

Trade in Food as an Engine for Development

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Introduction

The following paper was prepared by the New School Consulting Team, a group of students in the Graduate Program in International Affairs (GPIA) at the New School, for the UN NGO Committee on Financing for Development (the Committee). The Committee has requested that the New School Consulting Team look into the relationship of hunger to international trade, and the various elements of trade that affect food security and development. This paper reports on several specific issues with regard to Trade in Food as an Engine for Development chosen for study by the Committee members.

The topics researched in this paper include:

- 1) Official Development Assistance (ODA)
 - a. Food Aid
 - b. Investment in Agriculture
- 2) Impacts of Agricultural Practices on Global Food Security and Development
 - a. Genetically Modified Organisms (GMOs)
 - b. Biofuels
 - c. Land Grabs: Foreign Investment in Developing Country Land
- 3) Trade Policy in Agriculture: Protectionism
- 4) Speculation in Agricultural Markets & Commodities

This paper explores each topic in detail, explaining the background, concepts, objectives, and limitations of each, and makes recommendations for advocacy. The paper begins with a discussion of methodology and an overview of food security. Following is the discussion of each Trade in Food topic in detail, followed by conclusions.

Methodology

This paper researches and investigates the topic of Trade in Food as an Engine for Development. To accomplish the goals of the project, as agreed with the Committee, The New School Consulting Team utilized various methods to obtain the relevant information. Work predominantly consisted of qualitative research, which was conducted via primary research (e.g. interviews with experts, including Committee members, and attending meetings and conferences) and secondary research methods (e.g. literature review of articles, briefs, documents, websites, reports, etc.).

Overview of Food Security

There is no shortage of food in the world and yet hunger persists. Though the situation is improving, progress in reducing world hunger has been uneven, with an overall estimated 925 million people living in hunger in 2010. “Most of the world’s hungry actually live in developing countries, accounting for 98% of undernourished people. Asia and the Pacific continue to remain the largest regions of those undernourished with 578 million undernourished in 2010. Sub-Saharan Africa continues to have the largest proportion of hungry people at 30% in 2010.”¹ Over 70% of malnourished children live in Asia alone, 26% in Africa and 4% in Latin America and the Caribbean.² Advances and setbacks, including those associated with the recent global financial and economic crisis; provide a volatile setting for international food prices.

As defined by the Food and Agricultural Organization of the United Nations (FAO), “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept at the family level, with individuals within households as the focus of concern. Food insecurity exists when people do not have adequate physical, social or economic access to food”.³ The FAO breaks down Food Security into four components. They are:

1. **Food availability**– The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports, including food aid.
2. **Food access**– Access by individuals to adequate resources – entitlements – for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command, given the legal, political, economic and social arrangements of the community in which s/he lives, including traditional rights such as access to common resources.
3. **Utilization** – Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met.
4. **Stability** – To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access as a consequence of sudden shocks, such as economic or climatic crises, or cyclical events such as agricultural seasons.”⁴

¹ “Number of Hungry Dips, but Still ‘Unacceptably High’.” *World Food Programme*. September 14, 2010. www.wfp.org/stories/number-hungry-dips-still-unacceptably-high (Accessed November 12, 2010).

² “World Hunger and Poverty Facts and Statistics 2010.” Worldhunger.org. <http://www.worldhunger.org/articles/Learn/world%20hunger%20facts%202002.htm> (Accessed November 15, 2010).

³ Trade Reforms And Food Security: Conceptualizing the Linkages.” FAO. Rome, 2003. <http://www.fao.org/docrep/005/y4671e/y4671e00.htm> (Accessed October 22, 2010).

⁴ Ibid.

Nutrition is an important aspect of food security. While it is essential that all people have access to sufficient food, it is found that a large percentage of the hungry are children. A majority of them reside in the Asian and Pacific regions. In many instances they are malnourished prior to birth, as pregnant women are often found to be undernourished as well. “Under-nutrition among pregnant women in developing countries leads to 1 out of 6 infants born with low birth weight. This is not only a risk factor for neonatal deaths, but also causes learning disabilities, mental, retardation, poor health, blindness and premature death.”⁵

Increasingly, the impact that international trade has on food security in terms of quantity and quality of food, availability, access, utilization and stability is an issue of concern. Inadequate access, availability, utilization and stability can have detrimental effects on a person’s well-being, health and productivity and this in turn can have a negative impact on the economic growth of a country.

⁵ "World Hunger and Poverty Facts and Statistics 2010", op. cit.

Elements of Trade That Affect Food Security

1. Official Development Assistance (ODA)

a. Food Aid

Statement of topic

Food aid is aimed at sending food to areas in need such as in times of emergency or crisis (war or natural disaster-affected settings) or areas afflicted with extreme poverty, hunger and malnutrition. Food aid has also been a means for subsidized financial transfers to food-importing countries and for disposal of surplus stocks of grains in donor countries.

Overview

Food aid can come in different forms:

1) Program food aid

This form of food aid is less about hunger and more about a way to indirectly deliver financial assistance to a food-importing country. It involves selling food to a government on credit at below market terms (either charging concessional interest rates or providing guaranteed export credits). The government then sells the food domestically. The revenue above the cost of the food is a net contribution to the developing country's budget and importing the food on concessional terms saves foreign exchange for other imports.⁶ The US has been the largest contributor of assistance through this mechanism. Most of the other donor countries of food aid donate food for free using the two mechanisms below.

2) Relief/Emergency food aid

A form of free distribution of food by government institutions, the World Food Program (WFP) and non-governmental organizations to countries affected by chronic food insecurity, conflict or natural disasters. This has been the most common type of food aid. The US is the largest donor of this type of food aid.

3) Project food aid

Food is delivered as part of a specific project “related to promoting agricultural or economic development, nutrition and food security,”⁷ such as Food for Work (FFW), Cash for Work (CFW) and school feeding programs.⁸ The WFP started the Food for Assets projects with the aim of providing vital skills and employment for the poor and hungry in exchange for food or cash. Work is generated through community, economic

⁶ Mousseau, Frederic. The Oakland Institute. Food Aid or Food Sovereignty?: Ending World Hunger in Our Time. October 2005. <http://www.oaklandinstitute.org/pdfs/fasr.pdf> (Accessed September 30, 2010).

⁷ Ibid.

⁸ Ibid.

and infrastructure building opportunities that are vital for development of poverty-, war- or conflict-stricken communities. These projects increase worker productivity and employment and improve food security for households and communities.⁹ Projects include:

- Irrigation, soil and water management which can increase yields by 100-400%;
- Retraining ex-soldiers to give them new skills that can make a positive impact on society instead of taking up arms and violence;
- Soil conservation practices for farmers who tend to overgraze and overuse soil in times of scarcity which in turn increases desertification and barren lands;
- “Employing people in villages to build new schools in exchange for food for the sake of community development (They receive food, so they can devote time to the building work without worrying about losing income); and
- Assisting people in setting up home gardening businesses by giving them food aid as they train, so that eventually, they will have a livelihood to support themselves.”¹⁰

Policy Discussion

International mechanisms of food aid originated in the 1950s in the US and Canada as they became the leading countries for over 50 years to supply domestically produced food to other countries in need. It began when policy price support for agriculture commodities generated large surpluses of cereals and it became a crucial instrument to support North American farmers¹¹ and agribusiness interests “as it reduced storage costs and opened access to global markets... typically food aid flow increases in periods of low prices and high level of food stocks in developed countries.”¹²

While humanitarian efforts in the form of food aid are aimed at assisting developing countries with food shortages and financing antipoverty programs, opponents feel that those well-intentioned efforts often create more problems than they solve. They can exacerbate dependency on food imports when they continue in good times as well as bad, as they can rupture the natural state of economies by pushing local farmers out of the market and pricing equation. The biggest concern is that it could negatively affect the livelihoods of poor farmers and producers in developing countries as it floods markets and depresses prices, thus discouraging local farmers from locally producing food.¹³

⁹ “Our Work: Food for Assets.” WFP.ORG. World Food Programme. <http://www.wfp.org/food-assets> (Accessed November 11, 2010).

¹⁰ Ibid.

¹¹ Mousseau, The Oakland Institute, op cit.

¹² Ibid.

¹³ “Food Aid or Hidden Dumping? Separating Wheat from Chaff.” OXFAM Briefing Paper 71. Oxfam International. Mar 2005. <http://www.oxfam.org/en/policy/food-aid-or-hidden-dumping> (Accessed November 20, 2010).

Ninety percent of food aid is provided in the form of commodities instead of project food aid via cash or work, thus worsening the local food markets on which poor farmers rely.¹⁴

An instance of food aid being troublesome for a receiving country is the case of Malawi, when in 2002 and 2003 food aid donors responded to a food deficit in the country by sending more aid than the predicted deficit. Although there was a built-in safety net, as the government was planning to “sell the food at subsidized prices, within the framework of the Poverty Reduction and Growth Facility [comprehensive, country-owned poverty reduction strategies],”¹⁵ the plan backfired as the area became flooded with donations which affected pricing. When Malawi initially faced an estimated 600,000 ton food deficit, a combination of foreign government assistance (600,000 tons of food in aid) and commercial and informal importers’ assistance (350,000-500,000 tons of food in aid), was sent to the country. As a result, Malawi became flooded with excessive stocks of food which depressed local commodity prices and production dropped drastically as supply exceeded demand. The country faced significant losses of approximately \$15 million as the price of maize fell from \$250 to \$100 per ton within a year and local production of commodities such as rice, cassava and maize fell well below market price.¹⁶

Ubiquitous supply of food aid in East Africa has led to breakdown of social support. Elders in East Africa have consistently pointed out in ethnographic studies that food aid has led extended families and immediate neighbors to stop providing support to villagers in need.¹⁷ Costs related to food aid programs are also of major concern. Evidence from Bangladesh shows that program costs may be reduced up to 25% if cash is offered in lieu of food.¹⁸ Food aid rations can also be particularly detrimental to women, who are most likely to share their rations with others, especially their children. One study in Ethiopia reported body mass loss to women who participated in Food-For-Work (FFW) programs due to rations being calculated only to replenish the number of calories the recipients themselves burned in daily expenditures.¹⁹

According to Holden, Barrett and Hagos, there is ample literature focusing on the merits of food-for-work in short-term targeting of the poor. Much less of the literature focuses on the long-term effects. Evidence from a case study in the Tigray Province of Ethiopia found the long-term effects to be more important. First, FFW programs may crowd out other labor-intensive activities and present time constraints for activities such as education. Second, as emergency situations such as droughts and floods increase the

¹⁴ "Food Aid or Hidden Dumping? Separating Wheat from Chaff." OXFAM Briefing Paper 71. Oxfam International. Mar 2005. <http://www.oxfam.org/en/policy/food-aid-or-hidden-dumping> (Accessed November 20, 2010).

¹⁵Mousseau, Frederic." Role of and Alternatives to Food Aid in Southern Africa." A Report to Oxfam. Mar 2004. http://www.sarpn.org.za/documents/d0000998/P1121-Roles_and_alternatives_to_food_aid_Mousseau_2004.pdf (Accessed September 30, 2010).

¹⁶ Ibid.

¹⁷ Barrett, Christopher; Holden, Stein; and Clay, Daniel. "Can Food-For-Work Programs Reduce Vulnerability?" 2003. Insurance Against Poverty Stefan Dercon, ed. (Accessed November 10, 2010).

¹⁸ Ibid.

¹⁹ Ibid.

demand for FFW programs, the poorest of the poor are often crowded out, as FFW budgets are not unlimited. Third, some FFW programs do not use land effectively, and can cause nutrient depletion, which has long-lasting, adverse consequences for local farmers.²⁰

Cash for Work (CFW) programs can be more beneficial in the long term compared to FFW programs. CFW programs provide a source of income to people affected by loss of wages, especially during post-conflict situations or disasters where the program can take advantage of idle labor and empower people to make their own decisions and spend money as they see fit. A study conducted in Banda Aceh, Indonesia to evaluate the impact of CFW programs (implemented by Mercy Corps) used CFW programs as a form of assistance to help rebuild damaged infrastructure after a devastating tsunami. The CFW programs grew faster than anticipated because of higher demand for labor opportunities. The programs demonstrated that CFW has a positive impact on household economies and provides important social benefits.²¹ In Palestine, CFW and FFW programs were tested as response mechanisms to violent outbreaks. In one case, households were given a FFW voucher that could not be resold. When compared to CFW, different outcomes resulted. When given monetary assistance, it was found that national food production and public services responded significantly better. The study showed that even if short-term food consumption was the same in both scenarios the long-term outcomes were better in cash-for-work programs. If people were given food vouchers, they would not be able to sell any that were in excess of their needs, an inefficient outcome in which they could not benefit beyond satisfying their immediate food requirements. But if they received cash for work, they could buy the appropriate amount of whatever else they need, a more efficient outcome in which they could benefit their household and livelihoods beyond strict food consumption requirements.²²

Increased ODA in food aid targeted to provide locally grown, nutrient-rich and culturally acceptable food could be beneficial in addressing the immediate sources of under-nourishment in countries with prevalent undernourishment. As of now, “statutes in the US farm bill require that food-aid money be spent on food grown in the US, while at least half of it must be packaged in the US and most of it must be transported by US shippers”²³ thus eliminating investments for food aid from locally grown, nutrient-rich and culturally acceptable food. Aid recipients would get more food per dollar if they

²⁰ Holden, Stein, Barrett, Christopher and Hagos, Fitsum. “Food-for-Work for Poverty Reduction and the Promotion of Sustainable Land Use: Can It Work?,” Cornell University: Department of Applied Economics and Management Working Paper (2003) <http://ageconsearch.umn.edu/handle/14759> (Accessed November 01, 2010).

²¹ Doocy, Shannon; Gabriel, Michael; Collins, Sean; Robinson, Courtland and Stevenson, Peter. “Implementing cash for work programmes in post-tsunami Aceh: experiences and lessons learned.” Johns Hopkins Bloomberg School of Public Health. 2006. http://www.jhsph.edu/bin/m/x/Aceh_CFW.pdf (Accessed November 20, 2010).

²² Missaglia, Marco and Boer, Paul de. “Food For Work versus Cash For Work: Emergency Assistance in Palestine.” Economic Systems Research 2004: 21. www.unipv.it/webdept/p_24s05.pdf (Accessed November 30, 2010).

²³ Paul, Katie. “The Plumpy Crusader: A New Resource Offers Hope for the Hungry, but Congress Still Holds the Keys to Food Aid.” Newsweek.com. March 30, 2010. <http://www.newsweek.com/2010/03/29/the-plumpy-crusader.html> (Accessed October 20, 2010).

bought the food they needed from whatever supplier could meet their needs, as well as contract independently for cheaper shipping.

