduce price levels by up to 30 percent.

In many countries, underlying institutions are weak and political pressures strong, and often better policy alternatives are not readily available. ***Stronger international disciplines are badly needed with respect to local content requirements and restrictive export measures, as are appropriate social safety nets that can help protect against – and mitigate – shocks***. Systemic policy issues at the national level are also connected to distortions in the global market. For example, research by the International Food Policy Research Institute (IFPRI) notes a link between restrictive export taxes and international trade distortions, like developed country tariff escalation policies that discourage economic specialization and trade in value-added products, pointing to a systemic issue in broader markets.[62]

Like a value chain, all trade and regulatory challenges are interconnected, and each imposes additional costs and possible barriers to entry and growth. In order to encourage growth along value chains, it will be necessary for producers and policymakers to look at how these elements act independently and together, taking into account the needs of the market in order to make more informed and appropriate choices about how to allocate resources and form policy.

FRAGMENTED REGIONAL MARKETS

Facilitation of regional market development is becoming an increasing focus, particularly in parts of the world like sub-Saharan Africa and Central Asia where functioning regional markets will be needed to create the economies of scale necessary to expand business opportunities, stimulate local supply chain development, foster competitiveness, and connect producers to international markets. Stronger regional markets will also be critical to ensuring food security.[63]

And, the FAO estimates that export bans in Tanzania and Uganda between 2008 and 2009 reduced maize flows to neighboring Kenya by 46 percent, contributing to a 170 percent increase in the number of food insecure people in Kenya.

62 Antoine Bouët and David Laborde Debucquet, "Food crisis and export taxation: the cost of non-cooperative trade policies," Review of World Economics 148, no. 1 (2012): 209; Antoine Bouët and David Laborde Debucquet, "Economics of Export Taxes in a Context of Food Crisis," Discussion Paper 00994 (IFPRI, June 2010).

63 Haggblade, Unscrambling Africa.

For example, political borders "separate surplus millet and sorghum producers in southern Mali and Burkina Faso from deficit markets in half a dozen surrounding countries; surplus maize and bean producing zones of Uganda from deficit markets in Kenya, southern Sudan and Rwanda; food surplus northern Mozambique and southern Tanzania from intermittently deficit markets in Malawi and eastern Zambia; and livestock exporters in Mali, Mauritania, and Niger from coastal markets all across West Africa."

The discussion on trade opportunities with and within sub-Saharan Africa is increasingly focusing on regional market development. Increased support for Africa's efforts to implement regional integration will be very important, as will strong signals of commercial success along regional value chains. Additional focus will be needed on public-private efforts at implementing the various regional agreements. This is particularly true in agriculture, where rules are not always predictable and consistent enough to attract the investment needed to achieve economies of scale and increase agricultural trade.[64]

Regional market development is a particular focus in sub-Saharan Africa, although levels of intra-African trade remain low even with the many agreements in place to increase regional trade. Despite the overwhelming proportion of the population engaged in agriculture, agricultural development also remains largely unexplored. Formal regional trade in sub-Saharan Africa is a fraction of regional trade in other parts of the world, representing only 10 percent of total trade in 2012, compared with roughly 17 percent in Asia and 60 percent in the European Union.[65] Within the main African regional economic communities, agricultural and food trade has increased within the Common Market for Eastern and Southern Africa (COMESA) and South African Development Community (SADC), remained relatively stable in the East African Community (EAC) and decreased within the Economic Community of West African States (ECOWAS).[66]

Policy and regulation are major challenges for most regional markets. The soft infrastructure challenges discussed above—better laws, regulations, certification systems, and other government policies and programs relating to import and export, setting up a business, making available better quality and higher yielding seeds, improving transport rules and regulations, meeting quality and food safety standards, etc. — require much greater attention at the national and regional levels and are likely to have the greatest impact on regional trade.[67] Many of these issues can be addressed through more effective trade laws and policies.

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64 Paul Brenton et al., "Africa Can Help Feed Africa: Removing barriers to regional trade in food staples" (World Bank, 2012).

65 Moïsé et al., "Estimating the Constraints to Agricultural Trade of Developing Countries."

66 Michiel van Dijk, "African Regional Integration: Implications for Food Security" (March 16, 2011), http://ssrn.com/abstract=1788157.

67 World Bank, "Non-Tariff Measures on Goods Trade in the East African Community."

Like other policy issues, SPS issues are increasingly being dealt with on a regional level, and both policy reform and capacity building are necessary to make regional SPS systems work to the advantage of agricultural development. Within African regions, many countries do not tend to recognize the inspection processes and SPS regimes of their neighbors, despite regional trade agreements requiring this type of treatment.[68]

Much attention at the regional level has also focused on border crossing procedures.[69] As discussed above, trade facilitation is a critical element of opening markets, and dismantling the hurdles to moving goods and services within markets will require appropriate action by multiple countries at once.[70]

THE IMPORTANCE OF DATA

Access to reliable data is a consistent challenge in assessing market opportunity and risk, ensuring effective implementation of food safety systems and other regulatory processes, and determining the right strategic policy interventions that could unlock new opportunities. More openly shared and visible data will help better allow timely response to market demand, benefitting both producers who wish to sell in the market and consumers looking for safer and fresher food. A combination of public and privately collected data can also be used to help farmers determine when, where and how to plant crops, as well as when to then harvest them.

