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Securing Enough to Eat

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This paper offers a brief introduction to the concept of food security. Several different strategies have been tried to realize the objective of food security: writing it into international human rights law as the right to food; attempting to provide all of a country's food entirely from domestic resources for food self-sufficiency; liberalizing and privatizing economic exchanges to give consumers access to an international food supply; and, more recently, either putting the emphasis on national decision-making without closing the possibility of international trade—a strategy known as food sovereignty; or, looking to build an approach to agriculture that focuses on environmental needs and constraints together with meeting food supply needs, referred to as Multi-functional Agriculture.

This paper explains the fundamental elements of food security and these various strategies for its realization. The paper is focussed on food security and ways to achieve it. References for further reading are provided at the end.

> We pledge our political will and our common and national commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015.
> – *Declaration by Governments at the 1996 World Food Summit*[1]

[1] Available online: http://www.fao.org/wfs/index_en.htm

Introduction

Food security is a state of being. Like literacy or good health, food security is a state that everyone wants to enjoy. Governments have decreed that every person has an inalienable right to food.[2] The fundamental purpose of economic activity is to ensure adequate access to food for oneself and one's family. The primacy of food security as an objective for human activity is reflected in the frequency with which the term "food security" appears in UN declarations and NGO advocacy efforts. The World Trade Organization (WTO) Agreement on Agriculture acknowledges the legitimacy of food security concerns. South Africa, Brazil and Norway have all enshrined the right to food in law.

Two further questions arise. First—when are we satisfied that food security has been attained? If 80 per cent of the population accesses adequate food? 90 per cent? What about if there is plenty of food available, yet not everyone can afford to buy it? For example, is the United States food secure, when 18 per cent of American children experience periods of hunger during the year? It is counter-intuitive to argue that the United States is food insecure, yet hunger and malnutrition remain important public policy challenges, often linked to the growing problem of obesity. If the right to food is the standard, then the United States may be food secure, but it has not yet attained the realization of the right to food.

Second, if we agree to take a maximum position—food security ultimately requires the realization of the right to food (that everyone has access to the food they need)—then a second question emerges: *how* should people get enough food (what strategies will move us towards this goal?). It is useful to separate out the end goal—food security—from the strategies that governments, businesses, NGOs and communities employ to realize the goal.

As this paper will briefly explore, different definitions of food security have come to be associated with different ways of realizing the objective. This may sound obvious, but has actually led to considerable confusion among policy-makers. For example, many trade negotiators define food security as a country having access to international markets to meet national demand for food. In contrast, a village health worker might say food security is realized when the women of the village manage to carry more pregnancies to term and to deliver healthy babies, reflecting an improvement in the women's nutritional status. These two very different measures of food security will result in quite different strategies for achieving food security—and in quite distinct assessments of when food security has been achieved.

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[2] There is a Web site on this right, as enshrined in the UN body of human rights law, at http://www.righttofood.org

Definitions of food security are continually changing. Over time, definitions have moved from a focus on supply (Is there enough food available? Will there be enough tomorrow?), to questions of distribution and access (Is the food where it needs to be? Can people afford to buy the food available?). Over the past few years, food security researchers have begun to consider food security within households (for example, in some cultures, women have less access to adequate food than the men they live with). Food security has now come to include a consideration of who has access at the individual level, not just at the level of states or regions. Finally, definitions of food security have begun to shift from a concern with quantity to quality: access to calories is not enough to ensure good health. People need sufficient quantities of a wide range of vitamins and minerals to ensure proper physical and mental development.

Food insecurity does not necessarily mean that people die of hunger. Rather, repeated exposure to periods of inadequate nutrition undermines human health. Hunger compromises the body's ability to fight disease, creates health problems for pregnant women and the babies they carry, and stunts physical and mental development in children. In turn, these problems reduce people's capacity to secure a livelihood. Persistent uncertainty about where and how to get enough food diverts energy and resources from longer-term investments that could improve economic well-being. Food insecurity encourages people to make risk-averse choices that protect a minimum access to food at the expense of riskier investments that would allow much greater possible long-term returns.

Governments have explored and explained the right to food at the UN Committee on Economic, Social and Cultural Rights. In brief, the Committee says: "The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement."[3]

In 1996, at the World Food Summit, governments defined food security as, "food that is available at all times, that all persons have means of access to it, that it is nutritionally adequate in terms of quantity, quality and variety, and that it is acceptable within the given culture."[4] This is the definition of food security that is used in this paper.

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3 The UN Committee on Economic, Social and Cultural Rights, General Comment 12: The Right to Adequate Food. UN document reference: E/C.12/1999/5, May 12, 1999.