It would be remiss to neglect the illegal activities that food assistance can prompt. That is, an unfortunate consequence of food aid in several countries that has continued to exacerbate food insecurity is rampant corruption that exists in recipient countries, as evidence has shown that politicians and terrorists swindle money and food, pushing the hungry and poor further into poverty. For example, several cases of corruption have been reported in Haiti, after several tons of food aid was shipped to the country after the January 2010 earthquake. This was not the first time the country had received aid and the president, René Préval, even urged international donors to cut back contributions, implying that the citizens had become too dependent on aid and that the local agriculture sector had been damaged severely. Approximately 51% of food overall and 80% of all rice consumed originated from imports. However, while dependency is one detriment to food security in the country, corruption is another as gangs backed by government officials raid food convoys and then resell the food in black markets, making the rich richer and poor poorer and reducing access to food by the poor.²⁴

In addition, corruption in Somalia has worsened the food situation there as corrupt contractors, aid workers and terrorist groups divert aid resources, and especially food towards military groups. “According to a recent Security Council Report on food aid in Somalia, fraud is pervasive, with about 30% of aid skimmed by local partners and local World Food Program personnel, 10% by the ground transporters and 5 to 10% by the armed group in control of the area. That means as much as half of the food never makes it to the people who desperately need it.”²⁵

Forging household numbers (e.g. family size) to change assistance packages and sale or trafficking of fake food ration cards has been another reported case of assistance corruption. “The perceived ‘gains’ to those responsible include helping friends and family, rewarding supporters, punishing enemies or obtaining money, sex and increased assistance that can be gifted, used or sold.”²⁶ In the case of Liberia, crisis-affected women living in refugee camps who did not perform sexual acts with camp leaders did not receive their food aid rations. For those receiving aid, it is nearly impossible to determine how these corrupt activities affect community assistance, and there are few ways to report these problems. This makes it difficult for distribution agencies to assess levels of corruption associated with food aid. Though policies have been established to provide a means for aid staff to report corruption, many staff

²⁴ Yauch, Brady. “Corruption Biting the Hand that Feeds: Food Aid Industry Facing Tough Questions.” PROBE International.” April 5, 2010. <http://www.probeinternational.org/foreign-aid/corruption-biting-hand-feeds-food-aid-industry-facing-tough-questions> (Accessed September 22, 2010).

²⁵ Gettleman, Jeffrey and MacFarquhar, Neil. “Somalia Food Aid Bypasses Needy, U.N. Study Says.” The New York Times. March 09, 2010. http://www.nytimes.com/2010/03/10/world/africa/10somalia.html?_r=2&ref=africa (Accessed September 20, 2010).

²⁶ Bailey, Sarah. "Need and greed: corruption HPG Humanitarian Policy Group." 2008, <http://www.odi.org.uk/resources/download/2385.pdf>. (Accessed December 19, 2010).

members are either unaware or unwilling to report these transgressions, as it may “reduce job security or create grudges.”²⁷

In some countries, innovative ways have been developed to tackle corruption. Drama clubs can inform aid beneficiaries about corruption and empower beneficiaries to take action against corruption; media outlets, independent agencies and civil society can act as watch dogs and offer anonymous hotlines to report corruption.²⁸ In addition, the UN Convention against Corruption, the only global initiative of broad scope, provides a framework for putting an end to cross-border corruption.

Recommendations

- While food aid can be beneficial and necessary, conditional cash transfers and project aid is the best mechanism for food aid to ensure long-term benefits.
- Access to nutritious food at affordable cost or as part of donations should be enhanced. Investing in locally manufactured and nutrient-rich food is more beneficial than relying on imported commodities.
- School feeding and mother-and-child nutrition programs are also good delivery mechanisms of food aid that ensure food security and nutrition.
- Food for work programs should be timed wisely to not deter families from other productive activities such as local farming, and to minimize withdrawal of children from school during times of stress.²⁹
- Finding innovative ways to tackle and prevent corruption are essential. A “stricter implementation of the UN Convention against Corruption” is also necessary.³⁰ Further, since corruption can exist among aid workers who exchange food and cash for favors, a strict ‘Code of Conduct’ against corruption should be established, implemented and widely disseminated within this community.

²⁷ Bailey, Sarah. "Need and Greed: Corruption HPG Humanitarian Policy Group." 2008. <http://www.odi.org.uk/resources/download/2385.pdf>. (Accessed December 19, 2010).

²⁸ Ibid.

²⁹ Holden, Barrett & Hagos, op. cit.

³⁰ “Corruption Perceptions Index 2010 Results.” Transparency International. http://www.transparency.org/policy_research/surveys_indices/cpi/2010/results (Accessed December 02, 2010).

b. Investment in Agriculture

Statement of topic

While food aid in the form of in-kind food aid or vouchers is essential at certain times, investments in agricultural initiatives that will help communities become self-reliant and food-secure can be far more productive and important to alleviate hunger in the long run and to eliminate dependence on foreign food assistance. This can be done in the form of investments in agricultural development in regards to technology and innovations to spur agricultural growth and markets at the domestic level.

Overview

Strengthening the agricultural and rural sector is vital to reducing poverty and hunger in developing countries, as 75% of the poor in developing countries live in rural areas. Hence investment in this sector can be far more effective than any other. Several developing countries, including India, China, Ghana and countries in Latin America have experienced substantial declines in rural poverty as a result of “higher net investments in agriculture per agricultural worker.” Consequently, these countries have also witnessed higher agricultural growth.³¹

In spite of the demonstrated evidence that it reduces poverty and increases agricultural growth, the share of ODA for investments in agricultural development had dropped significantly “falling from a peak of 17% in 1979, during the height of the Green Revolution, to a low of 3.5% of total ODA investments in 2004. It also declined in absolute terms: from \$8 billion in 1984 to \$3.5 billion in 2005”.³² However, since then ODA investment in agriculture has been increasing. For example in Sub-Saharan Africa, G7 ODA for agriculture grew from \$935 million in 2004 to \$1.7 billion in 2007. Despite this growth, in real terms, ODA for agriculture is far less than it was in 1980 in Africa. Additionally, in absolute terms, investments in agriculture are still less than the amount dedicated to food aid. In Sub-Saharan Africa the G7 continued to increase ODA for food aid from \$1.9 billion in 2004 to \$2.4 billion in 2007.³³ ODA for agriculture in Asia has seen a disproportionate decline from both multilateral and bilateral organizations compared to Africa: South and Central Asia experienced an 83% decline compared to a 50% decline in sub-Saharan Africa between 1980 and 2002.³⁴

³¹ "Increased Agricultural Investment is Critical to Fighting Hunger." FAO Investment Centre. N.d. <http://www.fao.org/tc/tci/whyinvestinagricultureandru/en/> (Accessed November 18, 2010).

³² Ibid.

³³ "Investing in People: Agriculture" One International. www.one.org/international/datareport2009/pdfs/Agriculture.pdf (Accessed October 30, 2010).

³⁴ Morrison, Jamie, Bezemer, Dirk and Arnold, Catherine. "Official Development Assistance to Agriculture." Agriculture and Natural Resources Team of the UK Department for International Development (DFID). November, 2004. <http://dfid-agriculture-consultation.nri.org/summaries/wp9.pdf> (Accessed November 30, 2010).

There are several reasons why ODA for investment in agriculture has fallen short:

- With smaller budget allocations for domestic agriculture in donor countries in recent years, local farmers objected to agricultural support of foreign producers as their own production and capacities were negatively affected.
- Several foreign investment for agriculture projects in developing and least developing countries encountered obstacles because recipient countries lacked basic capacities such as infrastructure (i.e. roads, warehouses for storage and access to market facilities) such that it became hard for them to implement the projects.
- In some instances weak governance, rampant corruption and mismanagement of funds detracted from the positive effect of investing in agriculture.
- Donor and recipient countries faced a backlash from environmental groups who felt that certain methods of agricultural development contributed to “pollution and destruction of natural resources”.³⁵
- A shifting emphasis in development assistance towards the health and education sectors.

There is also inadequate domestic investment in agriculture within developing countries to meet needs for agricultural growth and rural poverty reduction. Several developing countries entered structural adjustment programs in the 1980s and 1990s as a result of pressure from the Bretton Woods Institutions. This led to “public spending cuts and breakdown in public sector services for agriculture. In 2004, agriculture-based economies still applied only 4% of their public spending to the sector, far less than the 10% Asia spent during its growth spurt of the 1980s.”³⁶

Issues of climate change, weather related shocks, water scarcity and increased price volatility in global markets have also added to stresses in food security. For instance, poor water management in Burundi has weakened the agricultural sector as inadequate water led to low crop yields, thus exacerbating food security and hunger.³⁷

Women have often been ignored in formulating the policy agenda for addressing food security. Women are integral sources and contributors of incomes for their households in many parts of the world, especially in the rural and agricultural sectors of developing countries. They especially “contribute to commercial agriculture, which includes high-value products such as vegetables and cut flowers for local and export markets. In some

³⁵ “Increased Agricultural Investment is Critical to Fighting Hunger.” FAO Investment Centre N.d. <http://www.fao.org/tc/tci/whyinvestinagricultureandru/en/> (Accessed November 18, 2010).

³⁶ Ibid.

³⁷ Beintema, Nienke and Howard, Elliot. "Setting Meaningful Investment Targets in Agricultural Research and Development: challenges, opportunities and fiscal realities." 2009. Expert Meeting on How to feed the World in 2050 Food and Agriculture Organization of the United Nations Economic and Social Development Department: 24-26. <ftp://ftp.fao.org/docrep/fao/012/ak978e/ak978e00.pdf> (Accessed September 25, 2010).

societies, women also sell agricultural goods. However, few are paid for their labor or have the right to make household decisions. This limits their access to land ownership, farm equipment and credit – all of which are needed to be economically successful. These barriers ultimately inhibit women’s ability to produce, and can make it difficult for them to escape poverty or provide food for their families. Investment in agricultural programs that can particularly improve women and their household’s livelihood is essential.”³⁸

Policy Discussion

Inadequate investment in agriculture can have a detrimental effect on food security as it can contribute to escalated food prices and global hunger. To meet the growing and future demand for food to feed an estimated 9.1 billion people by 2050, the FAO estimates that agricultural investments must be at least 50% higher than current levels of net investment, which is currently \$83 billion per year. Investment in agriculture and rural development is needed to increase access, availability and utilization of food as well as to improve the overall well-being of the poor.³⁹

Recent years have witnessed improvements in ODA to agriculture, especially in African countries that are aiming to invest in their own resources. “A recent independent evaluation for the World Bank shows that, of those projects approved from 1999 to 2006 and performing at satisfactory levels, more are in agriculture than in any other sector.”⁴⁰ In terms of reducing hunger, several instances have been documented of successful investments and improvements in the agricultural sector in developing countries, especially in Africa. Ghana has managed to improve its health index rating sufficiently to become the leading country in Africa in its progress towards meeting the MDGs. The country has increased investments in “agriculture, school feeding programs and information systems and capacity...as well as successfully focused on subsidizing small-scale farmers”⁴¹ and including women farmers in agricultural development programs. The Farmers Organization Network in Ghana (FONG) paid particular attention to women farmers, who comprise 80% of Ghana’s female population, in its annual tree planting campaign events and other initiatives, in an effort to echo the important role that women farmers play in natural resources conservation and food security.⁴² This reflects a realization that including women in the policy and programmatic agenda of agriculture helps improve the food security situation on the whole. Other African countries such as

³⁸ International Center for Research on Women, "Agriculture & Food Security the Issue: Women, Agriculture and Food Security." 2010. <http://www.icrw.org/what-we-do/agriculture-food-security> (Accessed October 30, 2010).

³⁹ "Increased Agricultural Investment is Critical to Fighting Hunger." FAO Investment Centre. <http://www.fao.org/tc/tci/whyinvestinagricultureandru/en/> (Accessed November 18, 2010).

⁴⁰ Ibid.

⁴¹ Stein, Chris. "Without Investment in Agriculture, Africans Stay Hungry." IPSNews.net. October 24, 2010. <http://ipsnews.net/news.asp?idnews=53267> (Accessed November 15, 2010).

⁴² "Farmer Workshops in Ghana to Fight Forest & Land Degradation." Farming First. July 26, 2010. <http://www.farmingfirst.org/2010/07/farmer-workshops-in-ghana-to-fight-forest-land-degradation/> (Accessed October 20, 2010).

Ethiopia, Angola and Mozambique have also made significant strides in reducing hunger, although food insecurity continues to remain alarmingly high in all of these countries.⁴³

In 2009 at the L'Aquila Food Security Initiative, the G8 committed to spending about \$20 billion in aid for food and agriculture for developing countries in the following three years, with the aim of meeting one of the MDG goals of halving hunger by 2015. The initiative focused on five main principles: "1) Investment in country-led plans; 2) A comprehensive approach that includes support for humanitarian assistance, sustainable agriculture development and nutrition; 3) Strategic coordination of assistance; 4) A strong role for multilateral institutions, and 5) Sustained commitment of financial resources."⁴⁴ Additionally, the 2008 Hokkaido G8 Leaders' Statement on Global Food Security committed to "...look for opportunities to help build up local agriculture by promoting local purchase of food aid"⁴⁵

Comprehensive Africa Agriculture Development Program (CAADP):

CAADP, a program under the umbrella of the New Partnership for African Development (NEPAD) and the African Union (AU) "focuses on improving food security, nutrition, and increasing incomes in Africa's largely farming based economies."⁴⁶ In 2003, several African Union countries committed to increase allocated national budget spending towards agriculture by a minimum of 10% and increase agricultural productivity by at least 6% on an annual basis by 2015. With this in mind, CAADP aims to ultimately implement programs that eliminate hunger and poverty through agriculture. Such programs are primarily focused on 4 key pillars: 1) Sustainable Land and Water Management 2) Market Access, 3) Food Supply and Hunger, and 4) Agricultural Research. Thus far, several countries have achieved the CAADP agricultural sector growth target of 6%, with 10 countries (Angola, Eritrea, Ethiopia, Burkina Faso, Republic of the Congo, Gambia, Guinea-Bissau, Nigeria, Senegal, and Tanzania) already exceeding the target. The fact that such a commitment has been made to increase investments in agriculture at domestic levels and experiencing significant success highlights the importance of self-reliance and building tools to increase yields, production, small-farm holders' access to global markets and successful transfer of knowledge and technology that leads to economic growth, essential collaboration between countries and reduction in poverty and hunger.⁴⁷

The action sought by the G8 to invest further in agricultural development is an important step in addressing food insecurity, especially since only 4% of ODA goes directly for agriculture. The US in particular is seeking to increase its investments in agriculture by providing at least \$3.5 billion per year over the next three years and to collaborate with

⁴³ Stein, October 24, 2010, op. cit.

⁴⁴ "Global Food Security Crisis." UN-FoodSecurity.org. 2009 <http://www.un-foodsecurity.org/background> (Accessed October 23, 2010).

⁴⁵ Ibid.

⁴⁶ "Supporting African Ministers of Public Administration Programmes." NEPAD Planning and Coordinating Agency: Economic and Corporate Governance. <http://www.nepad.org/economicandcorporategovernance/supporting-african-minister%E2%80%99s-public-administration-programmes> (Accessed October 23, 2010).