Clearer data requirements will help food and other products move more quickly to where they are needed, incurring less cost along the way and leaving more substantial gains for producers. Data can also help producers measure and monitor crops, and better data collection and assessment can act as a buffer against some of the shocks of the market such as price volatility, as well as provide early warning of price hikes. Better data will also help countries make the right policy decisions and, hopefully, help avoid the wrong ones, such as the 2008-09 export bans. The OECD Agricultural Market Information System (AMIS) project is a prime example of coordinated efforts to increase the accuracy and transparency of agricultural information (Box 7).

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68 Ibid. For example, this is a particular problem in the EAC.

69 John Arnold, "Best Practices in Management of International Trade Corridors."

70 Productivity enhancement, trade development and the development of secondary feeder roads to facilitate densification are critical to SDIs and Development Corridors. Rosalind Thomas, "Development Corridors and Spatial Development Initiatives in Africa" (World Bank, 2009).

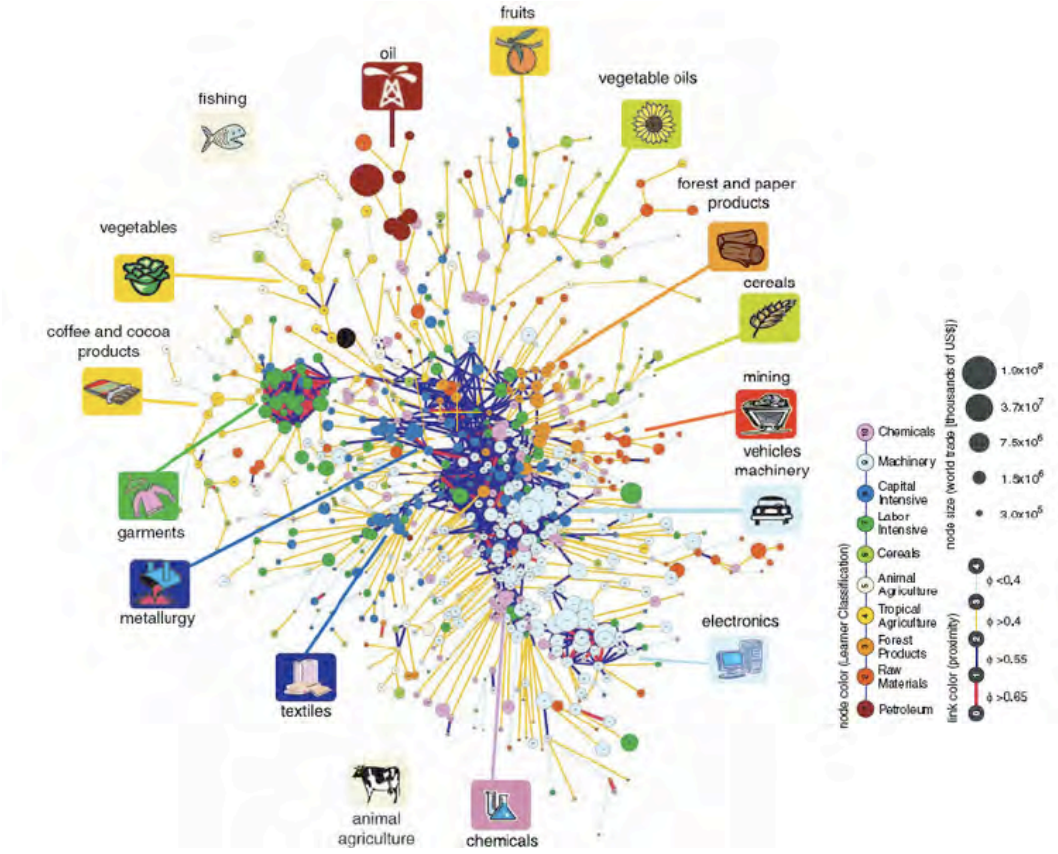
BOX 7. AGRICULTURAL MARKET INFORMATION SYSTEM

The Agricultural Market Information System (AMIS) was launched in September 2011 as an initiative of the G20 governments to provide up-to-date information on the international supply and demand of wheat, maize, rice and soybeans in order to prevent future price panics. The Secretariat – formed by the Food and Agricultural Organization (FAO), International Fund for Agricultural Development (IFAD), IFPRI, World Food Programme (WFP), OECD, World Bank, WTO, UN High Level Task Force, and United Nations Conference on Trade and Agricultural Development (UNCTAD) – coordinates the project and supports the two arms of the AMIS: the Global Food Market Information Group and the Rapid Response Forum. The Information Group, comprised of "technical representatives" from participating countries, regularly supplies local and national data on production, prices, stocks and trade, as well as policy initiatives that could influence future prices. The Rapid Response Forum, comprised of senior officials from participating countries and active only when market conditions appear abnormal, facilitates international discussion about policy responses aimed to prevent crises. Although still in its initial stages, the AMIS represents a promising model for international cooperation on agricultural market information.[71]

Data can also be used to assess unexplored opportunity in value chains. For example, innovative data visualization developed by the MIT Media Lab and Harvard Center for International Development provide a multi-dimensional view of comparative advantage – showing which products countries are and *could be* producing (Figure 7).