4 FAO (1995), *Elements for possible inclusion in a draft Declaration and Plan of Action on Universal Food Security*, FAO: Rome.

The Elements of Food Security

There are three principal elements to food security: supply, distribution and access. Each is reviewed below.

Supply

Global food production has by and large kept up with or exceeded demand over the past century. The application of new technologies to agriculture, including mechanized vehicles to till, plant and harvest crops; improved seed and breeding stock; and the use of herbicides, pesticides and inorganic fertilizers, has vastly increased productivity. At the same time, one third or more of agricultural land used to be dedicated to growing fuel (wood to burn) or feed for the animals that provided muscle for transportation and production (hay for horses and oxen). Much of that land is now available to grow food for humans instead, adding to the total overall supply.[5] Global cereal production is predicted to hit a record 2.04 billion tonnes in 2004.[6]

However, an adequate global supply of food does not necessarily translate into food security. One of the most persuasive of those that criticize the conflation of adequate supply with the realization of food security is the Nobel Prize-winning economist Amartya Sen. Sen suggests that an obsession with supply leads to two related but opposite fallacies. The first, "Malthusian pessimism," is a fallacy, "based on the expectation of falling food output per head, (and) has not been vindicated by history."

The second, which Sen calls "Malthusian optimism," is "*not* being worried about the food problem so long as food output grows as fast as—or faster than—population." This view, too, according to Sen, is misguided, and has "often contributed substantially to delaying policy response to growing hunger..."[7] We know from our experience of the persistence of hunger amid overwhelming plenty in the United States that supply alone is not the answer. The U.S. Department of Agriculture reports that some 11 per cent of U.S. households (and 18 per cent of U.S. children) lack access to adequate food at some point in the year.[8] Yet, even after exports, the domestic supply of food in the United States could feed everyone in the country twice over.[9]

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5 Daryll E. Ray, "Agricultural Policy for the Twenty-First Century and the Legacy of the Wallaces," paper presented at John Pesek Colloquium of Sustainable Agriculture, Iowa State University, USA. March 2004. Online at http://apacweb.ag.utk.edu/present04.html

6 The UN FAO's State of Food and Agriculture report provides an overview of world food production and consumptions trends, online at http://www.fao.org. It is updated regularly.

7 Sen, A. in Drèze, J. and Sen, A. (1990), *The Political Economy of Hunger*, p. 35, vol 1, Clarendon Press. U.K. Emphasis in original.

8 From the USDA Web site: http://ers.usda.gov/amberwaves/February04/Findings/HowMany.htm

9 Marion Nestle (2002), *Food Politics: How the Food Industry Influences Nutrition and Health*, University of California Press, U.S.A.

At the same time as the world has seen a dramatic increase in production levels, food dependency in developing countries has grown. Parts of Latin America and much of Sub-Saharan Africa, both historically net food exporters, are now net food importers.[10] Food production per capita in Africa is now 10 per cent less than it was in 1960 (in Asia, it is 76 per cent higher; in Latin America as a whole, 28 per cent higher).[11]

Does increased dependence on food imports mean that food security is impaired? Not necessarily. The International Food Policy Research Institute (IFPRI) says, "… the quadrupling of Asia's imports (of cereals; by the year 2020) will be driven primarily by rapid income growth, while the 150 per cent increase forecast for Sub-Saharan Africa will be driven primarily by its continued poor performance in food production."[12] That is, an increased demand for food imports can be a good sign—people have more money to spend on food and are more likely to be meeting their food security needs. Or, it can be a bad sign, reflecting the failure of domestic production to keep up with demand without any expansion in other economic sectors. It is important to put changes in food import levels into context, to understand what the import level implies for a country's food security.

Many developing countries need both to increase their domestic production and to increase their imports to meet the demands of an increasing population. That is, they have the capacity to increase domestic production, and should, but that alone will not ensure enough food to meet domestic demand. Some demand will have to be met through imports. In these cases, the government has to be sure food imports do not discourage domestic production and thereby create a vicious rather than virtuous circle. The imports have to complement expanding domestic production rather than displacing it, for example by focussing on how to add value to existing product chains.

Too many government officials still conflate an adequate food supply with food security. Yet food supply is a vital but *insufficient* condition for ensuring the population has enough to eat.

Distribution

Distribution depends on such things as markets (does information about supply and demand circulate, and do they reach remote or rural areas?); transportation infrastructure (do roads, rail tracks, waterways or airstrips link rural areas to markets, and do they do so year-round?);

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10 Data from FAOSTAT, the FAO's online database.