⁴⁷ Ibid.

other G8 members to join the Global Partnership for Agriculture and Food Security. The Global Partnership intends to increase effectiveness and efficiency in aid for agricultural development; invest in credible and viable country-owned plans such as the Comprehensive Africa Agriculture Development Program (see box); and invest comprehensively in key areas of agriculture that increase productivity, technology, equal job opportunities, maintenance of natural resources, knowledge, training and innovation as well as trade flows that support good governance, accountability, transparency and policy reform.⁴⁸

NGOs have shown skepticism towards the G8's commitment of additional funding for agricultural development. According to the advocacy group One, only one-third of the aid promised by the G8 was actually delivered, with Italy falling particularly far behind on its commitments. Nonetheless, the shift to focus on assisting small farmers to improve production by providing the tools necessary to increase yields is a step forward, especially for the United States which currently "supplies 25 times more food aid (shipments of grain by US farmers) than it supplies in cash to help farmers grow more food."⁴⁹ The G8 put a significant emphasis on committing investments towards Africa in 2009 at the end of the L'Aquila Summit in Italy, where six African countries (Nigeria, Angola, Algeria, Senegal, Ethiopia, and Libya) participated. The G8 also aimed to partner with the emerging market countries of Brazil, India, China, Mexico and South Africa to find innovative and effective mechanisms of investment in agricultural development to spur growth and reduce poverty and hunger.⁵⁰

The G8 and G20 have committed to guide efforts towards investing in the new World Bank trust fund known as the Global Agriculture and Food Security Program (GAFSP) early this year to "finance medium-to-long term elements of agricultural development in low-income countries with the aim of:

- Raising agricultural productivity (better water management by investment in irrigation infrastructure, improvement of land use and tenure, improvement of machinery services by facilitation of machinery leasing markets)
- Linking farmers to markets (upgrade management of rural infrastructure such as roads that connect farmers to markets, improvement of collection and dissemination of market information via information and communication technologies and information systems, improve regional integration of agriculture markets and expand post-harvest infrastructure)
- Technical assistance and capacity development (expansion of networks of agricultural input distributors, bolstering investments in seed distribution)

⁴⁸ Food Security: Investing in Agricultural Development to Reduce Hunger and Poverty. The White House. July 10, 2009. <http://www.whitehouse.gov/the-press-office/food-security-investing-agricultural-development-reduce-hunger-and-poverty> (Accessed November 20, 2010).

⁴⁹ Schifferes, Steve. "Has the G8 Done Enough for the Poor?" BBC.CO.UK. July 10, 2009. <http://news.bbc.co.uk/2/hi/business/8144205.stm> (Accessed October 10, 2010).

⁵⁰ Ibid.

enterprises, modernizing land administration and strengthen producer organizations)”⁵¹

“Donors who have made commitments to the fund include the United States (\$475 million), Canada (\$230 million), Spain (\$95 million), South Korea (\$50 million) and the Gates Foundation (\$30 million).”⁵² Headed by a Steering Committee and Technical Committee to oversee investment allocation and usage, this fund acts as an important financing method that will bring about increased transparency and efficiency. It ensures that funds are allocated for agriculture for the long haul and that public-private partnership investments “provide equity and debt financing for poorly financed small- and medium-sized agribusinesses that are most likely to work with smallholder farmers and bring them into local and global value chains. It ascertains reduced transaction costs of dealing with multiple donors as resources are pooled for greater effectiveness and transparency.”⁵³ It also takes into consideration the capacity and commitment of recipient countries’ to effectively sustain results and ensure quality of financed projects in a financial, technical and institutional capacity. It also promotes multiple stakeholder participation including civil society organizations, private sector, local and provincial governments as well as other relevant development partners. Finally, it takes into account cross-cutting themes such as gender, climate change and other “social and environmental impact assessments.”⁵⁴

South-South collaborations have also shown to be effective in technology, knowledge and institutional capacity transfer to boost agricultural growth, rural development and food security. For instance, Asia has made significant progress in collaborating with Africa to address issues of “agro-processing, agricultural research and technology transfer, establishment of rural knowledge centers and setting up of micro-credit and financing systems.”⁵⁵ Such initiatives will allow producers in African countries to gain from the experiences of growing Asian markets such as India and China as they boost the development of the private sector. They also boost trade. Vietnam’s investments in agricultural trade initiatives in Mozambique, for instance, have grown tremendously since the early 1990s, with two-way trade rising from \$15 million to around \$1 billion today. This has contributed greatly to the framework of South-South cooperation through innovation and transfer of knowledge and resources in science, agriculture, technology, healthcare, education and environmental protection.⁵⁶ Additionally, on a recent trip to India, President Obama pledged to partner with India to address food security in Africa by increasing investments in technology and innovation by “linking US, Indian and

⁵¹“Treasury on Global Agriculture, Food Security Program.” US Treasury Department. April 22, 2010. <http://www.america.gov/st/texttrans-english/2010/April/20100422174942eaifas0.422146.html&distid=ucs> (Accessed September 30, 2010).

⁵²Ibid.

⁵³Ibid.

⁵⁴Ibid.

⁵⁵“Building South-South Linkages: The Comprehensive Africa Agriculture Development Programme (CAADP) and Asia.” Partnerships in Support of CAADP. http://www.nepad-caadp.net/pdf/CAADP_brochure2_no_marks%20%282%29.pdf (Accessed October 30, 2010).

⁵⁶Ibid.

African universities to spread knowledge and boost innovation, while deploying technology to improve drought-resistant farming.”⁵⁷

Recommendations:

- Advocacy to increase foreign and domestic investments are vital in:
 - Rural infrastructure growth(such as roads, warehouse, rural electrification),
 - Technology(such as farm equipment, high quality seeds, fertilizers),
 - Developing natural resources(especially of scarce land and water sources),
 - Research and development(that involves transfer of knowledge and technology through North-South and South-South collaborations),
 - Investing in local agri-entrepreneurs and scientists to develop their agri-development innovations
 - Increasing access to export markets

- Increased transparency on how investments through various initiatives are being realized is an essential component for monitoring and evaluating what programs are effective and replicable. Donor and recipient countries and programs must be held accountable for proper management of funds and resources to minimize corruption and mismanagement. To address this:
 - Steering committees headed by trusted leaders and evaluators, like the one established by the GASFP are important to ensure appropriate usage of investments. Civil society participation and public-private sector partnerships are also beneficial to act as watch dogs.
 - Donors can set benchmarks to incentivize recipients to realize their agricultural goals and resist mismanagement of funds or corruption. Programs such as Cash on Delivery can be a method to set benchmarks, where further investments are made upon meeting goals that have been predetermined by the donor and recipient. This has been done in the education sector in terms of foreign aid, but this could also be used in the agriculture sector.

⁵⁷“US, India to Help African Food Security – Obama.” International Business Times. November 8, 2010. <http://www.ibtimes.com/articles/79950/20101109/president-barack-obama-indian-partnership-promote-food-security-in-africa-china-protectionism.html>. (Accessed November 15, 2010).

2. Impacts of Agricultural Practices on Global Food Security and Development

a. Genetically Modified Organisms (GMOs)

Statement of Topic

A Genetically Modified Organism (GMO) is any organism in which the genetic makeup has been altered using genetic engineering techniques to change the organism's natural DNA. While a discussion of GMOs can include meat production, for the purposes of this paper the discussion of GMOs will focus on seeds and agricultural foods. The question from the perspective of this paper pertains to the importation of GMOs into developing country agriculture, whether through crops, seeds or the technology to produce GMOs locally.

Overview

There is a great deal of debate surrounding the use of GMOs. As the access and availability of food becomes a growing concern and factors such as climate change, poor farming conditions and a growing population exacerbates the food security situation, supporters of GMOs identify them as a necessary addition to existing farming practices: that without the help of biotechnology for GMOs there is no realistic hope of producing enough food to reduce the overall number of hungry people.⁵⁸

Supporters argue that GMOs are the answer to feeding the hungry by increasing crop yields higher than traditional farming methods. To battle climate challenges, GMOs can be created to be pest-resistant, herbicide-tolerant, disease-resistant, cold-resistant, drought-tolerant/ salinity-tolerant, more nutritious, and to increase yield outputs.⁵⁹ On the other hand, those who oppose the use of GMOs are concerned about environmental hazards, human health risks, and economic effects. They have identified human health risks that can include anything from allergens being transferred in the genetic altering process, to organ failure as seen in Dr. Arpad Pusztai's work feeding genetically engineered potatoes to rats. Initially Dr. Pusztai was a supporter of GMOs, but after witnessing the rats having "smaller livers, hearts, and brains—and weakened immune systems" after consumption of genetically modified foods, his stance towards GMOs changed. "Feeding transgenic potatoes to rats induced major and in most instances highly significant changes in the weights of some or most of their vital organs... Particularly worrying was the partial liver atrophy. ... Immune organs, such as the spleen and thymus were also frequently affected." The rats' growth was impaired and

⁵⁸ Henk-Jan Brinkman, Chief, Policy, Planning and Application Branch, Peacebuilding Support Office, United Nations, Interview, October 22, 2010.

⁵⁹ Whitman, Deborah B. "Genetically Modified Foods: Harmful or Helpful?" CSA Discovery Guides. April 2010. <http://www.csa.com/discoveryguides/discoveryguides-main.php> (Accessed October 20, 2010).

they developed brain shrinkages after only ten days of eating potatoes that were genetically modified.⁶⁰

Arguments in Favor of GMOs	Arguments Against GMOs
<ul style="list-style-type: none"> • Better resistance to stress: (such as weather stresses, i.e. drought, flood, extreme heat, etc.) • More nutritious staple foods: (ability to increase food value by inserting genes such as additional vitamin A (bio-fortification)) • More food from less land • GMOs might reduce the environmental impact of food production and industrial processes: Genetically engineered resistance to pests and diseases could greatly reduce the chemicals needed for crop protection • Rehabilitation of damaged or less-fertile land: Large areas of cropland in the developing world have become saline as a result of unsustainable irrigation practices. Genetic modification could produce salt-tolerant varieties. • Bioremediation: Rehabilitation of damaged land may also become possible through organisms bred to restore nutrients and soil structure. • Longer shelf lives: The genetic modification of fruits and vegetables can make them less likely to spoil in storage or on the way to market. This could expand trade opportunities as well as reduce massive wastage incurred in transport and storage. • Biofuels: Organic matter could be bred to provide energy. <p>*source: FAO Newsroom^{61 62}</p>	<ul style="list-style-type: none"> • Genes can end up in unexpected places: There is scientific consensus that once widely released, recalling transgenes or foreign DNA sequences will not be feasible. • Genes can mutate with harmful effect: It is not yet known whether artificial insertion of genes could destabilize an organism, encouraging mutations, or whether the inserted gene itself will remain stable over generations • Interaction with wild and native populations: GMOs could compete or breed with wild species. • Impact on birds, insects and soil biota: Nobody quite knows the impact of horizontal flow of GM pollen to bees' gut or of novel gene sequences in plants to fungi and soil and rumen bacteria. • Transfer of allergenic genes: These could be accidentally transferred to other species, causing dangerous reactions in people with allergies • Mixing of GM products in the food chain: Unauthorized GM products have appeared in the food chain. For example, the GM maize variety Starlink, intended only for animal feed, was accidentally used in products for human consumption. • Loss of farmers' access to plant material: Biotechnology research is carried out predominantly by the private sector and there are concerns about monopolistic practices in the agricultural sector by a few powerful companies.

⁶⁰ Robbins, John. "The Food Revolution: How Your Diet Can Help Save Your Life and Our World." Conari Press. San Francisco, CA. 2001.

⁶¹ "Weighing the GMO Arguments: FOR." March 2003. <http://www.fao.org/english/newsroom/focus/2003/gmo7.htm> (Accessed October 30, 2010).

⁶² "Weighing the GMO Arguments: AGAINST." March 2003. <http://www.fao.org/english/newsroom/focus/2003/gmo8.htm> (Accessed October 30, 2010).

Policy Discussion

Genetic alteration is not an exact science. While it may yield results more precisely than traditional cross-breeding, there are outcomes that scientists did not predict. For example, starting in the 1990s, Monsanto created its brand of Roundup Ready crops which were meant to remain unharmed when farmers spray them with the Roundup brand pesticide to kill weeds. Currently 90% of soybean crops produced in the US are made using Roundup Ready technology. Initially Roundup Ready was developed to allow farmers to apply weed killers without harming their crops. However, nature adapted to Roundup and weeds have evolved to survive exposure to it. Roundup-resistant weeds are forcing farmers to revert to more expensive techniques⁶³ such as using more chemicals. This need for increased use of chemicals and herbicides “contradicts the claims made by the biotechnology industry that their crops are better for the environment.”⁶⁴

Genetic engineering is intended to be exact, but actual results are unpredictable. When scientists take DNA from one organism and insert it into another, genetic parasites such as viruses may jump with it. “With genetic engineering, we are transgressing the gene-transfer barriers that normally exist. In the eyes of many scientists, this is deeply troubling, because in the past few years, there have been an increasing number of reports of new pathogens arising from the kind of horizontal (across species barriers) gene transfer that is the basis for genetic engineering.”⁶⁵

Six companies have control of 100% of the genetically modified seeds market, out of which Monsanto has an 88% share.⁶⁶ At the October 2010 General Assembly meeting regarding Agricultural Development and Food Security, governments raised the question of whether agricultural development “should continue to be run by large corporations, which, based on the profitability criteria, stimulate food speculation, changing the use of land and instead of producing food they produce biofuels, encourage transgenic crops, destroy traditional seeds and rich soil, multiply poverty and hunger...”⁶⁷

Genetic engineering companies could use their technology to benefit society by developing seeds which:

- Have the ability to grow on substandard or marginal soils;
- Have the ability to produce plants that provide more high-quality protein with increased per-acre yield, without the need for expensive machinery, chemicals, fertilizers, or water;

⁶³ Nameth, Alexa. “Super Weeds’ Concern for Farmers.” *Food Safety News*. May 10, 2010. <http://www.foodsafetynews.com/2010/05/super-weeds-concern-for-farmers/> (Accessed October 22, 2010).

⁶⁴ *Ibid.*

⁶⁵ Robbins, “The Food Revolution,” *op. cit.*

⁶⁶ Statement by the Permanent Mission of the Bolivarian Republic of Venezuela to the United Nations, 65th Session of the UN General Assembly, Item 26: Agricultural Development and Food Security, NY, Oct 28, 2010.

⁶⁷ *Ibid.*

- Are inexpensive and widely available without restrictive licensing (such as gene patent technology).

Some companies have developed GMO seeds designed to make farmers dependent on the company for additional products to make the seeds grow. For example, Novartis produced a seed which in order to turn on the gene to fight viruses and bacteria, required the chemical application of other Novartis products.⁶⁸ These products attempt to control companies' investment and prevent farmers from producing identical seeds from other suppliers. This version of gene-patent technology is a variant of protecting the Intellectual Property Rights (IPRs) of the companies. The World Health Organization has identified & reviewed this conflict between Intellectual Property Rights and "has considered potential problems of monopolization and doubts about new patent regulations".⁶⁹

Similar to the Novartis case, one way that companies combat possible patent infringement is to introduce a "suicide gene"⁷⁰ into GM plants. These plants are viable for only one growing season and produce sterile seeds that do not germinate. Farmers would need to buy a fresh supply of seeds each year. While this provides a solution for farmers who were accused of patent infringement, as in cases where they involuntarily grew Monsanto-engineered crops when their crops were cross-pollinated with a neighboring farm that used GM seeds,⁷¹ this practice if continued would be "financially disastrous for farmers in third world countries who cannot afford to buy seeds each year and traditionally set aside a portion of their harvest to plant in the next growing season."⁷²

"Currently 80 % of crops in developing countries are grown using farm-saved seed. Being unable to save seeds from sterile crops could mean the difference between surviving and going under."⁷³ Developing countries fear the use of GMO seeds not only because of the dependency issue genetically built into certain variations of seeds, but also because the hazards of genetically modified foods are largely unknown. At the end of September 2010, China rejected US corn for the first time, as they learned that it contained an unapproved genetically modified variety. The action could strain US-China trade relations. "China only allows 11 varieties of GM corn to be imported to the country, and the cargo was found with GM material outside the 11 varieties." According to Reuters, the shipment was somewhere between 50,000 and 60,000 tons."⁷⁴

⁶⁸ Robbins, "The Food Revolution," op. cit.