71 "Agricultural Market Information System: Enhancing Market Transparency," AMIS, (OECD, November 2011), http://www.oecd.org/tad/agricultural-trade/48983511.pdf.

FIGURE 7. THE PRODUCT SPACE CONDITIONS THE DEVELOPMENT OF NATIONS



Source: C.A. Hidalgo, B. Klinger, A.-L. Barabási, R. Hausmann, "The Product Space Conditions the Development of Nations," Science 317 (2007).

The image above, part of a comprehensive data visualization tool available through the Observatory of Economic Complexity (http://atlas.media.mit.edu), illustrates how different industries are related in a fully diverse economy. Position in the product space matters: the industries clustered together in the middle are more closely related than those spaced farther apart around the periphery. Since no country's economy produces everything, breaking this down by country illustrates which sectors might be the most strategic for future development. While this tool does not explore every factor – the aspects of the enabling environment discussed in this paper are not included, for example – it does present a new way of looking at trade and unexplored potential in the global economy. Notably, when sectors are

examined across regions, possibilities expand significantly, strengthening the case for regional trade.[72]

Coordination in data collection is becoming increasingly important as well. The FAO and OECD are studying how crop cycles change when trade is liberalized, and the FAO has undertaken a significant data collection project to produce more systemic analysis and coordination across organizations (Box 8).

BOX 8. GROUND-BREAKING EFFORT TO IMPROVE OPEN DATA FOR AGRICULTURE

There is an urgent need for evidence on which to base implementation of relevant effective agriculture and rural development policies at the global, regional, and national levels. These data requirements are emerging at the same time that many countries, especially in the developing world, lack the capacity to produce and report even the minimum set of agricultural data needed to monitor national trends or inform the international development debate.

The Global Strategy to Improve Agricultural and Rural Statistics is a truly global effort to strengthen agricultural statistics (World Bank, Food and Agriculture Organization of the United Nations and United Nations Statistical Commission, 2011). Development of the Global Strategy, which was initiated by the United Nations Statistical Commission, is the result of an extensive consultation process with national and international statistical organizations, as well as the national statistics offices, agriculture ministries and the other government institutions producing statistics that fall under its scope. The Global Strategy is a framework for national and international statistical systems that will enable countries to produce, and to apply, the basic data and information needed in the 21st century to improve agriculture, contribute to food security, and alleviate rural poverty.[73]

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72 In a research project commissioned by the German Marshall Fund in 2009-10, Dr. Cesar Hidalgo of the MIT Media Lab and Harvard Center for International Development applied the Product Space model, which shows that the institutional, technological, infrastructural, and knowledge context in which goods are produced constrains possibilities for diversification of production, to demonstrate that under current conditions, options for diversification in all five East African countries are limited but lie predominately in agriculture. More information can be found at http://www.gmfus.org/events/vir- tual_forum_view?vf.id=692.

73 For more information on the Global Strategy, visit www.fao.org/economic/globalstrategy/en/.

Ultimately, better data will also be needed to highlight the difference between trade policies on the books and implementation in the market, as will publicly accessible information on specific policy interventions that can help unlock potential along value chains.

TRADE POLICY FOR AN INTERCONNECTED GLOBAL ECONOMY

In order to promote agricultural value chain development, we will need new approaches to international trade policy. Instead of looking at trade as a series of transactions, it should be approached as a system. The link between trade and investment must be made more clear, as many of the issues covered under trade law and policy have direct bearing on what type of investment – local or foreign – will happen and how this investment will thrive and grow. Increasing focus will be needed on how to integrate rural communities and not just urban centers.

Trade policy also needs to shift to become more forward-looking and innovative. Trade does not do a good job of looking at where markets are going – focusing instead on where they were – yet it is this future potential that will be so important for agricultural development, productivity growth and food security. Going forward, trade discussions, including those on agriculture, must also focus more on services alongside reducing tariff and non-tariff barriers for agricultural goods.[74] Trade policy has also not kept up well enough with changes in markets, science, and technology, and better data and analytics will be a necessary but not sufficient condition for closing this gap.

To make this system work as well as possible, all relevant stakeholders will need to be engaged simultaneously. Private sector capacity building to bring in knowledge and lower the cost of hiring and training will be important, as will donor development assistance to address supply side challenges. In order for enabling environments to improve and better facilitate agricultural growth and food security – a priority of the U.S. Feed the Future program, Grow Africa and the New Alliance for Food Security and Nutrition, among other efforts – it will be important to press for change from both the institutional level and market level at the same time. This sort of engagement between public and private sectors is more dynamic and

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74 See e.g. Bernard Hoekman and Selina Jackson, "Shifting Focus in Trade Agreements, From Market Access to Value Chain Barriers," The Trade Post, January 24, 2013, http://blogs.worldbank.org/trade/shifting-focus-in-trade-agreements-from-market-access-to-value-chain-barriers.

ongoing than some efforts of the past, and room exists for innovative new approaches to link the public and private sectors. For example, public-private partnerships can promote solutions to engage small farmers in market systems, equitable seed delivery systems to bring high-yielding varieties from public into private channels, and better uses of intellectual property to create appropriate incentives in the market.