11 DFID with Jules Pretty, "Agricultural Sustainability," Working Paper for the Renewable Natural Resources and Agriculture Team, DFID Policy Division, August 2004. Online at http://dfid-agriculture-consultation.nri.org/process.htm

12 Pinstrup-Andersen, P., Pandya-Lorch, R. and Rosegrant, M.W. (1997), *The World Food Situation: Recent Developments, Emerging Issues, and Long-Term Prospects*, p. 6, IFPRI:USA.

relative purchasing power (is income sufficiently equal to ensure that supply is evenly distributed and not just focussed where wealth is concentrated?); and the source and nature of the supply (is the produce grown locally? is the produce perishable? are there cultural biases affecting distribution?)

Where food is traded commercially, the volume and type of food traded is related to purchasing power and the ease with which the trader can reach a market. Current trade law and the technologies that underpin globalization, such as satellite communications and the Internet, shape distribution networks in important ways. This extends from the global marketing of McDonald's (and the increased demand for beef that results), to the tariff structures that make it easier for Ghana to export raw cocoa than chocolate, to the explosion in demand for fresh vegetables, year-round, in European and North American supermarkets, much of which is met by developing country producers.[13]

Profits from international agricultural trade are increasingly in processed and higher value-added products. This trend has also meant a shift from staple crop production to "new" commodities, such as shrimp, fresh vegetables and cut flowers.[14] Exports from fisheries in developing to developed countries are now often worth more than the combined value of net exports of coffee, tea, cocoa, bananas and sugar.[15] These new exports have created livelihoods and brought prosperity to many producers, but they have also increased the risks of failure. Standards for the export of such perishable goods (especially seafood and horticulture) are high and one incidence of disease can lead to the whole crop being rejected. Without a strong system of support, technical advice and insurance, the shift to higher-value agricultural exports can leave farmers vulnerable to expensive failures.

Food storage and distribution for global trade is a capital-intensive and complicated business, which restricts the field to a relatively small number of countries and companies. For developing-country firms, the barriers to entry to the global market are formidable. At the same time, the relatively few companies that dominate the global food system are not very interested in poor countries and their markets—understandably, since profit margins there are small. If the global distribution system for food is run by these actors to serve their customers, then people that do not command the means to make their demand count (they are neither rich nor numerous enough in a given market) are excluded.

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13 See Tim's Lang (2004) on the globalization of Western food culture and Lindland, J. (1997), *The Impact of the Uruguay Round on Tariff Escalation in Agricultural Products*, FAO, Rome, on the question of tariffs.
14 Konandreas, P., Greenfield, J. and Sharma, R. (1998), "The Continuation of the Reform Process in Agriculture: Developing Countries' Perspectives," seminar paper, November 1998, Chile.
15 D. Green, J. Morrison, and S. Murphy, "Agricultural Trade and Poverty Reduction: Opportunity or Threat?" Working Paper for the Renewable Natural Resources and Agriculture Team, DFID Policy Division, August 2004. Online at http://dfid-agriculture-consultation.nri.org/process.htm

The experiences of a number of African countries that have disbanded their government-run agricultural commodity marketing boards over the past 20 years or so illustrate the problem: while the boards were often inefficient, corrupt and sometimes oppressive, they also serviced the country as a whole, remote regions and those around urban centres alike. With the boards gone, producers in remote regions now find themselves with much reduced markets, unable to pay themselves to get their produce to the larger centres and unable to interest a private sector intermediary to help.

These marginalized markets are not cut off from the global system. Instead they receive the leftovers of richer markets—surplus disposal given as food aid, for example, or dumped with the help of export credits. This production distorts prices in local markets and undermines local agricultural livelihoods. The consumers and producers who must buy and sell in the local market face competition from sellers whose profits are made elsewhere and whose products are priced according to demand factors elsewhere. These areas are integrated into the global market but on terms that do not serve local needs.

In those countries where agriculture is still the dominant source of food and livelihoods, dumped imports undermine food security. They destroy local employment in agriculture and undermine the necessary incentives for producers. The UN Special Rapporteur on the Right to Food, Jean Ziegler, has commented on the contradictions between the drive to structure food distribution through free trade and investment agreements and governments' obligation to protect and promote the human right to food. Experience shows that careful intervention in the world's food distribution system is needed to protect food security.

Access

Food security is about individuals, families and communities, not about regional or national aggregates. That is why supply is only one piece of the food security puzzle. Only rarely does a whole country face hunger or famine. Rather, when the food supply is insufficient, those with greater purchasing power get food while those without sufficient income or entitlement go hungry.