⁶⁹ "20 Questions on Genetically Modified Foods." World Health Organization. (2010), <http://www.who.int/foodsafety/publications/biotech/20questions/en/>. (Accessed September 29, 2010).

⁷⁰ Suicide Genes (also known as gene patent technology or terminator seed technology) are a variant of the "Technology Protection System" which was developed with funding by Monsanto to genetically alter the seed so that its offspring would be sterile. This is costly to not only large farmers who then become dependent on buying a fresh stock of seeds each year, but detrimental to the local farmer in the developing country who cannot afford such annual purchase.

⁷¹ Whitman, "Genetically Modified Foods: Harmful or Helpful?," op. cit.

⁷² Ibid.

⁷³ Robbins, "The Food Revolution," op. cit.

⁷⁴ Bottemiller, Helena. "China Rejects Shipment of GMO Corn." November 02, 2010. <http://www.foodsafetynews.com/2010/11/china-rejects-shipment-of-gmo-corn/> (Accessed November 11, 2010).

As developing countries lack the funding to conduct research on their own regarding safety standards of available GM products, the need for information sharing across country borders is paramount. The Peasant Movement of Papay, a group of Haitian farmers, decided to burn 475 tons of hybrid corn and vegetable (including tomato) seeds donated by Monsanto. Haiti does allow for the use of GMOs within the country, but after being reviewed by the Ministry of Agriculture, Monsanto's offer to donate Roundup Ready seeds was refused. The product that was donated had been treated with a fungicide, Maxim XO, and the tomato seeds had been treated with thiram. Thiram is so severely toxic that the US Environmental Protection Agency has mandated that anyone handling plants with thiram need to wear protective gear. The product is banned from household use⁷⁵ and is on the Department of Economic and Social Affairs of the United Nations Secretariat (DESA) list of "Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments"⁷⁶. The Haitian Ministry of Agriculture may not have been aware of the dangers of the chemical without this sharing of information.

Proponents of GMO technology include the Asia Society and International Rice Research Institute (IRRI). Their Task Force Report noted that in the 1990s Monsanto and Syngenta were investing substantial amounts of money into mapping the rice genome. Since then the firms' interest in rice has decreased, but new rice varieties have been developed with "increased tolerance of abiotic stresses (such as drought, flooding, and salinity), resistance to insects and diseases, and improved micronutrient content through new precision breeding approaches."⁷⁷ IRRI has, in addition to written support, a time-lapse video⁷⁸ showing the increased survival of a rice field with tolerance to flooding versus a field of rice without the flood tolerance gene. IRRI has identified the *SUB1* gene which yields rice that is flood-resistant up to seventeen days. "Under submergence, [the rice variety] Swarna-Sub1 provides a yield advantage of about one ton per hectare over Swarna."⁷⁹

A success of GMO technology is an example from HarvestPlus where scientists have been successful in bioengineering maize to produce increased vitamin A. "Vitamin A deficiency blinds up to 500,000 children annually and increases the risk of disease and death, especially in Sub-Saharan Africa. Many people in this region are too poor to afford

⁷⁵ Greenhalgh, Michelle. "Haitian Farmers Reject Monsanto Donation." Food Safety News. June 07, 2010. <http://www.foodsafetynews.com/2010/06/haitian-farmers-burn-monsanto-hybrid-seeds/> (Accessed November 23, 2010).

⁷⁶ "List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments" DESA Department of Economic and Social Affairs of United Nations Secretariat. 2005. <http://www.un.org/esa/coordination/public.htm> (Accessed November 30, 2010).

⁷⁷ "Never an Empty Bowl: Sustaining Food Security in Asia." Asia Society and International Rice Research Institute Task Force Report. September 2010. Print.

⁷⁸ "Time-Lapse Video Shows Flood Tolerance in Rice." International Rice Research Institute. August 22, 2010. <http://www.youtube.com/watch?v=7ygEfvBBY4&feature=youtu.be> (Accessed November 10, 2010).

⁷⁹ "Indian Farmers Adopt Flood-Tolerant Rice At Unprecedented Rates." International Rice Research Institute. Sept 13 2010. <http://irri.org/news-events/media-releases/current-releases/indian-farmers-adopt-flood-tolerant-rice-at-unprecedented-rates> (Accessed November 01, 2010).

expensive vitamin A-rich foods such as orange fruits, dark leafy vegetables, or meat.” In places where these other options are too expensive to consume on a consistent basis, poor people could get a substantial amount of vitamin A through this genetically modified maize.⁸⁰

Unfortunately even the results from GMO success stories are not consistent. "Farmers have adopted agricultural biotechnology because they expect lower production costs, yield gains, and lower pesticide use. To date, there are limited measures of the extent of productivity gains." A 2001 study analyzed the effects of GM crops on yield, net return, and pesticide use, and found that the yield and net return increased mildly, and the use of the amount of herbicides on herbicide-tolerant cotton had no significant change.⁸¹

The Food and Agricultural Organization and countries such as Japan⁸² have donated New Rice for Africa (NERICA) seeds to farmers in need. The producers of NERICA boast that this new seed is “a symbol of hope for food security in Sub-Saharan Africa.”⁸³ Scientists took the better traits of two different kinds of rice (*Oryza sativa*’s low tolerance to local stresses but high yield potential & *Oryza glaberrima*’s resistance to local stresses but low yields) and created a hybrid “miracle rice”⁸⁴ that promised to help small farmers, requiring less water and decreasing the need for chemical fertilizers or pesticides.⁸⁵ The yields from this “revolutionary, rain-fed rice that does not require irrigation, [and] matures in 90 days” are promised to be at least four times higher than other rice varieties.⁸⁶ However, the NGO GRAIN found using outside laboratory testing that the rice did not perform as well as promised⁸⁷. An evaluation by the Science Council of the Consultative Group on International Agricultural Research (CGIAR) in 2008 showed that “farmers were unlikely to use NERICA seeds unless they received them free or very

⁸⁰ "Scientists Find that ‘Orange’ Maize is a Good Source of Vitamin A.” HarvestPlus. September 07, 2010. <http://www.harvestplus.org/content/scientists-find-%E2%80%98orange%E2%80%99-maize-good-source-vitamin> (Accessed September 20, 2010).

⁸¹ Nielsen, Chantal Pohl; Robinson, Sherman and Thierfelder, Karen." Trade in Genetically Modified Food: A Survey of Empirical Studies.” Trade and Macroeconomics Division International Food Policy Research Institute. November, 2002. <http://www.ifpri.org/sites/default/files/publications/tmdp106.pdf> (Accessed November 10, 2010).

⁸² “FAO Helps Displaced Ugandan Farmers with NERICA Rice.” United Nations Radio (interview). February 10, 2009. <http://www.unmultimedia.org/radio/english/detail/82987.html> (Accessed November 28, 2010).

⁸³ "NERICA—A Technology from Africa for Africa.” *warda.org*.” <http://www.warda.org/NERICA%20flyer/technology.htm>. (Accessed November 14, 2010).

⁸⁴ The NGO Grain explains that NERICA is not *technically* considered a GMO product as it does not involve genetic modification at the DNA level, even though biotechnology (embryo rescue) needs to be used to create the hybrid. However, it is an important example of a ‘miracle seed’ which would not have been found in nature, and is producing less than hoped.

⁸⁵ NERICA, “A Technology from Africa for Africa,” op. cit.

⁸⁶ "Food For Progress Success Stories." USDA Foreign Agricultural Sector. .” (2010), http://www.fas.usda.gov/excredits/foodaid/ffp/foodforprogress_success.asp. (Accessed November 10, 2010).

⁸⁷ "Nerica - Another Trap for Small Farmers in Africa.” *Grain*.” 2009. <http://www.grain.org/briefings/?id=215>. (Accessed November 10, 2010).

cheaply.” They also found that the yield improvements and drought and heat tolerance claims performed worse than expected.⁸⁸

Farmers around the world need to know with confidence which GMOs are effective and safe for human consumption and the environment. Developing countries, in particular, lack the capacity to test new seed and plant varieties. But as recipients of aid, which often comes in the form of genetically modified products, they have an urgent need for a universal standard of safety information on these products. Even within the US, “the regulatory process is confused because there are three different government agencies that have jurisdiction over GM foods... The EPA evaluates GM plants for environmental safety, the USDA evaluates whether the plant is safe to grow, and the FDA evaluates whether the plant is safe to eat... Under current guidelines, a genetically-modified ear of corn sold at a produce stand is not regulated by the FDA because it is a whole food, but a box of cornflakes is regulated because it is a food product.”⁸⁹ This is where mandatory labeling of agricultural goods can help. A universal labeling system for products that indicates if the products were grown from genetically modified seeds, and with which chemicals the products were treated, would assist consumers and recipient countries in making accurate and informed decisions. Countries can take the lead from the European Union, where labeling is mandatory for products containing GMOs or produced from modern biotechnology. In 2001 the European Commission (EC) added standards which addressed GMO traceability and strengthened labeling standards. The EC hopes to improve consumer confidence with GM products through these quality-control efforts and expects that by adopting these proposals, an environment more welcoming to GM products in the EU will occur.⁹⁰

The Codex Alimentarius Commission (Codex) is “the joint FAO/WHO body responsible for compiling the standards, codes of practice, guidelines and recommendations that constitute the Codex Alimentarius: the international food code. Codex is developing principles for the human health risk analysis of GM foods.”⁹¹ Nutrition labels accompanying food products are attributed to the Codex Alimentarius, and The World Trade Organization has recognized it as a reference in international trade and trade disputes (implementation by individual governments of the Codex is voluntary). The Codex “does not give any preference to *certain kinds* of foods over others. Such choice belongs to consumers.”⁹² Because there are no internationally agreed labeling mandates regarding GMOs⁹³, it is difficult for consumers (and food-importing countries) to make informed choices. The Codex should be expanded to include labeling of all genetically modified foods, including the chemicals, pesticides and allergens which may have been used or introduced during the genetic alteration process.

⁸⁸ Kerrsen, Tanya. ““Saving Africa’s Seeds: Farmers Fighting for Diversity.” Food First: Institute for Food & Development Policy.” 2010. <http://www.foodfirst.org/en/node/3224>. (Accessed November 30, 2010).

⁸⁹ Whitman, "Genetically Modified Foods: Harmful or Helpful?," op. cit.

⁹⁰ “20 Questions on Genetically Modified Foods.” World Health Organization. (2010), op. cit

⁹¹ Ibid.

⁹² FAO/WHO Food Standards: Codex Alimentarius. http://www.codexalimentarius.net/web/faq_work.jsp (Accessed November 26, 2010).

⁹³ Ibid.

Recommendations

- Push for further sharing of GMO research results with developing nations
- Expand the Codex Alimentarius to mandate labeling for agricultural foods products that were grown from genetically modified seeds. This would assist consumers and trade-receiving countries in making the most accurate and informed decisions about their health
- Advocate against suicide seeds and other similar forms of gene-patent-technologies, as this can bankrupt the small farmer who has traditionally relied on farm-saved seeds. The WHO finds that “such considerations are likely to ... affect the debate on GM foods”⁹⁴

b. Biofuels

Statement of Topic

Biofuels, also referred to as Agrifuels, are fuels created from agricultural crops as alternatives to fossil fuels. These reduce dependence on limited fossil fuels. Biofuels can potentially cause fewer negative environmental/climate effects than fossil fuels.

Overview

Biofuels have been the subject of criticism for their environmental effects. Biofuels made from corn or other food crops have contributed to the rise in world food prices. Ethanol made from corn or sugar cane has been blamed for causing unintended environmental damage.⁹⁵ “Although biofuels account for only about 1.5% of global liquid fuel supply, they accounted for nearly half the increase in consumption of major food crops in 2006 and 2007.”⁹⁶ In order to reach government mandates for biofuel production, developed countries have invested in developing country land, displacing farmers and families (see more in the Foreign Investment in Developing Country Land/Land Grabs section).

Food crops grown to produce biofuel are considered cash crops, as opposed to subsistence crops. This raises the question of whether using land to grow food crops that will be used primarily to turn into fuel is the most appropriate and effective use of land. Increased production of biofuels raises the price of food crops used in biofuel production. The global availability of these crops for consumption decreases and world prices rise. The International Food Policy Research Institute (IFPRI) has found that subsidies for

⁹⁴ “20 Questions on Genetically Modified Foods.” *World Health Organization*. (2010), op. cit.

⁹⁵ “Biofuels.” The New York Times: Times Topics. <http://www.nytimes.com/info/biofuels/>. (Accessed November 11 2010).

⁹⁶ “World Hunger Series: Hunger and Markets.” World Food Programme. 2009. <http://home.wfp.org/stellent/groups/public/documents/communications/wfp200279> (Accessed September 29, 2010).

biofuels that use agricultural production resources hurt the poor the most because they act as an implicit tax on basic food.⁹⁷

Policy Discussion

Currently corn is a popular feedstock for biofuel production. However its use is controversial on several fronts, because its use affects food prices, it requires heavy subsidies to be economically competitive, and it is environmentally inefficient, requiring intensive resource utilization to produce.

Increased demand for biofuels has raised demand for corn, which raises its price. When the price of corn increases, farmers are encouraged to grow more of it and use less land for other crops. Rising corn prices affect a variety of foods and food products made from corn, as well as sectors using it as an input. For example, about 60% of global corn production is currently being consumed as animal feed, so an increase in corn prices raises the price of meat and dairy products.⁹⁸ While more land and resources are being dedicated to corn production, consumers might switch to other cereals, increasing the demand for and prices of these foods as their supply is constrained.

In theory, biofuels have a huge advantage over fossil fuels in their effect on the climate. "The source plants absorb carbon dioxide from the air as they are growing, and consequently, the carbon dioxide that is released when biofuels are burned does not represent a net addition of greenhouse gas to the atmosphere."⁹⁹ However, environmentalists argue that because corn used for ethanol production is heavily subsidized and consumes "nearly as much energy to produce as it provides,"¹⁰⁰ relying on corn and similar crops for biofuels is not efficient. Water use for ethanol production is also a concern. It takes about three gallons of water for each gallon of ethanol produced. "The National Academy of Sciences report estimated that a plant producing 100 million gallons a year uses as much water as a town of 5,000 people."¹⁰¹ According to a National Academy of Sciences report from 2007, corn is still the biggest crop used for biofuel production, yet it is one of the most hurtful to the earth. It requires more fertilizer and pesticides than other potential biofuel feed stocks.¹⁰² Unfortunately, "the process of growing the crops, making fertilizers and pesticides, and processing the plants into fuel consumes a lot of energy. It's so much energy that there is debate about whether ethanol from corn actually provides more energy than is required to grow and process it. Also,

⁹⁷ Braun , Joachim Von. "The World Food Situation: New Driving Forces and Required Actions." The International Food Policy Research. December, 2007. <http://www.ifad.org/events/lectures/ifpri/pr18.pdf> (Accessed November 25, 2010).

⁹⁸ "World Hunger Series: Hunger and Markets." World Food Programme. 2009, op. cit.

⁹⁹ "Biofuels." The New York Times, op. cit.

¹⁰⁰ Beal, Tom. "Scientists Hope to Turn Slimy Algae Into Biofuel." 2010. *The Times Herald* <http://www.timesherald.com/articles/2010/01/28/business/doc4b60f7e76c7be070316975.txt> (Accessed November 25, 2010).