Finally, in order to be as effective as possible, policy responses will need to be more holistic and tailored to very concrete challenges and real market demand. Even with an increasingly integrated global economy, different markets require different approaches. The strides made towards building institutions and regulatory systems in Asia argue for a trade policy that can build on and strengthen these systems more. Within sub-Saharan Africa, East Africa in particular is a market of growing interest, and these institutions have to be built and strengthened. ***As part of a tailored, holistic approach, the Global Harvest Initiative and its consultative partners recommend that each of the trade policy vehicles below be approached through an agricultural value chain lens, with some priorities noted below.***

TRANS-PACIFIC PARTNERSHIP

The Trans-Pacific Partnership Agreement (TPP) – the first "21st Century Regional Trade Agreement" under negotiation by the United States, Australia, Brunei Darussalam, Chile, Malaysia, New Zealand, Peru, Singapore, Vietnam, Mexico, Canada, and most recently Japan – represents an immediate priority for the private sector. It is an example of a practical, iterative approach to trade policy, with countries seeking reform, deeper commitments, and implementation of trade disciplines. As Japan – and perhaps others – join, it will be particularly important to uphold this focus.

Based on the framework of the Pacific-4, a trading bloc consisting of New Zealand, Singapore, Chile, and Brunei founded in June of 2005, the Trans-Pacific Partnership has unfolded over the course of seventeen rounds of negotiation, with the most recent taking place in May 2013 in Lima, Peru. The proposal is ambitious, much broader than most bilateral or regional Free Trade Agreements, with twenty-six chapters under negotiation. If enacted, the Office of the U.S. Trade Representative (USTR) claims it could eliminate as many as 11,000 tariff lines. The multiple rounds of negotiations have focused on:

- Core issues traditionally included in trade agreements, including industrial goods, agriculture and textiles as well as rules on intellectual property, technical barriers to trade, labor, and environment;

- Cross-cutting issues not previously included in trade agreements, such as making the regulatory systems of TPP countries more compatible so companies can operate more seamlessly in TPP markets, and helping innovative, job-creating small- and medium-sized enterprises participate more actively in international trade; and,
- New emerging trade issues such as addressing trade and investment in innovative products and services, including digital technologies, and ensuring that state-owned enterprises compete fairly with private companies and do not distort competition in ways that put competing companies and workers at a disadvantage.

The importance of the proposed TPP reflects the economic significance of the countries involved, which now account for 27 percent of world GDP and include some of the fastest growing economies.

FIGURE 8. TPP MEMBER AVERAGE WTO BOUND TARIFF (PERCENT)

Country	Animal Products	Dairy Products	Cereals & Preps	Oilseeds, fats oils	All Agriculture
Australia	1.5	4.2	2.7	3.1	3.4
Brunei Darussalam	26.0	21.0	21.8	20.0	31.6
Chile	25.0	29.2	25.2	29.1	26.0
Japan	14.3	118.1	69.7	10.0	20.9
Malaysia	30.9	31.5	16.0	31.6	67.6
New Zealand	7.0	10.1	10.6	2.0	5.9
Peru	30.0	36.7	34.6	30.0	30.8
Singapore	8.9	7.0	11.9	10.0	24.6
United States	2.3	19.8	3.6	4.3	4.8
Vietnam	14.8	16.6	20.9	11.5	18.5

Source: WTO Tariff Profiles (2011)

The countries also account for more than ten percent of the world's population, with a rapidly growing middle class. Potential benefits for agriculture can be seen in terms of the current relatively high bound tariff levels. All members but two have rates higher than 18 percent. Malaysia has the highest at 67.6 percent.

Current expectations are that most tariffs on agricultural products will be reduced sharply when the TPP agreement is implemented, possibly phased out to zero over a decade. GHI believes these negotiations have strong potential and urges the administration to continue its leadership in the talks.