Amartya Sen has famously written that no modern democracy has suffered widespread famine. He has documented the fact that if a country's political elite has to bear the consequences of allowing famine to happen, the elite will act to prevent famine, or at least to mitigate its worst effects. This means political rights are intimately linked to the right to food. In a functioning democracy, people are spared famine, although chronic hunger might persist.

More commonly, in Switzerland as in Bangladesh, people go hungry because they live in poverty. Their markets do not lack food, but they lack the means to obtain it. Access is about a person's relative position in the economic or social order. Famines, or simple food shortages,

can be created by changes in people's relative wealth. If one sector of the population starts to command higher wages, their ability to buy food in the local market improves. Other sectors of the population may then find themselves unable to afford food because of the resulting upward pressure on prices. In the long run, this price rise will normally fuel an increase in production. However, in the short run, people may die of hunger.[16] Understanding the access dimension of food security reinforces the importance of tracking how the costs and benefits from a change in economic circumstances are distributed across a population.

Amartya Sen uses the notion of entitlements to explain the complexity of an individual's access to food. Entitlements encompass two dimensions: endowment and exchange. A person's endowment is determined at birth: a wealthy or poor family, the ability to run marathons or a gift for mathematics. An individual's endowment has an exchange value, determined by what the endowment is worth where the person lives. A runner may be able to earn millions or nothing, depending on whether the skill has any value where he or she lives. Governments are responsible for establishing and maintaining institutions that allow people to make the most of their endowments and exchanges.

Sen says a person's access to food depends on an interconnected "bundle" of things. No single element is the key to food security. Rather, an intersection of factors determines whether an individual gets enough to eat. The concept is similar to the concept of "indivisibility" in human rights discourse. The protection of any individual human right requires the protection of them all. Employment and wage levels (especially relative wage levels), health care, land policy—even the availability of credit on reasonable terms: each of these can be the determining factor in whether a person is food secure. Those living in poverty are poor because they have little by way of endowment and/or little they can secure through exchange. A key part of ensuring food security is to increase people's entitlements, which in turn improves their chance of securing food on a continuing basis.

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16 Sen gives the example of the 1974 famine in Bangladesh. Drèze, J. and Sen, A. (1989), *Hunger and Public Action*, Clarendon Press: U.K.

Achieving Food Security

The following discussion considers four paths to food security: self-sufficiency, trade liberalization, food sovereignty and multi-functional agriculture. The comparison is not simple, as each of these three approaches to agriculture and food has its own history and context, which in some cases are not limited to the realization of food security alone. Moreover, each defines food security in a somewhat different way. The following discussion works from the definition of food security elaborated above.

1. Food Self-Sufficiency

It was once commonplace to think that food security was best met entirely by domestic food production. Many countries dedicated themselves to increasing food production to meet their food needs from within their borders. Governments maintained stocks of food, particularly staple grains such as wheat and rice, as insurance against bad harvests or other shortfalls in supply. Food security was defined as having the wherewithal to feed a country's people without recourse to imports. Increasingly, however, the effort to ensure national food self-sufficiency has come to be seen as counter-productive, and even foolish.

There are a number of reasons for this shift. First, some countries have become the victims of their own success. The Common Agricultural Policy (CAP) of the European Union exemplifies the paradox of success: the effort to rebuild production in the original members of the European Economic Community after the devastation of World War II was enormously successful. However, the CAP failed to provide a mechanism to cope with over-supply. The authors of the CAP did not foresee the political difficulties inherent in removing public subsidies and production incentives when the need to expand production ended.

Second, some countries are rich in valuable resources, such as oil, or have a strong basis for employment and economic growth in services or other sectors. Such countries can afford food imports even if supply shifts cause abrupt price increases in the world market. Their human and natural resources are best used in non-agricultural production.

Third, self-sufficiency is an unrealistic, even impossible, goal for many countries. Some countries—islands such as Cape Verde or city-states such as Singapore—lack the necessary natural resource base to grow all the food they need. Some countries are the result of political histories that did not respect the food production and exchange patterns that had built up over centuries. The borders of sub-Saharan Africa have more to do with the balance of power held by the colonizing European powers of the late nineteenth and early twentieth centuries (and the outcome of their wars) than with the historic production and trading patterns of the sub-continent.

Fourth, since the 1980s, there has also been an important shift in international economic theory and practice. The dominant theory now favours market-based mechanisms of exchange and disparages the state's role in managing the economy. Much of the discussion of international trade today is premised on the notion of comparative advantage. In this view, international trade is the best tool to ensure efficient distribution of goods, allowing the lowest-cost producer to set world prices.[17] This theory maintains that market barriers (such as tariffs) and unfair advantages (such as export subsidies) are impediments to the maximization of welfare. The theory makes no exception for food and agriculture.