¹⁰¹ "Biofuels." The New York Times, op. cit.

¹⁰² Ibid.

because much of the energy used in production comes from coal and natural gas, biofuels don't replace as much oil as they use".¹⁰³

The FAO finds that "with the important exception of ethanol produced from sugar cane in Brazil... biofuels are not generally competitive with fossil fuels without subsidies, even at current high crude oil prices... Competitiveness is also influenced directly by policies."¹⁰⁴ Current prices of biofuels are not financially competitive with fossil fuels, as one study by Kleffman Research Pacific found. They estimated that in the US it costs 0.13 to 0.18 cents to transport a gallon of biofuel (ethanol) from start to finish: from the refinery all the way to the gas pumps, versus just the 0.03 to 0.05 cents per gallon for traditional fuel.¹⁰⁵ The November 2010 G20 summit in Seoul called to "phase-out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption."¹⁰⁶

Two potential alternatives to corn and other food crops currently used as biofuel feedstock are algae and cellulosic ethanol. These might mitigate some of the harmful effects of using food crops in biofuel production.

- "Algae hold enormous potential as a high-yield source of biocrude, advanced drop-in fuels' (fuels which do not need a change in technology for the machine to run off it) that can be used as livestock feed or to burn as fuel, 'without competing for food supplies or arable land.'¹⁰⁷ An advantage of using algae for biofuel production versus using crops such as corn or soy is that algae can grow in various climates (cold to extremely hot weather) and in wastewater (compared to the massive consumption of fresh water needed to grow other crops), and doubles in size in a short time (a day or less) under the right conditions and treatments (compared to months-long harvesting periods for other crops).¹⁰⁸
- Cellulosic ethanol is produced by using the non-edible parts of corn like the stalk and leaves, and also from certain kinds from grass. It is viewed favorably because "Unlike the ethanol available today, it does not require the edible parts—a

¹⁰³ "Biofuels: The Original Car Fuel." National Geographic Environment Energy.

<http://environment.nationalgeographic.com/environment/global-warming/biofuel-profile/> (Accessed November 12 2010).

¹⁰⁴ "The State of Food and Agriculture: Biofuels: Prospects, Risks and Opportunities". Food and Agricultural Organization of the United Nations. 2008. Rome, Italy.

¹⁰⁵ "The New "Gold Rush": Biofuels Developments in Asia and the Pacific Region: The State Of Food And Agriculture in Asia and the Pacific region 2008." FAO Corporate Document Repository.

<http://www.fao.org/docrep/010/ai411e/AI411E03.htm> (Accessed November 21, 2010).

¹⁰⁶ "The Seoul Summit Document." G20 Seoul Summit 2010. http://www.financialtaskforce.org/wp-content/uploads/2010/11/Seoul_Summit_Document.pdf (Accessed November 30, 2010).

¹⁰⁷ "Algae 2020: Biofuels Markets and Commercialization Outlook." *Emerging Markets Online* <http://www.emerging-markets.com/algae/> (Accessed November 20, 2010).

¹⁰⁸ "More Than Just Pond Scum: Why Algae is the Greener Choice." Ecoseed. 2009.

<http://www.ecoseed.org/en/biofuel/article/9-biofuel/3456-more-than-just-pond-scum--why-algae-is-the-greener-choice> (Accessed October 30, 2010).

requirement that has raised concerns of pitting fuel versus food.”¹⁰⁹ “Corn Stover” is a similar term which refers to producing ethanol from the remainder left in a field of corn after it is harvested.

However, the technology to make these newer fuels is in its infancy and the claims of its advocates have yet to be proven. Currently there is still no large-scale cellulosic ethanol or algae plant operating in the United States because they are not yet producing enough to be cost effective.¹¹⁰ The “USDA projections show corn as the primary feedstock for US ethanol production through 2020”¹¹¹, inferring that success for large-scale cellulosic ethanol endeavors is far away.

In addition to the technology not being ready yet, the Food & Agricultural Organization has found that “biofuel feedstocks also compete with other agricultural crops for productive resources.” The FAO finds that energy prices affect “all agricultural commodities that rely on the same resource base. For the same reason, producing biofuels from non-food crops will not necessarily eliminate competition between food and fuel.”¹¹²

Aside from the environmental and economic effects biofuel production can have globally, it can have particularly significant effects in developing countries.

- In summer 2010, Friends of the Earth (FoE) launched a campaign that accused European Union companies of land-grabbing for biofuel production (see more on foreign investment in land in the next section). The EU companies counter-argued that they had consulted with governments, brought jobs and investment to the areas in question and that part of what is produced in those places is sold in the local market. FoE, working with an NGO lobby, claims that the local community is not consulted properly and that forests are being cleared for such production, which is a loss of natural resources for the sake of this cash crop. “The amount of land being taken in Africa to meet Europe's increasing demand for biofuels is underestimated and out of control.... Especially in Africa, as long as there's massive demand for biofuels from the European market, it will be hard to control. If we implement the biofuels targets it will only get worse. This is just a small taste of what's to come.”¹¹³ While producers claim that they are using land that is

¹⁰⁹ Vanderkam, Laura, “Intel Finalist Tackles the Cellulosic Ethanol Problem.” *Scientific American*. March 9, 2009. <http://www.scientificamerican.com/blog/post.cfm?id=intel-finalist-tackles-the-cellulos-2009-03-09> (Accessed October 20, 2010).

¹¹⁰ Ashley, Steven. “Cellulose Success: Firms Seek Greener Ethanol from Wood Chips and Agricultural Waste” *Scientific American*. March 17, 2008. <http://www.scientificamerican.com/article.cfm?id=cellulose-success> (Accessed October 22, 2010).

¹¹¹ “Biofuels.” The New York Times, op. cit.

¹¹² “The State of Food and Agriculture: Biofuels: Prospects, Risks and Opportunities” .Food and Agricultural Organization of the United Nations:38. 2008. Rome, Italy.

¹¹³ Allen, Katie. “Friends of the Earth Urges End to 'Land Grab' for Biofuels.” The Guardian.” 2010. <http://www.guardian.co.uk/environment/2010/aug/30/biofuels-land-grab-friends-of-the-earth>. (Accessed November 19, 2010).

unsuitable for crops, FoE and others challenge those claims, saying that the land is fertile and could be used for subsistence crops.¹¹⁴

- In Brazil, the livelihoods of small-scale farmers have been affected negatively as their land has been taken over by multinational agricultural companies such as Agrotech to cultivate soy. Huge factories turn the soy into biofuel. Rainforests have been cut to grow more soy crops for biofuel and consequently destroyed biodiversity and climate-stabilizing ecosystems. Agrichemicals used to cultivate biofuel crops have seeped into nearby streams and plants, and have been shown to contribute to negative health impacts on the poor who consume that food and water. Indigenous people particularly suffer as a consequence of losing rights to land.¹¹⁵

Recommendations

- Promote consideration of alternatives to traditional biofuel production, including research into better biofuel feedstock, like algae or cellulosic ethanol, which does not compete with crops that are used for consumption and trade. Investment is needed for these alternatives to become successful on a larger-scale. Follow research of companies such as ExxonMobil who have teamed up with Synthetic Genomics Inc.¹¹⁶ for algae biofuel production. Some companies to watch, among others, are Aquatic Energy, Kai BioEnergy, and OriginOil¹¹⁷.
- Support should also go towards easing dependency on transport fuels. Biofuels as a replacement for fossil fuels is not as cost-effective as improving the technology away from fuel dependency. Rather than simply finding an alternative transport fuel source it will be more beneficial and efficient to prioritize regulation for improving vehicular fuel efficiencies.¹¹⁸

¹¹⁴ Allen, Katie. "Friends of the Earth Urges End to 'Land Grab' for Biofuels." *The Guardian*. 2010. <http://www.guardian.co.uk/environment/2010/aug/30/biofuels-land-grab-friends-of-the-earth>. (Accessed November 19, 2010).

¹¹⁵ "The Monday Documentary : The Price of Bio Fuels: Episode 1." BBC World Service. Broadcast. April 26, 2010. <http://search.bbc.co.uk/search?tab=tvradio&q=the%20price%20of%20biofuels&scope=all> (Accessed November 20, 2010).

¹¹⁶ Cohen, Ken. "The Next Phase of Algae Biofuels." *ExxonMobilPerspectives.com*. July 14, 2010. <http://www.exxonmobilperspectives.com/2010/07/14/the-next-phase-of-algae-biofuels/?gclid=CPey5ZGh2aUCFVB95QodBErSlg> (Accessed September 30, 2010).

¹¹⁷ For more information on these companies, see the following link: <http://www.aquaticenergy.com/markets/fueling-the-planet>, <http://www.kai.bioenergy.com/>, <http://www.originoil.com/>

¹¹⁸ "Another Inconvenient Truth: How Biofuel Policies are Deepening Poverty and Accelerating Climate Change." 2008. <http://www.oxfam.org/en/policy/another-inconvenient-truth> (Accessed November 13, 2010).

c. Land Grabs: Foreign Investment in Developing Country Land

Statement of Topic

Foreign investors buy large parcels of “available” or unused land in developing countries and develop them into large farms. In many cases the products from these large farms are exported overseas.

Overview

The land grab culture “has been spurred by the events surrounding the Food and Financial Crises of 2008. In response to the crises, many developing countries looking to regain their economic footing increased their openness to foreign direct investment (FDI) — particularly in agribusiness and tourism. As part of this trend, fertile land is being offered to investors, often at giveaway prices, and especially in Africa. These and other factors have ignited a global rush for the world’s farmland by investors in what has become known as the global “land grab” phenomenon.”¹¹⁹

There are two schools of thought regarding this type of investment in land. The ‘win-win’ view by the World Bank and the UN Food and Agriculture Organization believe that poor countries can stand to gain financial investment, jobs, and infrastructure from the deals. The alternative view, supported by the Oakland Institute, GRAIN and Food First among others, is that land grabs are exploitative and rob land access and resources from local peoples.¹²⁰

According to the 2010 Right to Food and Nutrition Watch report, while land grabs have existed for hundreds of years, they have recently intensified at an alarming rate. Those who are most vulnerable, such as communities who depend primarily on natural resources for survival, have been affected negatively as they get evicted from their land/properties and are deprived of income and access to food. Land grabbers defend such actions by asserting that the land was ‘unclaimed,’ yet in reality local, indigenous and nomadic people may use the land. Local farmers are deprived of their land and their farming areas, and unemployment and hunger increase. Workers suffer from depressed wages as an abundance of low-skilled laborers floods the market. The report emphasizes the growing interest in land investment as “during the last three years alone, between 20 and 50 million hectares had fallen into international investors’ hands, particularly in sub-Saharan Africa.”¹²¹

“Land is life for millions of people across the developing world, central to their livelihoods, culture and identity. There is growing concern that people's connection to their land is being undermined, and especially in Africa, where land is cheapest and

¹¹⁹ Mittal, Anuradha. “(Mis)Investment in Agriculture: The Role of the International Finance Corporation in the Global Land Grab.” The Oakland Institute Apr 26, 2010 <http://www.oaklandinstitute.org/?q=node/view/555> (Accessed November 30, 2010).

¹²⁰ “Innovations in Access to Land: Land Grab or Agricultural Investment?” The Huffington Post. August 5, 2010. http://www.huffingtonpost.com/danielle-nierenberg/innovations-in-access-to_b_671773.html (Accessed September 30, 2010).

¹²¹ “Right to Food and Nutrition Watch 2010 Report.” Bread for the World. October 2010. <http://www.rtfn-watch.org/> (Accessed November 22, 2010).

where people's rights to land are weakest.”¹²² People may not own the land formally, but if "land in Africa hasn't been planted; it's probably for a reason. Maybe it's used to graze livestock or deliberately left fallow to prevent nutrient depletion and erosion. Anybody who has seen these areas identified as unused understands that there is no land in Ethiopia that has no owners and users.”¹²³

Developed countries' mandates on biofuel production have not helped the situation. The European Union has insisted that 10% of all transport fuel must come from biofuels by 2015. This has spurred investment in agricultural land in developing countries by European investors. There have been cases of evictions, civil unrest and complaints of "land grabbing" as a result.¹²⁴

Policy Discussion

Many countries are interested in investing in land: Arab, East Asian, European, American and Indian investors are all leasing more hectares of farmland in Africa. Critics refer to this 'investment in agricultural land' as 'land-grabs' or even call it a 'new colonialism'. Agricultural investments could actually be good news for Africa – creating jobs, bringing in foreign capital and expertise, increasing access to markets and improving infrastructure – but success only occurs if done transparently and with the local jobs in mind.¹²⁵

Governments welcome the foreign capital flowing through their country as “interest is growing from ultra-rich investors and pension funds, which see farmland as a tangible, strategic asset.”¹²⁶ Some argue that interest in agricultural development is growing out of necessity, arguing “[if] we do not pay great care and attention now to increase food production by over 50% before 2050, we will face serious food shortages globally”.¹²⁷

Investment in land has grown in popularity as a result of food shortages and riots, climate change, population growth and water shortages. Devlin Kuyek, a researcher with the NGO GRAIN says that "rich countries are eyeing Africa not just for a healthy return on capital, but also as an insurance policy.”¹²⁸ Indian companies have bought or leased hundreds of thousands of hectares of land in places such as Mozambique, Senegal, Kenya and Ethiopia where they are growing crops like rice, sugar cane and maize to sell in their own domestic markets.¹²⁹ In particular, Africa has gained international interest as its land and labor is cheaper than other areas. Saudi Arabia, Turkey, China and Egypt have made investments in Africa. Locals often become worse off after foreign investors come through. "The foreign companies are arriving in large numbers, depriving people of land

¹²² Cotula, Lorenzo. "Deals can be good news when not made behind closed doors." The Observer March 07, 2010. <http://www.guardian.co.uk/environment/2010/mar/07/africa-land-grab-food-water?intcmp=239> (Accessed November 30, 2010).

¹²³ Vidal, John, "How Food and Water are Driving a 21st-Century African Land Grab." The Observer. March 07, 2010.

¹²⁴ Ibid.

¹²⁵ Cotula, Lorenzo, The Observer March 07, 2010, op. cit.

¹²⁶ MacInnis, Loral, "Bankers, Funds Try to Cope with Demand for Farms." Reuters. November 09, 2010. <http://farmlandgrab.org/17058> (Accessed November 25, 2010).

¹²⁷ Vidal, John, op. cit.

¹²⁸ Ibid.