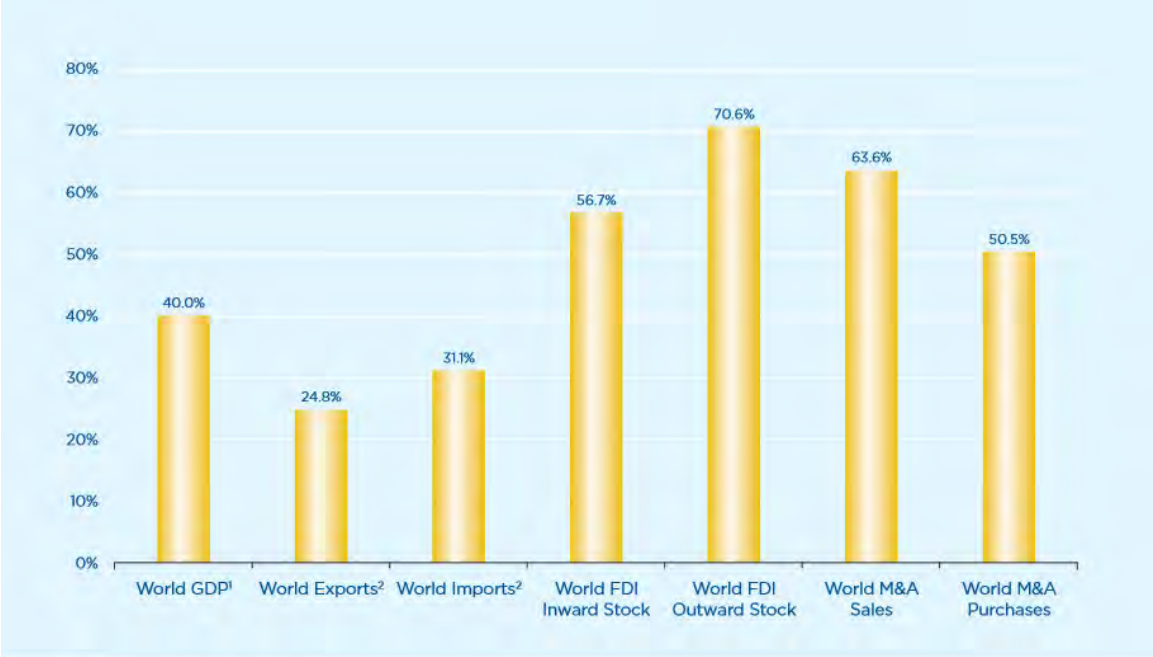
With agricultural value chain development and trade in mind, the TPP should also include even stronger provisions for SPS and emerging technologies, including mutual respect for regulatory systems and authorities, better procedures for testing and issuing regulatory approvals, and a rapid response mechanism. Regulatory convergence should be a goal, with a regular, open dialogue established between regional authorities on technical and scientific issues. Enforcement of SPS rules and regulations will also be critical, and GHI urges stronger dispute settlement and enforcement mechanisms. TPP will test the strength of a science-based, technology-based approach, and implementing this approach will be critical in creating new market demand and setting standards for a new generation of agricultural consumers.

U.S.-EU TRANSATLANTIC TRADE AND INVESTMENT PARTNERSHIP

In his State of the Union Address on February 12, 2013, U.S. President Barack Obama announced his intentions to begin negotiations with the European Union to form the Transatlantic Trade and Investment Partnership (TTIP). The U.S.-EU trade relationship is already the world's largest, representing one third of the total goods and services trade, and nearly half of the all global economic output. The Transatlantic Trade and Investment Partnership seeks to build upon this economic relationship by further opening markets, strengthening rules-based investment, reducing non-tariff barriers, harmonizing regulations and standards, and enhancing cooperation on the development of new rules and principles relating to global trade.[75]

FIGURE 9. THE TRANSATLANTIC ECONOMY VS. THE WORLD – SHARE OF WORLD TOTAL

75 "Fact Sheet: United States to Negotiate Transatlantic Trade and Investment Partnership with the European Union," USTR, last modified February 13, 2013, http://www.ustr.gov/about-us/press-office/fact-sheets/2013/february/US-EU-TTIP.



Sources: UN, IMF, figures for 2011
1. Based on PPP estimates,
2. Excluding intra-EU, Norway, Switzerland and Iceland trade.

Given the significance of the commercial relationship between the United States and Europe, there is no question that the Transatlantic Trade and Investment Partnership discussions will be a priority. Systemic issues, such as services trade and differences in SPS administration will need to be addressed. These will not only have an impact on U.S. and European trade but will also impact development of third markets such as regions in sub-Saharan Africa. Mutual recognition of U.S. and European systems would free Africa from having to choose and would allow scarce resources to be focused elsewhere. For biotechnology approvals, the need for comparable data is acute, and the lack of synchronized processes remains a pressing issue. As noted above, simply following transparent processes and timelines would go a long way.

The TTIP discussions could also help bridge differences on sustainability issues, including approaches on labor and the environment. In addition to providing a forum for exploring a middle ground on administration of SPS issues, TTIP could also provide a bridge on intellectual property issues, which will also be critical to developing agricultural markets of the future. Finally, the TTIP could present an

opportunity to develop common strategies for engaging with sub-Saharan Africa and helping develop a robust African market through appropriate trade tools.[76]

THE U.S.-EAST AFRICAN COMMUNITY TRADE AND INVESTMENT PARTNERSHIP

While TPP holds potential for securing a trade opportunity with a rapidly growing market, the U.S.-East African Community Trade and Investment Partnership is an area in which GHI and its consultative partners see significant future impact. While the market is still developing, in some ways these margins matter the most. Agriculture is particularly important in East Africa, where 60 percent of the employment and 30 percent of GDP is attributed to agriculture.[77]

The U.S.-EAC discussions present an opportunity to put the right systems in place for trade that is yet to come. For the EAC, GHI recommends scalable systems – farmer cooperative systems for example – and clear, science-based regulatory frameworks that can contribute significantly to trade in the region and build internal infrastructure and capability. SPS systems do warrant further attention, since numerous issues still arise even with the regional harmonization efforts underway through the EAC.[78] In many cases, for example harmonizing regional approaches in seeds, the private sector will need to use and test the system in order for actual change to result.