This shift in economic thinking, together with the technological developments that underpin globalization, has given international trade a prominent role in countries' food security strategies. At the same time, the state's role in food security has been downgraded. Most governments today believe that trade should play a role in ensuring an adequate food supply to their country.

Nonetheless, most governments also view food security as part of their national security; few governments, whether in developed or developing countries, are prepared to abandon all domestic food production. Only a relatively small percentage of total food production is traded internationally: although the volume of food exports is expanding, roughly 90 per cent of food never crosses an international border.

Furthermore, for all but the 30 or so members of the Organization for Economic Co-operation and Development (OECD), agriculture plays a vital role in employment. Agriculture not only provides a livelihood for anywhere from 20 to 90 per cent of their economically active population, but also serves as a safety net in times of economic difficulty. During times of national crisis—e.g., the former Soviet Republics after the collapse of the USSR; Thailand and Indonesia during the Asian financial crisis of 1998; or Nicaragua after Hurricane Mitch in 1999—massive numbers of people return to the land to eke out a living when formal employment fails. Although self-sufficiency has had its day as an ideal, the arguments used to promote the approach continue to resonate.

However, none of these arguments is sufficient to reinstate food self-sufficiency as the way to meet food security needs, except in a few unusual cases. Most countries find a balance between the economic (and sometimes ecological) advantages of ensuring the most efficient use of productive resources (which generally necessitates some kind of trade) and the hazards of depending entirely on world markets to meet domestic food needs. Some of the costs and benefits of achieving food security through reliance on the world market are explored next.

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[17] Among many versions of the theory, see John H. Jackson (2000), *The World Trading System: Law and Policy of International Relations*, second edition, fourth printing, M.I.T. Press, U.S.A. pp. 14–18.

2. Trade Liberalization

Many governments, inter-governmental agencies and academics, as well as many food companies, extol the virtues of liberalized global trade as a route to food security. Although it is seldom made explicit in the discourse heard in trade circles, food security is commonly understood to refer to adequate supply: distribution and access issues are not generally discussed, or are considered peripheral to trade.

Experience shows that securing food from international markets offers important benefits to countries, including the possibility of cheaper, more varied food and an effective way to stabilize supplies in times of domestic shortfall. Bangladesh, for example, was able to use private imports of rice to make up a shortfall caused by floods that destroyed about 10 per cent of the annual rice crop in 1998.[18] These imports were only possible because the government had liberalized its trade policies shortly before, creating the opportunity for the private sector to import and meet demand. There are all too many examples of countries whose governments have let their people to starve behind closed borders, including Mengistu's Ethiopia and successive governments in North Korea, to give two extreme examples.

However, trade liberalization has not always benefited food security. The UN Food and Agriculture Organization, among others, has documented a number of country experiences where liberalization has harmed food security: one common scenario sees producers facing rising input prices, as governments cease to subsidize their import and distribution to cut government spending. At the same time, rising food imports lower prices on domestic markets for producers' crops. Meanwhile, as some academics and an increasing number of consumer organizations have documented, consumers have not always benefited from the cheaper food promised by trade liberalization advocates. This is particularly true for consumers in rural areas, where waged workers depend on a strong farm sector to earn their living. When local farm prices are depressed, landless labour faces reduced income earning opportunities. With more open markets, and a reduced role for the state in marketing food, price volatility increases, making it harder for poorer households to secure enough food.

Trade affects many aspects of food security, but seldom in isolation; it can be hard to separate out the trade effects from other factors. Attempts to assess the impact of the WTO Agreement on Agriculture (AoA) on food security have proved difficult for this reason. Nonetheless, it is clear that multilateral trade rules have a direct impact on food security.

First, the AoA sets limits on the tools governments may use in their domestic agricultural policy. The AoA prescribes how much money governments can spend on what kinds of programs, both for farmers and the wider agricultural sector.

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[18] FAO (2003b), "Bangladesh" in *WTO Agreement on Agriculture. The Implementation Experience. Developing country case studies*, Commodities and Trade Division. Rome.

Second, trade liberalization affects fiscal policies, competition, investment, debt service, the relative cost of imports and exports, currency values and other areas of economic policy. Each of these, in turn, affects wages, purchasing power and employment levels—all factors that are central in determining access to adequate food.