¹²⁹ Ibid.

they have used for centuries. There is no consultation with the indigenous population. The deals are done secretly. The only thing the local people see is people coming with lots of tractors to invade their lands.¹³⁰

For these deals to work, transparency needs to vastly improve. The World Bank, after being delayed three times in a span of a mere six months, finally published its report, "Rising Global Interest in Farmland. Can It Yield Sustainable and Equitable Benefits?" The NGO GRAIN believes the delay was due to unfavorable findings. In line with transparency, pressure should be exerted to publish findings in a consistent and timely manner, no matter the findings. The report is said to be a most comprehensive analysis of land acquisitions, thanks to the World Bank's access to information unavailable to other organizations.¹³¹ While the report "warns of a lack of transparency and the potential harm to poor people, it ultimately endorses the land grabs in the name of productivity and sound investment".¹³² These land deals are huge and carry with them huge risks. Very poor people who have no legal claim to the land, yet have inherited the land through culture and traditional norms, can lose access to it. Lack of transparency "opens the door to corruption and means the rich and powerful can capture the benefits of land deals without sharing them fairly."¹³³ Locals need to improve their knowledge not only of their rights, but also on how to enforce them. GRAIN has created an open blog for 'global surveillance of the large-scale land acquisition'. It should be credited for having opened discussions and allowing for more transparency in these proceedings.¹³⁴

Failure of a large number of land investments can be attributed to the fact that "institutions tasked to process these ventures were ill-equipped and prepared to deal with the sudden influx of interest. This points towards an urgent need to adjust processes as needed and build the capacity to implement them in practice."¹³⁵ "For deals to deliver real social and economic benefits for local people...it is essential that African governments have the legal and technical expertise to scrutinize investment proposals in detail and negotiate hard to get good contracts."¹³⁶

When locals' needs are factored in during the negotiation process, investment in agriculture is harder to dispute. Careful steps should be taken to ensure that foreign investment will result in jobs or other benefits for local residents affected by land investments. "Legitimate users and occupants of the land should be offered compensation by investors that reflect the value of the land, either through profit shares or through

¹³⁰ Vidal, John, The Observer. March 07, 2010, op. cit.

¹³¹ "Innovations in Access to Land: Land Grab or Agricultural Investment?" The Huffington Post. 2010. Op. cit.

¹³² "World Bank Report Targets Protectionism; UNCTAD Targets Anti-Dumping." International Centre for Trade and Sustainable Development. Bridges Weekly Trade News Digest 4(47). December 12, 2000 <http://ictsd.org/i/news/bridgesweekly/90126/> (Accessed September 30, 2010).

¹³³ Cotula, Lorenzo, op. cit.

¹³⁴ "Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?" The World Bank. September 07, 2010: 91-92. http://siteresources.worldbank.org/INTARD/Resources/ESW_Sept7_final_final.pdf (Accessed October 01, 2010).

¹³⁵ Ibid.

¹³⁶ Cotula, Lorenzo, The Observer March 07, 2010, op. cit.

direct compensation for the transfer of land rights. Compensation may occur in several ways, either through the provision of equivalent land, the setting up of a community fund to provide public services, or monetary transfers (including the payment of a land rent)."¹³⁷

The particular agricultural products to be grown should be considered when evaluating land investments to ensure that all parties, including local families and workers, benefit from the transaction.

- In Ethiopia 500,000 hectares of land are being leased to an Ethiopian-born businessman, Sheikh Mohammed al-Amoudi, one of the 50 richest men in the world. His plans for his company are to develop his Ethiopian land over the next few years and while growing cash crops for the Saudi market; his plans expect to employ more than 10,000 locals.¹³⁸
- "Oil palm and... sugarcane generate between 10 and 30 times more jobs per hectare than large-scale mechanized grain farming, generating large amounts of employment. The reason is that, for tree crops and perennials, the scope to substitute capital for labor is more limited than in grains and annuals."¹³⁹
- Biofuels are also a main cause for land grabs. According to ActionAid estimates, the EU will need to grow crops on land that is well over the size of Italy in order to meet its 10% biofuel target by 2015. "European biofuel companies have acquired or requested about 3.9m hectares in Africa. This has led to displacement of people, lack of consultation and compensation, broken promises about wages and job opportunities."¹⁴⁰
- Some of the land investment deals raise environmental concerns as well, such as access to water. In Mozambique a 30,000-hectare biofuels project sparked controversy and was then cancelled because it infringed on people's access to water. In Ethiopia, local government officers have said that foreign companies that set up large water-intensive farms are not being charged for that water usage. Local governments do not receive profit from land investment deals made with these foreign companies because the central government prohibits charging the companies for their excessive water use. In Awassa (Ethiopia) the al-Amouni farm uses as much water a year as 100,000 Ethiopians.¹⁴¹

¹³⁷ Cotula, Lorenzo, The Observer March 07, 2010, op. cit.

¹³⁸ Vidal, John, The Observer March 07, 2010, op. cit.

¹³⁹ "Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?" The World Bank. September 07, 2010: 91-92.

http://siteresources.worldbank.org/INTARD/Resources/ESW_Sept7_final_final.pdf (Accessed October 01, 2010).

¹⁴⁰ Vidal, John, The Observer March 07, 2010, op. cit.

¹⁴¹ Ibid.

In many countries, the details of the investments are kept confidential. Land ownership in some areas, especially Africa, is not formally recorded and as a result is sometimes not respected by governments and investors. This allows some investors to negotiate deals that are not in the best interests of locals, and may dissuade some more responsible investors from participating. In the Sudan and other parts of Africa land is being sold but not being cultivated, which means that people are losing land rights and access to resources on unused land. Some countries such as Mozambique are trying to reverse previous land investment deals. Mozambique is trying to retrieve some land because it remains idle and unproductive after the investment deal was completed, in contrast to the promises made by investors.

Other countries have proved that by working with smallholder farmers and using “competitive bidding to foster investment deals that benefit locals,” successes from land investment can be realized. In Peru the government auctioned off public land through a transparent process where investors paid a large deposit, had to specify how many jobs would be created and how the investments would be beneficial to local residents. Mexico has helped communities bargain with investors and improve governance and accountability by formally registering community land. In Argentina and Brazil, large producers sometimes pay individual landowners to lease their land, but earn enough to make a profit by improving yields.¹⁴²

Recommendations

- Encourage foreign investment in land, but require a development quid-pro-quo so as to provide more national benefit, e.g., that jobs are open to local workers, and a percentage of agricultural production will be sold on the domestic local market at affordable prices.
- If growing biofuels or other cash crops, mandate that foreign companies employ a minimum number of local workers. This could include minimum quotas of local farmers to engage in contract farming. Contract farming is where “local farmers cultivate land with support from the company, which then purchases produce at guaranteed prices.”¹⁴³ This business plan is seen in Mali, where one biofuels project gives local farmers an ownership stake in the project.¹⁴⁴
- Transparency is essential so that all parties involved can be held accountable for these deals and their impact on developing countries. Civil society groups, media, as well as governments should police the deals so that investors deliver on their agreements. Details of foreign direct investments should be reported to the World

¹⁴² “Protecting Land Rights Is Key To Successful Large-Scale Land Acquisitions.” *The World Bank: Data & Research*. September 7, 2010.

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/0,,contentMDK:22694293~pagePK:64165401~piPK:64165026~theSitePK:469372,00.html?cid=decresearch> (Accessed October 30, 2010).

¹⁴³ Cotula, Lorenzo. "Deals Can be Good News When Not Made Behind Closed Doors." *The Observer* March 07, 2010. <http://www.guardian.co.uk/environment/2010/mar/07/africa-land-grab-food-water?intcmp=239> (Accessed November 30, 2010).

¹⁴⁴ Ibid.

Bank and published on a consistent basis, utilizing their existing websites and tools. Approval of land investment should be reviewed individually, as each situation is unique.

- Governments should adhere to recommendations by the World Bank to a) “identify areas and crops where investment can provide the highest benefits”, b) “take proper measures to scrutinize and publicize projects’ technical viability and establish a competitive and incentive-compatible process with an up-front declaration of projected capital investment and job generation and a proportional deposit”, and c) “Put in place a regulatory framework with appropriate mechanisms for enforcement to ensure that private or short-term benefits from any given investment will not be outweighed by negative externalities in terms of the environment, the way in which resources are distributed, or welfare of future generations.”¹⁴⁵

3. Trade Policy in Agriculture: Protectionism

Statement of topic

Protecting domestic producers from foreign competition is a standard policy in developed and developing countries, going back in the case of the United States to the first years of the republic and Alexander Hamilton’s *Report on Manufactures*. Countries with strong industries usually call for “free trade”, while those trying to nurture new or weak industries protect them. Despite the general “free trade” rhetoric of developed countries, they frequently protect their own agricultural sectors behind heavy trade barriers. These barriers include tariffs on imported goods, subsidization of domestic agricultural industries and establishing restrictive quotas on imports.

Overview

Many developing countries have traditionally protected their agricultural sectors, although to a decreasing degree, as a result of pressure to negotiate ‘free trade agreements with many developed countries and as a condition for obtaining loans from organizations like the World Bank and the International Monetary Fund’¹⁴⁶

The 1995 Round of Multilateral Trade Negotiations conducted under the framework of the General Agreement on Tariffs and Trade (GATT) established the World Trade Organization(WTO) and with it the Agreement on Agriculture. The Agreement aimed to liberalize agricultural trade policy. However, developing countries contended that they

¹⁴⁵ "Rising Global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits?" The World Bank. September 07, 2010: 91-92.
http://siteresources.worldbank.org/INTARD/Resources/ESW_Sept7_final_final.pdf (Accessed October 01, 2010).

¹⁴⁶“The World Food Crisis and Agricultural Protectionism.” Humanitarian Chronicle.” 2008.
<http://www.humanitarianchronicle.com/2008/07/the-world-food-crisis-and-agricultural-protectionism/>. (Accessed November 01, 2010).

should be allowed to liberalize more slowly in order to protect their domestic markets and farmers, “while developed countries were called to make significant reductions in the level of protection they applied to their agricultural sectors.”¹⁴⁷ Least-developed countries were to a large extent exempt from any requirements to liberalize their agricultural sectors. The argument for protecting developing country markets is that they should be allowed to develop domestic capacity and keep cheap food outside their domestic markets.¹⁴⁸

Proponents of food protectionism argue that it is necessary for two main reasons: food sovereignty and rural development. It enables agrarian countries to achieve self-sufficiency, protect their agriculture from cheap imports, avoid serious unemployment problems and achieve economic growth.”¹⁴⁹ High tariffs on imported agricultural products protect local industries. For example, Mexico has always maintained “high tariffs on corn imports in order to protect small family corn farmers against cheap imports from industrialized countries. This is a basic strategy used by governments around the world to help guarantee food security through local food production and promote the local economy over foreign competition. Much of the negotiation in free trade agreements involves reducing tariffs.”¹⁵⁰

Trade liberalization or free trade allows nations to exchange goods, including food and commodities, with the reduction or elimination of tariffs. From an economic standpoint, proponents believe that countries that adopt policies of free trade and foreign direct investments are shown to achieve economic success, in terms of ‘substantial increases in living standards for [their] people.’¹⁵¹

The argument for free trade is, in theory, that countries can specialize in the products in which they have a comparative advantage. Comparative advantage theory is a theory that is supported by opponents of protectionism that basically implies that one country has a comparative advantage over another country in the production of a good such as wheat, *per se*, if it can produce that good at a lower opportunity cost. This means that it has to forego less production of other goods. When two countries that each have a comparative advantage in a specific good engage in trade, the outcome is greater wealth overall as output of both goods is greater. The caveats are that transport costs may outweigh the benefits of comparative advantage. Increased specialization might lead to dis-economics of scale (i.e., you can spend a certain amount of money specializing and you get very little benefit after a certain point – which is basically the law of diminishing returns). Any tax on imports disadvantages exports, both directly as the cost of inputs increases, and indirectly as the reduced incentive for import-competing industries to contain costs

¹⁴⁷ Adrianus, Leo. "The Good, the Bad, and the Hungry: An Analysis of Food Protectionism in Hungry Agrarian Countries" <http://mises.org/journals/scholar/adrianus2.pdf> (Accessed November 10, 2010).

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

¹⁵⁰ James, Deborah. "Food Security, Farming, CAFTA and the WTO." Global Exchange. October 28, 2007. <http://www.globalexchange.org/campaigns/cafta/Agriculture.html> (Accessed October 29, 2010).

¹⁵¹ "Global Trade Liberalization and the Developing Countries." International Monetary Fund. November 2001 <http://www.imf.org/external/np/exr/ib/2001/110801.htm#ii> (Accessed November 02, 2010).

spreads to the economy at large, raising the cost structure even of efficient export industries. Since exporters from small countries are generally unable to pass on any cost increases, they will either lose export sales or become less profitable. Either way jobs will be lost.

Proponents of free trade argue that agricultural protectionism has the potential to multiply financial costs and exacerbate debt problems by “reducing exports and the trade-output ratio of efficient exporters. Consequently, by reducing exports the country’s capability to repay any external debt also diminishes and increases interest rates.”¹⁵² Protectionism, according to this argument, has shown to contribute to unstable GDP growth and increased poverty. As tariff rates increase, growth rates decrease, hence, dismantling protectionism would enhance export performance and GDP growth.¹⁵³ An instance of economic success as a result of free trade policies can be witnessed in East Asia where the ‘average import tariff has fallen from 30% to 10% over the past 20 years’ and economic growth has exploded during that period.¹⁵⁴

Even countries following a free-trade policy have to be concerned about the economic distortions arising from trading partners that do not. In particular, “subsidized agricultural producers are able to ship their products into the non-protected, developing country markets at much cheaper rates than local agricultural producers, thus undercutting locals and destroying their viability in their own markets. This eventually led to the destruction of many agricultural and food supplying industries in developing nations, and the European Union and United States became the major suppliers of basic foods to these developing nations.”¹⁵⁵

Policy Discussion

Several rich countries have leaned towards protecting their markets, and a number of countries implemented export bans on staple crops such as rice and wheat in response to the 2008 global financial crisis.

OECD countries have opted to adopt protectionist agricultural policies, while many developing countries have done the opposite in response to structural adjustment programs. In developing countries, the average agricultural tariff lies around 14% compared to 5.2% in OECD countries. However, in developing countries, the highest rate is 12 times the average of 14%, whereas the highest in OECD countries is about 40 times the average of 5.2%. This has resulted in two pronounced effects after developing

¹⁵² Nogues, Julio. “Agricultural Protectionism: Debt Problems and the Doha Round.” Development Outreach: World Bank. August 2003. <http://129.3.20.41/eps/if/papers/0502/0502005.pdf> (Accessed October 20, 2010).

¹⁵³ Ibid.

¹⁵⁴ “Global Trade Liberalization and the Developing Countries.” International Monetary Fund. November 2001 <http://www.imf.org/external/np/exr/ib/2001/110801.htm#ii> (Accessed November 02, 2010).

¹⁵⁵ “The World Food Crisis and Agricultural Protectionism.” Humanitarian Chronicle.” 2008. <http://www.humanitarianchronicle.com/2008/07/the-world-food-crisis-and-agricultural-protectionism/>. (Accessed November 01, 2010).

countries opened their markets: Reforming developing countries were less able to prevent:

- The flooding of their domestic market (import surges) with products sold on the world market at less than their cost of production.
- The displacement of local trading capacity, which was intended to – and in some circumstances initially did – fill the void left following the deregulation of local markets and associated dismantling of parastatals.¹⁵⁶

In addition to ongoing protectionist policies, some countries have imposed temporary trade bans in agricultural commodities when food shortages have threatened. As the food crisis started to escalate in 2009, countries imposed export and import restrictions on agricultural commodities, causing food prices to spike, worsening market instability and exacerbating hunger and poverty. Supplies became limited as importing countries stashed food. In 2008, as part of its effort to become self-sufficient Russia, one of the largest exporters of wheat and other commodities, implemented an export ban on wheat for 12 months, thus spiking food grain prices to the highest levels since the food crisis began. Consequently, other importing nations scrambled for alternative supply sources. If other big agricultural commodity-producing nations decide to impose their own export bans, it has the potential to worsen market instability and exacerbate hunger and poverty.¹⁵⁷

The WFP and other international organizations have extensively criticized protectionist practices in countries that are particularly affected by rising prices as this could hinder access of food to the worlds' poorest. They instead support those developing countries in Latin America and South Asia that aggressively liberalized their domestic markets through the 1980s and early 1990s, where doing so increased their share of trade volumes.¹⁵⁸

Japan, a strong proponent of agricultural protectionism, has highly organized and politically active farmers' organizations within the Ministry of Agriculture, Forestry and Fisheries (MAFF). For several years, Japan sought to be completely autarkic with a view that agricultural staples should not be treated as "tradable commodities and subject to competition"¹⁵⁹ and that the government should not have to rely on foreign production to supply food to its national population. However, in recent years, its rural sector has

¹⁵⁶ Trade Reforms and Food Security: Conceptualizing the Linkages." FAO. Rome, 2003.