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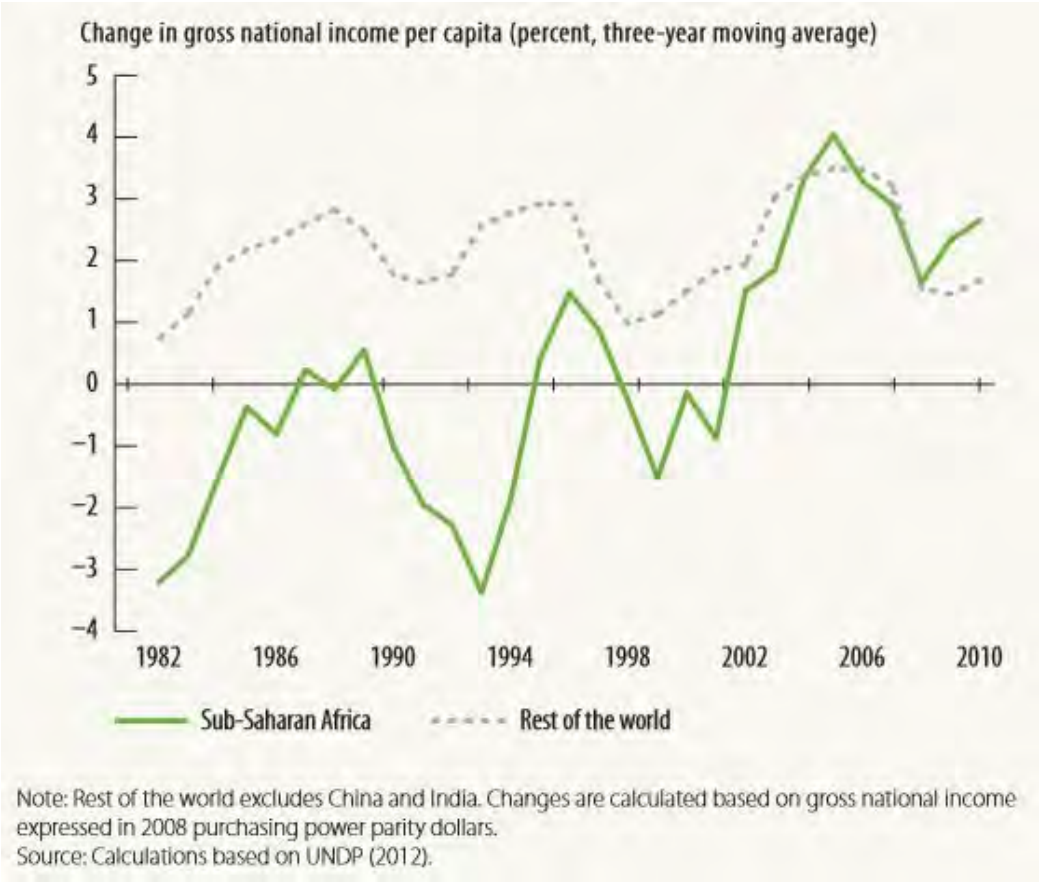
76 See e.g. Patrick Messerlin, "Economic Partnership Agreements: How to Rebound?," Economic Policy Paper Series (The German Marshall Fund, 2009): 22-27.

Further attention should be focused on the implications and timing of moving forward with an Economic Partnership Agreement (EPA) model, which has been found to distort the incentive to innovate and improve existing production in African markets.

77 "East Africa Regional," Feed the Future, The U.S. Government's Global Hunger and Food Security Initiative, accessed July 17, 2013, http://www.feedthefuture.gov/country/east-africa-regional-0.

78 Kenya's Food Safety and Food Marketing Laws have been cited as problematic, and other implementation issues have been noted above.

FIGURE 10. SUB-SAHARAN AFRICA'S GROWTH IS ACCELERATING



Source: UNDP (2012)[79]

Trade facilitation has been identified as a priority for the U.S.-EAC agreement, and alongside strengthening SPS coordination, compliance, and regulatory capacity, streamlining and improving customs and trade facilitation will be critical to regional market growth and increased U.S. investment in the region. The costs of moving goods in the region remain high, with the cost of transporting goods in Eastern Africa 30 percent higher than in South Africa—and 60 to 70 percent higher than in the United States. This is estimated to reduce growth by one percent annually.[80]

79 "Africa Human Development Report 2012: Towards a Food Secure Future" (United Nations Development Programme, 2012), http://www.undp.org/content/dam/undp/library/corporate/HDR/Africa%20HDR/UNDP-Africa%20HDR-2012-EN.pdf.

80 Perkins and Robbins, "The Contribution to Local Enterprise Development of Infrastructure for Commodity Extraction Projects: Tanzania's Central Corridor and Mozambique's Zambezi Valley."

It is notable that increased trade facilitation, improvements to the regional SPS system, and elimination of non-tariff barriers – all of which have been consistently identified as private sector priorities – are EAC priorities as well.

WTO DOHA ROUND AND BALI MINISTERIAL

The Doha Development Round is the current round of WTO negotiations and has been underway, with controversial and well-publicized fits and starts, since 2001. Progress slowed considerably in 2008 over disagreement involving agricultural and industrial tariffs between developed and developing trading partners and issues around agricultural subsidies. Most issues have been set aside, and less controversial issues such as trade facilitation have been slated for discussion at the 9th Ministerial Conference of the WTO that will be held in December, 2013, in Bali, Indonesia. This will be the first Ministerial Conference with Brazilian Roberto Azevedo as the head of the WTO, the first WTO Director-General from Latin America. GHI and its consultative partners continue to support multilateral trade liberalization and encourage engagement at the highest levels to regain momentum. Trade facilitation is an important issue for market development, and particular attention should be focused on issues that impact agricultural sector development as discussed above.