Third, changes in global patterns of food trade affect poor net-food importing developing countries. Poor countries, even if they only import a relatively small part of their total food needs, can be severely affected by even small price increases in world food prices. In part because the traded volume of many foodstuffs is relatively small, the presence in world markets of a large country, such as China, can have a profound impact on prices and availability for others. Many poor developing countries need to import only relatively small volumes of food, but their need is critical for meeting their population's food security needs, and their capacity to pay even 10 per cent more for that food is severely constrained by their lack of foreign currency.

All WTO Members have bound their agricultural tariffs, such that the tariffs can be reduced but not increased. Many non-tariff market barriers are now prohibited. Measures to protect borders have often proved to carry inefficiency costs. However, they were sometimes effective from a food security standpoint, enabling the government to stabilize domestic prices and supply. The European Union, the United States, India and many other countries have relied heavily on tariffs and other barriers to achieve secure and stable domestic food supplies. Some—such as Korea, Taiwan and India—even used their protected agriculture as the basis on which to expand their industry, either through policies that hurt agriculture (for example, taxing producers by holding prices below the cost of production, as in much of Africa through the 1960s and 1970s) or through more positive measures, such as investing in the rural non-farm economy to generate local capital and employment creation, as in Indonesia or South Korea. History has shown that investment in the rural economy—particularly in the service sector—is a much better strategy for economic growth, and, in particular, for lasting efforts to reduce poverty (and thereby hunger), than taxing agriculture. Experience shows that investment needed for such a strategy is much lower than for more traditional approaches to employment creation. Trade liberalization policies need to be carefully managed so as not to undermine the effectiveness of the rural investments.

AoA disciplines on government intervention in agriculture include: a prohibition on the introduction of new non-tariff border measures and new export subsidies; a ceiling on existing tariff, export subsidy and certain kinds of domestic support levels; an obligation to convert existing non-tariff measures into tariffs; cuts to most tariffs and some subsidies. Other subsidies are allowed at unlimited levels, including those linked to reducing production, and income support payments that are not linked to production at all. On the whole, policies that seek to manage price or production are prohibited or discouraged. Production-linked payments are allowed, in Article 6.2, known as the Blue Box, but such payments are targeted for reduction in the current round of negotiations. Doubts persist about how much real reduction will come

about in the Doha Round, given the debate on Blue Box definitions. Further, there is still a good deal of scope for government intervention in developed countries using technical barriers to trade, green box measures and protection of "sensitive" products.

While the trade-distorting effects of such programs are clear, for countries that may need to increase domestic production as part of their food security strategy, the rules pose a problem. In large part, the AoA rules were shaped by attempts to solve the problem that over-production in some OECD countries created for other, mostly non-OECD countries (in brief, the U.S. and EU failure to control supply was crowding out Australia, Brazil and Argentina).

For the majority of developing countries, however, food security demands make properly managed production incentives an important tool. The specific disciplines of the AoA are not that onerous for most countries, developed or developing, but the agreement makes it difficult, if not impossible, for countries to adopt some of the policies that might make the most sense for food security reasons. For example, stable domestic prices at a remunerative level for farmers are essential to support production increases. The market, especially an open, global market, makes such price stability almost impossible to realize. In most countries, the government has to intervene, or a voluntary supply pool that captures most production has to be created, if domestic prices are to encourage investment in expanded production.

Consider Burkina Faso, which has high external debt and an undiversified export revenue base (Burkina depends heavily on cotton exports). For Burkina, increased dependence on world markets to meet food demand poses several problems. First, Burkina's purchasing power in the world market is weak. Even relatively small increases in world food prices are problematic, because foreign exchange is scarce and yet the food is not an optional import.

Second, Burkina's dependence on a single commodity makes its foreign exchange earnings unpredictable. The world cotton market, distorted by production dumped by the United States and the European Union, does not provide stable income for the exporting boards, nor for the farmers that supply them. Recent national interventions to improve and increase cotton production have been successful, but more production for a depressed market is not an answer. West African countries have seen their volume of exported cotton rise, while its value plummets. Even if U.S. and EU cotton subsidies were eliminated, dependence on the world cotton market would be an unsure strategy for Burkina Faso. Prices would likely increase somewhat, but other producers, from Eastern Europe, South Asia and elsewhere, would increase their production in response. Overall global supply would probably dip and then recover, leaving supply, and prices, much where they were.

Burkina needs many policy changes to end its precarious dependence on a single commodity, including: investment in basic human needs such as education and health; diversification of its productive capacity; programs to combat desertification and the extensive (sometimes

irreparable) damage that inadequately capitalized agriculture has caused; greater political stability in the region; and, perhaps deeper regional integration to expand local markets and offer scope for regional value chains.