<http://www.fao.org/docrep/005/y4671e/y4671e00.htm> (Accessed October 22, 2010).

¹⁵⁷ "Not a Food Crisis." The New York Times. September 12, 2010.

http://www.nytimes.com/2010/09/13/opinion/13mon3.html?_r=1&ref=protectionism_trade (Accessed October 20, 2010).

¹⁵⁸ "World Bank Report Targets Protectionism; UNCTAD Targets Anti-Dumping." International Centre for Trade and Sustainable Development. Bridges Weekly Trade News Digest 4(47). December 12, 2000.

<http://ictsd.org/i/news/bridgesweekly/90126/> (Accessed September 30, 2010).

¹⁵⁹ "Japan's Food Security." Economist's View. February 27, 2007.

http://economistsview.typepad.com/economistsview/2007/02/japans_food_sec.html (Accessed November 25, 2010).

been unable to sufficiently feed its population. Also, with the average farmer age surpassing the retirement age of 65 years old, the country has shown signs that the goal of autarky might be out of reach, and has begun shifting towards free trade. Japan is now seeking to establish a self-sufficiency rate of 45% by 2015 compared to its current rate of 41% and a self-sufficiency rate of 73% in 1965.¹⁶⁰

In 2008, Japan thus began to enter into a bilateral Economic Partnership Agreement (EPA) with Australia, one of the world's major agricultural producers. If this free trade agreement were to be finalized, Japanese farmers feel that they would be at a competitive disadvantage. The government "would have to spend 430 billion yen annually to offset price differences between Japanese and Australian products."¹⁶¹ The fear is that other foreign agricultural products would penetrate the Japanese market, and with the abolition of tariffs on farm products under the EPA, Japan's aim of being self-sufficient would be undermined. Earlier this year, during the G20 summit in Seoul, South Korea, Prime Minister Kan Naoto of Japan began negotiations of trade agreements with other Pacific-rim partners such as the US, China and Canada, as pressure to adopt more free trade practices mounted. Such trade agreements could however "dismantle the generous protections that have sustained Japanese farms for years—most notably, Japan's 777.7% tariff on imported rice."¹⁶² The MAFF claims that such an endeavor would cost the country dearly: "If Japan were to join the proposed trade zone, 90% of the nation's rice cultivation would disappear, and wheat, sugar, dairy and beef output would also be adversely affected — costing the country about 4 trillion yen, or \$49 billion, in lost production and 3.4 million lost jobs."¹⁶³ In addition to the "high rice tariffs, Japan taxes imported wheat, butter, sugar and beef at 252%, 360%, 328% and 38.5% respectively."¹⁶⁴ The elimination of tariffs and other national border measures will further reduce the self-sufficiency rate to 12%, according to MAFF's calculations. "The National Federation of Farmers Movement (Nominren) and the National Campaign for Defense of the People's Food and Health (Shokukenren) further criticized the [proposed] moves and stated that a revitalization of domestic agriculture and increasing food self-sufficiency would not be possible even if individual farming households are compensated (as called for by the [Democratic Party of Japan] (DPJ) and a farming income stability system ([Liberal Democratic-Komei Party]LDP) is implemented."¹⁶⁵

Various farmers' and citizens' movements in Japan are calling for policies that can guarantee food sovereignty because exclusive dependence on free trade cannot deal with instabilities in food production or increasing hunger worldwide due to abnormal climatic changes."¹⁶⁶ However, trade liberalization proponents claim that while the producers

¹⁶⁰ "Japan's Food Security," February 27, 2007, op. cit.

¹⁶¹ Ibid.

¹⁶² Ibid.

¹⁶³ Tabuchi, Hiroko. "Japan's Farmers oppose Pacific Free-Trade Talks." The New York Times. November 11, 2010. www.nytimes.com/2010/11/12/business/global/12yen.html (Accessed November 11, 2010)

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

¹⁶⁶ Akahata, "Japan Press Weekly." 2010. FTA, EPA Will Destroy What Remains of Japan's Agriculture. (Accessed November 01, 2010).

might benefit from protective measures, domestic consumers would be forced to pay higher prices for commodities and in the end lose out. Further, if Japan were to liberalize its trade and eliminated or substantially reduced its tariffs, other countries that produce and trade similar commodities as Japan (such as rice producers in Burma or Pakistan), would benefit as they would have a bigger market to which they might sell their products. Ultimately, this would provide long-term benefits to other international partners as well as Japanese consumers, who will likely experience decreased prices and increased supplies of commodities.¹⁶⁷ “The price for Japanese rice has come down from 20,000 yen to 15,000 yen per 60kg in the past decade, while the price of Chinese rice, which Japan imports, has risen from 3,000 yen to 10,000 yen.”

On the other hand, the demand for *Japonica* rice is growing compared to *Thai/Indica* rice. “If Japan stops production adjustment and brings down the domestic price to less than the Chinese price, there will be no need for Japan to import rice. Further, Japan may even be able to export its rice! Despite the prospects of a shrinking population and declining food consumption at home, exports would provide Japan with excellent opportunities to manage agricultural land resources and ensure food security. Japan will be able to export rice and import wheat or beef in normal times, while in times of crisis with no importation of food Japan can stop exporting rice and eat it. So far Japan has used the notion of food security as a pretext for defending high tariffs on farm products. In an era of decreasing population, it is free trade that will ensure food security for Japan.”¹⁶⁸

As the pressure to adopt free trade intensifies, certain rich and developed countries have come under criticism, as they promote free trade but in fact continue to maintain tariff barriers and subsidy payments to their farmers that negatively affect low income countries, especially in Africa. Agricultural protection in developed countries impedes developing countries that are efficient suppliers of competing products. Several African countries have argued that rich countries should increase access to their markets, particularly in agriculture, or the African countries risk further weakening their farm sectors and becoming more dependent on handouts from rich countries. For example, in 2003 during WTO negotiations, “four West African countries—Burkina Faso, Mali, Chad, and Benin—have called on the United States to cut the \$1-3 billion it spends each year subsidizing American cotton growers.”¹⁶⁹ It did not happen. While cotton is not a food crop, developed countries have restricted imports of several of these as well, including orange juice, sugar and bananas. Inflexibility over agricultural reforms by rich countries also affects trade negotiation of the poorer countries. According to one estimate, “unimpeded global trade would boost developing country income by about \$200 billion a year in the long term.”¹⁷⁰

¹⁶⁷ Yamashita , Kazuhito. “Ensuring Japan’s Food Security through Free Trade Not Tariffs.” East Asia Forum: Economics, Politics and Public Policy in East Asia and the Pacific.” March 10, 2010. <http://www.eastasiaforum.org/2010/03/10/ensuring-japans-food-security-through-free-trade-not-tariffs/> (Accessed December 01, 2010).

¹⁶⁸ Ibid.

¹⁶⁹ Bannon, Alicia. "Africa and the Battle over Agricultural Protectionism" World Policy Journal. 2004. <http://www.allbusiness.com/government/1059720-1.html>. (Accessed October 09, 2010).

¹⁷⁰ Ibid.

During President Obama's most recent trip to India, he strongly opposed protectionism and attempted to establish agreements over agricultural tariffs that have complicated initiatives to finalize the Doha Round of trade talks. As of now, "India says it needs to maintain tariffs to protect its hundreds of millions of subsistence farmers, while the US argues [India] needs to provide at least some market opening as part of a Doha deal", even though the Doha Round was suspended without a consensus in 2008.¹⁷¹ According to the US, opening markets will stimulate growth and increase national wages. In fact, goods from several developing countries receive zero-tariff access to the U. S. market through preferential programs such as the "African Growth and Opportunity Act, the Caribbean Basin Initiative, the Andean Trade Preference Act, and the Generalized System of Preferences (for which India qualifies)."¹⁷²

Counterpoised to "free trade", there is a growing movement for "Fair Trade", in which care is taken that farmers and farm workers are fairly treated and compensated. The movement exists outside governments in the business and civil society communities. Prices to consumers, mainly in developed countries, may be higher than for standard products, but Fair Trade goods have found a market. As it has proven to be the most effective model in guaranteeing fair prices and enabling community empowerment, the Fair Trade system is best in agricultural trading models. As of now, only a few commodities such as coffee, cocoa, banana, cotton, rice and honey (among others) are included under the Fair Trade system, but this could change.¹⁷³

Recommendations

- Eliminating tariffs and quotas as promoted by free trade supporters could be detrimental to the economic development and food security of many developing countries. Rather than elimination, a reduction in tariffs and quotas should be implemented. Developed countries should open their markets to efficient exports from developing countries while tolerating protection for food producers in developing countries. A certain level of protectionism is needed by developing and least developing countries, who cannot afford to pay large subsidies to their farmers, as is done in developed countries such as the United States. Maintaining a fair level of tariffs and quotas enables developing countries and low-income countries to support their farmers and rural development.
- Encourage trade. While allowing governments to determine the best practices of trade to ensure food security for their own citizens, a certain level of trade should be encouraged, especially in crisis situations of weather-related shocks and price

¹⁷¹ "US, India to Help African Food Security – Obama." International Business Times. November 8, 2010. <http://www.ibtimes.com/articles/79950/20101109/president-barack-obama-indian-partnership-promote-food-security-in-africa-china-protectionism.html>. (Accessed November 15, 2010).

¹⁷² "The US Record on Financing for Development in 2009." The US Department of State. September 24, 2010. <http://www.state.gov/e/eeb/rls/fs/2010/148051.htm> (Accessed October 03, 2010).

¹⁷³ "Products." Fair trade Labeling Organizations International <http://www.fairtrade.net/products.html> (Accessed November 28, 2010).

volatility. When domestic supplies are inadequate, countries should be able to rely on other nations for food or food storage. Hence, a liberal sense of fair trade should exist.

- Expand the Fair Trade system to include more commodity crops.

4. Speculation in Agricultural Markets & Commodities

Statement of Topic

Speculation in commodity markets has created artificial volatility in commodity and food prices, which contributes to food insecurity.

Overview

Speculation by buyers and sellers of commodities enables commodity traders and processors to protect themselves against short-term price volatility. Whether it takes place on commodity exchanges or over-the-counter (OTC), it allows for various trading activities including futures, options and swaps trading and hedging, which enable investors to make bets on future prices. Farmers use these tools to hedge against uncertainty and protect themselves from future price changes, allowing them to maintain stability in their business operations and plan for the future.¹⁷⁴ However, this activity now accounts for only a tiny percentage of commodity market activity, as other private investors have taken to making speculative bets purely in pursuit of profit from price changes. This additional activity can cause prices to move dramatically above or below “normal” market prices in ways that do not reflect the real supply and demand of the market. This can make some commodities too expensive for consumers to buy even when they are plentiful, or too cheap for producers to sell even when they are scarce. Retail food prices track commodity prices, so this volatility has a significant impact on food security. Price volatility also makes it difficult for farmers to plan ahead and determine what goods to produce. This can lead to excesses or shortages of food.

There are two main categories of speculation in commodity markets, commercial and non-commercial. Commercial speculation is a form of price insurance. Non-commercial speculation takes place not to protect against (hedge) price risk, but to benefit by anticipating whether prices will rise or fall and betting accordingly. Non-commercial speculators perform an important role in commodity markets by providing funds to enable the ongoing function of the market. Commercial speculators have to liquidate the contracts that they use for price insurance, whether by paying for the contracted commodity or by selling the contract. Non-commercial speculators buy and sell a large

¹⁷⁴ For example, a farmer could sell his expected harvest for future delivery, fixing the price now for payment on completion of the later transaction; in contrast to such a futures contract, an option contract gives the farmer the option to sell at the price stated in the contract, which he will do unless the actual price is higher at the time of delivery.

volume of contracts, creating the liquidity in the markets that the commercial speculators need. Non-commercial speculation is a form of investment, but it can overlap with the interests of agriculture.

Commodities and related instruments can be bought and sold on exchanges or over the counter. Exchange trading involves buying and selling commodities, securities or derivatives within pre-established facilities that are used for such purposes. Derivative exchanges occur in a market where participants' trade standardized contracts that have been established by the exchange. The CME Group which constitutes the Chicago Mercantile Exchange, Chicago Board of Trade and the New York Mercantile Exchange is one of the largest groups of exchanges.

OTC trading involves direct and privately negotiated trading between two parties in the form of stocks, bonds, commodities or derivatives. The two parties predetermine how the trade or agreement will be settled in the future. Since this trading is privately negotiated and transacted, it is unregulated and there is little if any information disclosure; it is not visible as it would be in exchange trading where every trade is public information (as on the famous stock market ticker tape). Further, traders can incur counterparty risk (i.e., risk that the counterparty to their transaction cannot meet its obligation) since both parties depend on each other to perform and no benchmarks are required to minimize risk, such as margin requirements which limit how much investors in a stock market can trade with borrowed money.

Commercial trading which has been considered 'good' speculation has been a staple in US food markets since the 19th century. Traders are essentially viewed as experts in the market who are able to make reasonable forecasts of price trends of food. Prices are generally determined by basic real economy functioning, i.e. transport costs, supply availability and quality of products. Such forecasting activities can consequently affect prices.¹⁷⁵

Indeed, some countries have sought to introduce commodity finance markets for the benefits they promise. In particular, Ethiopia has pioneered an effort to manage its market for agricultural commodities more effectively and to be less dependent on the prices set in international exchanges in the US and UK. Ethiopia opened The Ethiopia Commodity Exchange (ECX), a commodity exchange which trades six commodities: coffee, sesame, haricot beans, teff, wheat and maize. It is the first of its kind in Africa, an official marketplace where buyers and sellers can come together to trade and be assured of quality, delivery and payment. The exchange includes a trading floor in Addis Ababa, six warehouse delivery locations, and 20 electronic price tickers in major market towns which advertise the national prices of food commodities. This allows the market to efficiently allocate supply and demand and for farmers to get a fair price for their goods. Greater transparency and openness in commodity markets can help mitigate the

¹⁷⁵Wahl, Peter. "Food Speculation: The Main Factor of the Price Bubble in 2008." World Economy, Ecology & Development. http://www2.weed-online.org/uploads/weed_food_speculation.pdf (Accessed October 30, 2010).

information asymmetries that result in market inefficiency.¹⁷⁶ “When farmers can sell their crops on the open market and get a fair price, they will have much more incentive to be productive, and Ethiopia will be much less prone to food crises,” said Gabre-Madhin, who will serve as CEO of the new exchange. “ECX will allow farmers and traders to link to the global economy, propelling Ethiopian agriculture forward to a whole new level.”¹⁷⁷

On the other hand, the world’s major markets have attracted increased attention from institutional investors seeking speculative placements of funds based on commodity indices. Indices of the spot (current) prices of traded commodities have been made, probably as long as the markets have existed, to monitor the overall situation in the commodity markets. However, financial firms, especially in the recent era, have created securities whose prices are based on these commodity indices. Moreover, one can speculate on future prices of the securities, which is to say on the future value of the relevant index. Such commodity index funds essentially “speculate on a basket of up to 20 or more commodities, primarily oil and metals, but also agricultural commodities (that account for 10%-20% of the index)” and are not linked to fundamentals of food markets. Thus, whereas a seller of a futures contract on, say, winter wheat, has to be able to take the commodity when the contract matures (or sell the contract or commodity to someone who can), there is no actual commodity underlying the composite indices. This means there is no limit to how big the speculative market can become.