Beyond strong support for revived negotiations and the completion of the Doha Development Round, GHI and its consultative partners recognize that there are a number of important issues concerning global food security that are not now being considered formally and deserve greater attention, such as:

- Export restrictions and prohibitions;
- High tariffs and very restrictive tariff-rate quotas on commodity and food imports, particularly in countries with a growing food deficit; and
- Restrictive import measures on equipment and modern technology that would improve agriculture productivity, particularly in less developed countries.

These issues should continue to be raised through numerous channels, including at the WTO, where increasing emphasis should be placed on food security.

OTHER VEHICLES

While the TPP, TTIP and U.S.-EAC Trade and Investment Partnership Agreement represent priorities for GHI and its consultative partners, other trade policy vehicles should be used more fully in carrying out the holistic, value chain approach discussed above. This includes effective enforcement and implementation of

existing agreements, such as the recently-implemented free trade agreements (FTAs) with Colombia, Peru and Panama and the numerous regional trade agreements (RTAs) and multilateral agreements as well. While not all trade policy vehicles can be discussed, a few others deserve brief and special mention.

ASEAN 2015

The Association of Southeast Asian Nations (ASEAN) was formed in August of 1967 in Bangkok, Thailand. Its founding members – Indonesia, Malaysia, Philippines, Singapore, and Thailand – were later joined by Brunei, Vietnam, Laos, Myanmar, and Cambodia. ASEAN member countries now contribute US$2 trillion to world GDP, with that number expected to double by 2020.[81] ASEAN is dedicated to regional cooperation, with the goal of regional economic integration in the ASEAN Economic Community by 2015,[82] and it has increasingly focused on free trade agreements with China, Japan, South Korea, India, Australia, and New Zealand.

ASEAN has pursued good regulatory practices – which notably include public consultation – and made considerable progress in reducing trade barriers: customs tariffs for 90 percent of goods traded in the region have already been reduced to zero.[83] Nevertheless, implementation has lagged in areas such as streamlining SPS efforts, and considerable challenges still exist around issues such as technical standards, labeling, and foreign investment restrictions.[84] Additional measures are set to be implemented by the end of 2013, which will indicate how realistic regional goals are. In particular, greater transparency, better governance and shorter approval times for food safety procedures would be helpful to increase agricultural trade, along with implementation of the single customs window and a streamlined trade facilitation process with paperless customs administration.

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81 "Courageous Transformation for Inclusion and Integration" (World Economic Forum on East Asia, Nay Pyi Taw, Myanmar, 5-7 June 2013), http://www3.weforum.org/docs/EA13/WEF_EA13_Report.pdf.

82 "Regional Connectivity Key to Unleashing ASEAN's Growth Potential," Food Industry Asia, 2013, https://foodindustry.asia/regional-connectivity-key-to-unleashing-aseans-growth-potential.

83 Ibid.

84 Henry J. Schumacher, "The agri-food sector," Business Mirror, May 22, 2013, http://www.businessmirror.com.ph/index.php/en/business/asean-economic-community/13853-the-agri-food-sector.

MERCOSUR

MERCOSUR, the Southern Common Market, founded in 1991 by Brazil, Argentina, Uruguay, and Paraguay, is a political and economic agreement to help promote and facilitate free trade. Venezuela later joined in July 2012, and Bolivia is in the process of becoming a full member to the agreement. Chile, Ecuador, Colombia and Peru serve as associate member states but do not hold full member status. MERCOSUR aims to open borders between member states to increase the fluidity of trade, currency, and people. MERCOSUR has also worked with international trade organizations to reach agreements that will increase foreign investment and trade in the region.

The question surrounding MERCOSUR is how to improve upon the framework and press for future improvements. At the moment it appears that this will happen on a regional basis, with the countries on the west coast of South America moving forward more quickly than others.

TRADE AND INVESTMENT FRAMEWORK AGREEMENTS AND CAPACITY BUILDING PROGRAMS

The numerous Trade and Investment Framework Agreements (TIFAs) in place between the United States and a number of its trading partners – including some regions in Africa and Central Asia – can be practical, low-cost tools to engage around the issues discussed above. In order for the TIFAs to be most effective, the private sector will need to be fully engaged in a regular, predictable process. ***GHI and its consultative partners recommend enhanced private sector engagement and a well-planned structure for discussion of pressing issues through the TIFA process. This must include a mechanism for addressing trade bottlenecks within countries and at the regional and international levels***. GHI and its consultative partners support immediate steps to identify and address these barriers and use of appropriate mechanisms, including high-level summits, and encourages the U.S. Government to use all available trade and agricultural policy vehicles to improve regional and international markets for food.