3. Food Sovereignty

Food sovereignty is a term that was introduced to the multilateral system in the preparations for the 1996 World Food Summit. The concept was introduced by an organization that brings together peasant associations from around the world called La Via Campesina.[19] Today, a number of NGOs and Church-based organizations have adopted the term for their campaigns to end world hunger.

Food sovereignty describes a process whose end goal, in part, is the realization of food security as it is elaborated in this paper. However, food sovereignty emerged, in part, in reaction to the trade community using the term food security as a justification for greater trade deregulation under bilateral, regional and multilateral trade agreements. For many advocates of food sovereignty, food security has become a tainted concept, too divorced from the politics of how it should be achieved and too easily manipulated by food companies and their spokespeople. Somewhat confusingly, food sovereignty is used in preference to food security by its advocates, although the former describes a process (how to organize agriculture) while the latter describes a state of being. The terms are not particularly good substitutes for one another.

During the November 2004 negotiations on agriculture at the WTO, representatives of both the World Bank and International Monetary Fund insisted that trade liberalization was a necessary condition for food security. The international financial institutions suggested that attempts to circumscribe agricultural liberalization in developing countries would damage food security. They suggested that developing countries' proposals to protect the crops they judge to be vital to their national food security were misguided.

This assertion contradicts the experience of many farm organizations and NGOs working in developing countries. For one thing, as UNCTAD has said of Least Developed Countries in its 2004 report, many poor developing countries are living in a "post-liberalization" context; after twenty or more years of structural adjustment programs, their economies are already open. In fact, in agriculture, the average developing country is more open than its developed counterpart.

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[19] See their Web site (in English, French, Spanish and Portuguese) for more information on the organization at: http://www.viacampesina.org/

At the outset, many developing country farmers' organizations and the Church groups and NGOs working with them proposed reforms to national agricultural policy that would take control away from the state and increase market autonomy. In many countries, the state had proved a corrupt and unwieldy agricultural master and proposals to eliminate state marketing boards and to free up planting and marketing decisions were widely welcomed.

However, the experience did not live up to the promise. The state boards, for all their faults, provided national coverage for certain services, including extension, advice, and a market even for the most remote areas. Although some private sector activity has flourished since the closing of the boards, in many cases there has not been enough domestic capital to support the private initiatives. Services have self-selected, staying close to where demands are greatest (urban centres) and neglecting remoter regions, where poverty is usually concentrated. The influx of imports has destroyed livelihoods by lowering prices on local markets. These experiences have fueled a movement away from reliance on markets alone to mediate agricultural trade.

From a food sovereignty perspective, another problem with opening markets to increased international trade is the high degree of concentration that typifies international commodity trading and food processing and retail. The dominant firms (among them Monsanto and Dow Chemical; Cargill, Bunge and Dole; Nestlé and Unilever; Carrefour, Wal-Mart and Ahold) exercise considerable market power, at the expense of optimal open market outcomes. While government agricultural policy, both national and multilateral, is focussed on the land, and on producers, food production is really driven by the actors further up the production chain, in processing and retailing. This is one of the reasons that so many agricultural policy interventions have seemingly perverse outcomes—the failure of decoupled payments for example, and the demonstrated effect that cutting subsidies can have little or even a contrary impact on production (Australia, Canada and Argentina all saw wheat production rise after various subsidies to producers were cut in the 1990s). Food sovereignty advocates posit two battling visions for agriculture: one globalized and dominated by private multinational companies; the other local and dominated by family-owned farms. Food sovereignty is a clear pitch for the latter vision.

Food sovereignty asserts the right of nation states to determine their food and agriculture policies, and to retain the necessary policy space to put the required frameworks in place. There is a caveat: such policies should not damage the food sovereignty of other countries. The concept of food sovereignty is not a return to the notion of national self-sufficiency in food. Instead, the concept puts the responsibility for food and agriculture policy at the national level, and leaves it for governments to decide if and to what extent they want to engage in international trade. The concept allows for a multilateral level in decision-making, but does not allow that the multilateral rules should dictate national priorities. In particular, food sovereignty advocates reject the role that multilateral trade rules play in shaping national food and agriculture policy. Most supporters of food sovereignty accept the UN system as an appropriate forum for

multilateral negotiations but single out the WTO as not suited to determine food and agriculture policy. It is not always clear if the advocates of food sovereignty see a role for the WTO in setting multilateral rules for competition.

There is much that is intuitively attractive about the concept of food sovereignty, particularly for those who argue that food security requires food and agriculture policies that are specific to local conditions. The relationship between food security and trade is complex. The attempt to realize a single global food market (not an end goal actually on any government's agenda, not even New Zealand's, but still the direction in which most trade reforms are currently headed), will raise new challenges for food security, and exacerbate some old problems. The questions of distribution and access in particular are not adequately answered by reliance on the open market, just as poverty and equity issues in wealthy countries are not solved by the "invisible hand" of the market at the national level.