Moreover, transaction costs in this trading remain low as a large part of it is automated, thus making the speculative behavior incredibly pro-cyclic (investors tend to act like a herd and can stampede). In addition, while it has been assumed in the past that the index passively reflects the prices of its component commodities, it now appears that movement in the index can influence the individual commodity market prices, a case of the tail wagging the dog when the tail has grown bigger than the dog itself.¹⁷⁸

Such activity contributed to the food market price bubble. Further, non-traditional investors entered this market during the run-up in prices and contributed to the creation of the speculative bubbles in agriculture commodity derivatives.¹⁷⁹ The majority of the price volatility that exists in the commodity exchange resides in the index fund formulas used to buy and sell futures and not as much in the demand and supply of traded commodities. In fact, in July 2008 during the global financial and food crisis, it was estimated that about \$318 billion was invested in such funds, especially in OTC markets where the “government lacked regulatory authority and verified information”.¹⁸⁰

¹⁷⁶ “World Hunger Series: Hunger and Markets.” World Food Programme. 2009, op. cit.

¹⁷⁷ “Ethiopia’s Commodity Exchange Opens Its Doors.” International Food Policy Research Institute Press Release. April 14, 2008. <http://www.ifpri.org/pressrelease/ethiopias-commodity-exchange-opens-its-doors> (Accessed November 22, 2010).

¹⁷⁸ Information from Wall Street informants passed to Professor Max Fraad-Wolff, The New School, December 2010.

¹⁷⁹ Wahl, Peter, “Food Speculation: The Main Factor of the Price Bubble in 2008,” op. cit.

¹⁸⁰ Suppan, Steve. “Betting Against Food Security: Futures Market Speculation Institute for Agriculture and Trade Policy.” 2009. <http://www.iatp.org/iatp/publications.cfm?refid=105065>. (Accessed November 19, 2010).

Policy Discussion

There is considerable debate over the degree to which speculation affects volatility in pricing. Agricultural commodity prices are inherently volatile because they have low demand response to price fluctuations and slow supply responses (requires a harvest cycle). Small changes in supply can thus have large effects on prices. “Many factors affect future patterns of demand and supply... The global financial crisis, effects of climate change on agricultural production, institutional investors and the demand for biofuels are creating considerable uncertainty about the normal market mechanism.”¹⁸¹

Market speculation has contributed to higher spikes in international food prices in recent years. Futures prices embodying forecasts of food prices have been shown to be wrong or exaggerated and structural changes in the underlying dynamics that affect food pricing are ignored during speculation. “A marketing consultant estimated that of the July price of a yellow corn Chicago Board of Trade contract, about 31% was due to financial speculation, irrespective of the supply and demand factors affecting prices. Despite the harmful effects of financial speculation on food security, the use of speculative instruments is common in commodities exchanges, including those in Chicago, New York and London. These exchanges are the most influential in determining international agricultural prices, often referred to by developing country governments in their national agricultural planning.”¹⁸²

The price hikes created a global food emergency at the peak of the financial crisis in 2008.¹⁸³ As speculation increased, commodity prices zoomed as markets tended to overshoot, rising higher and later falling lower than actual supply and demand warranted. Commodity market prices directly affect how much food governments and the private sector can afford to import and whether people get enough to eat, thus improving or worsening food security.¹⁸⁴

“Deregulation of [derivative markets in agricultural commodities] in the US through the 2000 Commodities Futures Modernization Act created extreme volatility in agricultural derivative markets, which led to severe price swings in food prices, along with oil prices, that destabilized businesses and household budgets... throughout the world.”¹⁸⁵ The most severely impacted victims of commodity price volatility are people in developing countries, where it is common for families to spend 50% or more of their total income on food. UNCTAD found that the 40% rise in average food prices in mid-2008 led to malnourishment for 130 million additional people. “It is now widely acknowledged that

¹⁸¹ “World Hunger Series: Hunger and Markets.” World Food Programme. 2009, op. cit.

¹⁸² Suppan, Steve, 2009, op. cit.

¹⁸³ Pollin, Robert. “Comment Regarding Regulatory Treatment of Agricultural Swaps.” Political Economy Research Institute and SAFER, University of Mass. October 29, 2010.

http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/SAFERbriefs/SAFER_note18.pdf (Accessed September 30, 2010).

¹⁸⁴ “The Global Food Price Crisis.” Institute for Agriculture and Trade Policy. September, 2008. <http://www.iatp.org/tradeobservatory/library.cfm?refID=104147> (Accessed October 20, 2010).

¹⁸⁵ Pollin, Robert, “Comment Regarding Regulatory Treatment of Agricultural Swaps.” op. cit.

financial speculation was the major factor behind the sharp price rise of many primary commodities, including agricultural items over recent years.”¹⁸⁶

Purely financial speculation can cause commodities markets to become extremely volatile. “In 2007, the trade in [commodity] futures and options warrants increased by 28.6% for energy and by 29.7% for industrial metals. The strongest rise occurred in agricultural derivatives, however, where the increase amounted to just under a third (32%).¹⁸⁷ At the same time, the value of commodity derivatives dealt with over the counter increased by almost 160% between June 2005 and June 2007. From October 2007 until the end of March 2008, the number of contracts at the Chicago Mercantile Exchange (CME) increased by 65%, without any real production increase.” A speculative bubble started to emerge. Prices increased again uninfluenced by the fundamentals, because institutional investors were entering the market, vying to buy the contracts. The price increase in derivatives caused a rise in the spot prices. On the one hand, buyers on the spot markets bought more ahead to put in stock for fear of further price increases. This increased demand and caused an upward pressure on prices. On the other hand, sellers delayed sales in anticipation of higher prices, and caused supply shortages. Speculation by hedge funds and others set in motion a whole chain of speculative behavior by other participants.”¹⁸⁸

“Regulatory imprudence and negligence play a role too. In the run-up to the 1996 US Farm Bill, the US Department of Agriculture allowed soy stocks to dip far below the FAO recommended minimum, creating a favorable price environment for Farm Bill negotiations. One result was a two-year row crop price bubble, with soy shooting to as high as \$63 a bushel (inflation adjusted). US row crop prices plunged and then plateaued from 1997 to the summer of 2006, following the elimination of government regulation of stocks in the 1996 Farm Bill. US subsidies skyrocketed, creating bitter complaints among WTO members. As the Institute for Agriculture and Trade Policy (IATP) has documented in detail, a structural oversupply of row crops was dumped on international markets, leading to destruction of national production investment in developing countries not mitigated by the WTO dispute settlement rules.”

More recent US legislation has sought to correct some of the earlier policy errors. The Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”) aims to regulate OTC derivatives by requiring that they be subject to clearing and exchange trading as well as capital and margin requirements. Dealers and participants overall must register with the appropriate regulators and disclose risks and conflicts of interest, as well as meeting other regulatory requirements and making information on transactions public. The restriction is more severe for OTC derivatives on agricultural commodities: they are prohibited. If the reform has its intended effect then energy and food prices will be more

¹⁸⁶ Pollin, Robert, “Comment Regarding Regulatory Treatment of Agricultural Swaps.” *op. cit.*

¹⁸⁷ Wahl, Peter, “Food Speculation: The Main Factor of the Price Bubble in 2008,” *op. cit.*

¹⁸⁸ *Ibid.*

completely explained by market fundamentals rather than unknowns that may be attributable to excessive speculation.¹⁸⁹

“The futures and swap industry has expressed concern that excessive regulation will simply drive trading overseas where many present customers reside. Crude oil futures, for example, trade in London, Tokyo, and Dubai. Although the Dodd-Frank Act attempts to coordinate regulation across a vast federal bureaucracy, it does little to streamline activities. This will likely provoke furious interagency scrapping, particularly between the CFTC and SEC and between the Treasury and the Federal Reserve, where there are jurisdictional overlaps.”¹⁹⁰ It may also provoke regulatory competition between the major markets of the US and UK.

The Dodd-Frank Act, however, left open the possibility of exemptions that could undermine the restrictions on agricultural commodities. There are two types of dealers in over-the-counter derivatives: “legitimate” market-makers and pure market speculators. Speculators make money by forecasting the direction of future price movements, while market makers connect buyers and sellers and make money off the bid/ask spread without themselves speculating on future prices. The market makers strengthen the market’s liquidity while the speculators increase its volatility. While there might be a case to permit market makers, the difference between these two types of activity is difficult to discern from a regulatory perspective and thus some commentators argue not to grant exemptions to market makers as it may allow speculators to enter.¹⁹¹

Recommendations

- Commodity trading should be better-regulated to limit market speculation. While the Dodd-Frank Act is a step in the right direction, a global commodities futures and options exchange regulatory agency – or an international body to coordinate national authorities – would support consistency and enforcement of national commodity exchange rules and could collate and analyze information from national commodity exchanges.
- Negotiate an intergovernmental agreement to regulate or at least harmonize national regulatory frameworks for commodity markets. Members of the United Nations should authorize and finance research into commodities exchanges and existing regulatory regimes. UNCTAD could prepare discussion papers for negotiators. They should publish reports on national commodity exchanges, their participants, their current rules and the effects of excessive speculation in those exchanges, particularly as regards sustainable food and energy security. Policy

¹⁸⁹ Greenberger, Michael. “Is Our Economy Safe? A proposal for Assessing the Success of Swaps Regulation Under the Dodd-Frank Act.” Roosevelt Institute. <http://www.rooseveltinstitute.org/%5Bmenu-trail-parents-raw%5D/our-economy-safe-proposal-assessing-success-swaps-regulation-under-dodd-fra> (Accessed October 21, 2010).

¹⁹⁰ Van Vactor, Sam. “Energy and the Dodd-Frank Act: More Bad from the Party in Power (More Employment for Lawyers and Consultants).” Market Resource. September 24, 2010. <http://www.masterresource.org/2010/09/energy-and-dodd-frank-act/> (Accessed October 03, 2010).

¹⁹¹ Pollin, Robert, “Comment Regarding Regulatory Treatment of Agricultural Swaps.” op. cit.

options for reforming commodity exchanges should support realization of UN objectives such as the Millennium Development Goals.¹⁹²

- The practice of index speculation should be limited and better regulated, and indices should be designed to work in concert with the normal functioning of their markets.
- Push trading onto commodity markets where information is public, i.e. restrict over-the-counter trades, as the Dodd-Frank bill does within the United States. Enable more transparent and fair markets and set speculative position limits.
- Support efforts to study which criteria affect volatility of food and energy prices. Based on research determine whether basic food commodities should be excluded from the market.¹⁹³
- Developing countries should support the development of tools for hedging by farmers in developing countries to reduce their uncertainty, such as warehouse financing.
- Support the development of regional exchanges like Ethiopia's ECX. Having more, and more regional, exchanges could reduce the influence of the major commodity exchanges in the US and UK on global prices and volatility.

¹⁹² Suppan, Steve, 2009, op. cit.

¹⁹³ Wahl, Peter, "Food Speculation: The Main Factor of the Price Bubble in 2008," op. cit.

Conclusion

While the availability of food in the world is sufficient to feed the poor, progress in decreasing world hunger has been irregular. Poverty has decreased, but more still needs to be done to address the various elements of trade that affect the core elements of food security: access, availability, utilization and stability. Increased advocacy should take place to minimize the negative effects of the trade in food, with a particular emphasis on developing and Least Developed Countries' economic, agricultural, and human development and growth. Investments in agriculture for development should increase considerably, especially relative to ODA for food aid. In terms of food aid, conditional cash transfer programs are the best form of assistance to ensure long-term benefits. By investing in agriculture for development and in project food aid programs, countries will reap positive and long-term benefits by enabling community ownership of food security projects (e.g. engaging local communities in infrastructure and agriculture development). This will empower beneficiaries in decision-making processes (e.g. giving them the choice between cash or food aid as they see fit) and give them flexibility while reducing dependence on foreign assistance.

The impact of agricultural practices, such as the use of GMOS, biofuels, and investments in foreign land (land grabs); on global food security and development should be monitored closely to ensure the well-being of indigenous populations and local farmers who rely on agriculture as a primary source of income and consumption. Promoting best practices (e.g. local job creation as part of land investments) by all stakeholders is vital to guarantee that the livelihoods, health, and standards of living of consumers and producers are not jeopardized. Investment in production of alternative biofuel feedstocks, such as algae and cellulosic ethanol, would be a smarter use of land and freshwater resources.

The fair trade system should be expanded to include more commodities such as wheat and corn; this is essential to guarantee that producers are fairly compensated for their goods and consumers pay a fair and reasonable price as well. While free trade policies may ultimately increase competition and open markets for commodities, developing and Least Developed Countries should be allowed to adopt protectionist methods to safeguard their farmers, especially when these nations are unable to pay high subsidies for commodities to their farmers. In developed countries, high tariff and quota rates should be reduced to enable fair and open trade with developing countries.

Trade in agricultural commodities should take place on open exchanges so that it is transparent and subject to appropriate regulation and in order to reduce volatility in food prices. Speculation in these markets must be better understood and better controlled. While speculation in agricultural commodity markets has contributed to volatility and resultant food shortages and surpluses, it is also an essential mechanism to ensure that resources are allocated appropriately and the market functions optimally. The processes by which speculation in these markets leads to volatility in food prices needs to be studied, so they can be better understood, and so that the positive aspects of trade can be harnessed and the negative aspects can be mitigated.

Ultimately, the trade in food is a crucial engine for international development. Mechanisms must be designed and implemented to ensure that nutrition and food needs are met in order to reduce the number of hungry people and to increase productivity. Reducing hunger and improving health will result in a world with more productive people, who experience less poverty and create more economic growth and development.

Abbreviations

AoA	Agreement on Agriculture
CFW	Cash for Work
CGIAR	Science Council of the Consultative Group on International Agricultural Research
CME	Chicago Mercantile Exchange
DPJ	Democratic Party of Japan
EC	European Commission
ECOSOC	UN Economic and Social Council
ECX	Ethiopia Commodity Exchange
EPA	Economic Partnership Agreement
FAO	Food and Agricultural Organization
FFW	Food for Work
FoE	Friends of the Earth
GAFSP	Global Agriculture and Food Security Program
GATT	General Agreement on Tariffs and Trade
GPIA	Graduate Program in International Affairs
IATP	Institute for Agriculture and Trade Policy
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IGC	International Grains Council
IMF	International Monetary Fund
IPRs	Intellectual Property Rights
IRRI	International Rice Research Institute
LDC	Least Developed Country
LDP	Liberal Democratic-Komei Party
LIFDC	Low-Income Food-Deficit Country
MAFF	Ministry of Agriculture, Forestry and Fisheries
MDG	Millennium Development Goal
NERICA	New Rice for Africa
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OTC	Over the Counter
SIMA	Agricultural Market Information System
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
US	United States
USAID	US Agency for International Development
USDA	US Department of Agriculture
WFP	World Food Programme
WHO	World Health Organization
WTO	World Trade Organization

Resources

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