Finally, GHI and its consultative partners support using capacity building and technical assistance programs, including those under the U.S. Feed the Future initiative, to facilitate removal of agricultural trade barriers, improve value chains, increase farmers' access to markets (focusing in particular on regional markets), and improve capacity to comply with trade rules and regulations, including complex sanitary and phytosanitary standards. Overall, trade capacity building initiatives

have been successful at promoting increased and inclusive livelihood and food security, especially for women.[85]

Perhaps the most well cited example of a comprehensive capacity building initiative explicitly linked to trade policy is the CAFTA-DR trade capacity building effort (See Box 9). The experiences in promoting agricultural trade through capacity building gleaned from the CAFTA-DR experience could be insightful in other value chain development efforts.

BOX 9. CAFTA-DR TRADE CAPACITY BUILDING ASSISTANCE

In 2004, the United States, the Dominican Republic, and five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) signed the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR). A principal component of the CAFTA-DR is the Committee on Trade Capacity Building (TCB) which responds to country needs identified in National Action Plans for Trade Capacity Building and aims to match these needs with donor resources. The CAFTA-DR TCB efforts seek to foster equitable socio-economic development and reduce poverty and undernourishment through targeted training and capacity building at the local level. Since the agricultural sector contributes significantly to the Central American economies – bananas, plantains, coffee, fruit, and cane sugar are all major exports to the U.S. market – the CAFTA-DR Committee on TCB aims to promote agricultural diversification through addressing trade capacity concerns, strengthen food standards, and improve the customs process. In Fiscal Year 2008, the United States provided $80 million of TCB assistance to the CAFTA-DR countries.[86]

GHI and its consultative partners also supports using capacity building programs to increase the availability of productivity-enhancing agricultural technology and upgrade farmers' skills to lead to modernization and improved market participation. Many of these goals could be undertaken through existing capacity building

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85 WTO, "Aid for Trade at a Glance 2013: Connecting Value Chains," (WTO, 2013).

86 See e.g. "Overview of U.S. Trade Capacity Building (TCB)," USTR, accessed July 16, 2013, http://www.ustr.gov/trade-topics/trade-development/trade-capacity-building/overview-us-trade-capacity-building-tcb; "CAFTA-DR (Dominican Republic-Central America FTA)," USTR, accessed July 16, 2013, http://www.ustr.gov/trade-agreements/free-trade-agreements/cafta-dr-dominican-republic-central-america-fta.

programs[87] and GHI and its consultative partners both recommend that adequate funding be made available for these projects and that supply-side efforts be consistently matched with complementary efforts from the market and demand side in order to be most effective.

CONCLUSION

Global agricultural markets are becoming increasingly interconnected, generating tremendous opportunity for new economic activity, value chain development, and food security. Opportunities for productivity growth at the local level are not only impacted by trade rules, but factors limiting productivity will also be closely connected to how trade policy is carried out – and implemented – at the regional and international levels. No longer is it enough to look just at one element of the market; achieving agricultural development and food security will necessitate understanding how the system functions as a whole.

Trade has often been criticized as creating more "losers" than "winners," but in a world of rapidly developing agricultural value chains, the landscape looks much different. Losses in areas like traditional commodity trade could be offset by much greater wins through integrated markets and the numerous opportunities they can generate. With science and technology changing so rapidly, trade can be a complete solution that actually generates more wins than ever before and has a positive impact on individual farmers, service providers, processors, and consumers.

This paper endorses a new, more holistic approach to value chain development that focuses on enhancing economic opportunities in agriculture and delivering greater food security. It has advocated the importance of understanding challenges associated with each stage in the value chain in order to yield more tangible outcomes. Successful implementation of this approach will rely on strong collaboration between the public and private sectors, bringing together policy approaches with innovative solutions from the business, non-profit and research communities that address development needs, sometimes through new, hybrid approaches to achieving both market and social goals.

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87 For example, USAID has created the Feed the Future Partnering for Innovation Initiative to increase distribution of proven agricultural technologies and the Enabling Agricultural Trade (EAT) program designed to assess legal and regulatory constraints to agribusiness. The World Bank and IFC have also launched a significant project to measure and benchmark bottlenecks in agriculture.

Ultimately, a strong enabling environment for agricultural market growth will be a significant factor in delivering positive development outcomes. Even in the presence of favorable market conditions, poorly designed and implemented laws, regulations, and policies can significantly inhibit increased opportunities. Both identifying 'binding constraints' to value chain development and addressing systemic issues, with all relevant stakeholders engaged in the process, will be necessary.

This paper highlights a number of priority issues which, if addressed, could yield significant developmental gains. These include pressing for transparent, science-based regulatory standards, harmonizing approval processes for biotechnologies, addressing 'hard' and 'soft' infrastructure challenges, improving the content and implementation of complex laws and regulations throughout all stages of the value chain, and increasing availability of reliable data. GHI and its consultative partners also stress the importance of lowering tariff and non-tariff barriers to trade in goods and facilitating diverse services markets.

In addressing these issues, GHI and its consultative partners recommend that mechanisms such as the Trans-Pacific Partnership, the U.S.-EU Transatlantic Trade and Investment Partnership, The U.S.-East African Community Trade and Investment Partnership, the WTO Doha Round and Bali Ministerial be focused on as priorities, alongside ongoing efforts through ASEAN, MERCOSUR, existing FTAs and the TIFAs. Through all of these mechanisms, trade policy and negotiations should be used strategically to develop opportunities all along agricultural value chains and create the institutions needed to support and sustain global agricultural growth.