The idea that the nation state should be the ultimate arbiter of food and agriculture policy has some real drawbacks, however. Human rights activists, for example, rely on the multilateral system to put pressure on governments that are reluctant to take on their obligation to promote and fulfil the human right to food. For many peasant organizations, in many parts of the world, the state is the enemy, blocking meaningful land reform initiatives, protecting rural elites at the expense of rural labourers and small-holders, and/or maintaining policies that depress agricultural prices to subsidize the cost of food for urban workers. Sometimes national policy reform requires external pressure on governments, to complement domestic pressure for change.

Nor is it clear how the principle that no country's exercise of food sovereignty should compromise another country's choices will work in practice. The vast majority of countries in the world depend on food imports to meet a small but important part of their food demand. Only a handful of countries—perhaps a dozen or so—are actually net food exporters. Even the United States is on the cusp of net food importing status. A small number of countries have a hugely disproportional impact on global food markets, either as a major supplier (the U.S. supplies half the world market's maize, some 25 per cent of traded wheat, over half the world market for soybeans) or with enormous potential demand. As China grows—economically and demographically—its demand for resources, including food, is growing at an impressive rate. While China has long practised a strong measure of self-sufficiency in its food policy, as it opens its economy to the world, it is relying on world markets to a much greater degree than before, allowing parts of its agricultural base to wither in the process. The impact of a country such as China exercising food sovereignty would have enormous implications for world food markets. Multilateral policy will be enormously important in trying to influence China's choices.

Or consider New Zealand, whose farmers must export to make a living. Agriculture is one of the few viable export sectors for a country that is scarcely populated and far from the nearest

market of any size. Nor does New Zealand's production depend on particularly unsustainable resource use. The nearest large-ish market, Australia, has fewer than 20 million people, and is itself a net food exporter. An approach to food security that relies above all on domestic production and that favours domestic producers leaves these farmers without a living, and the country without its principal source of economic wealth. The sovereign decision of New Zealand is unlikely to welcome a sovereign decision by Switzerland to continue subsidizing its butter production.

A rules-based multilateral system is essential to ensure nationally determined food policies do not damage the interests of other countries. At some point, sovereignty will have to be compromised if we want to fulfil everybody's right to food. The sale of food at less than cost of production prices—a recurrent problem in today's food markets and a practice that depresses production where it actually needs encouraging—is one such problem in need of a multilateral solution. Similarly, the excessive market power among global food firms requires multilateral attention.

One of the more controversial elements in the food sovereignty platform is the assertion by some groups of the "right to produce," suggesting farmers have a right to make a living on the land, a right that governments must respect and promote. Peasant and farm organizations are the strongest advocates of this position. Other advocates of food sovereignty, for example many of the Church-based development groups that have adopted food sovereignty language, argue there is no such right. However, food sovereignty advocates do agree that governments have an obligation to create and protect livelihoods and to respect the right to food. Consequently, these advocates see it as incumbent on governments, and the multilateral system, to support sustainable agricultural production and decent returns from agriculture to producers.

Resolving the limitations of food sovereignty as an approach to food security will not be easy. However, although food sovereignty is not yet clearly enough defined to offer a full answer, it does raise some important challenges to those who think that global trade rules and efficiency arguments alone are the answer. The concept has gained considerable popular momentum and is here to stay. At least for a while.

4. Multi-functional Agriculture and Environmental Constraints

Multi-functional agriculture describes policies for agriculture that go beyond production-related measures to provide incentives for farmers to practice agriculture in a more sustainable way. It recognizes that agriculture has other functions than the production of agricultural commodities—it preserves cultural landscapes, protects habitats and biodiversity, conserves rare and threatened ecosystems, maintains rural lifestyles and employment, slows the rush to urbanization, etc. Examples of agricultural policies that promote multi-functionality include payments for managing water quality, protecting against soil erosion, and protecting habitats

for endangered species that live in farmed landscapes. These services are not reflected in market prices and yet have significant public value. MFA also considers some level of domestic food production to be an essential component of food security, even if domestic producers are not able to grow food as cheaply as their competitors. MFA directly challenges the notion that market forces alone can adequately protect and promote certain objectives, including food security and environmental protection.

The industrial agricultural practices that provide much of the food circulating in global markets and the domestic markets of OECD countries put enormous strain on the planet's natural resource base. There are four main problem areas: depleted and eroded soils; depleted and polluted water sources; a heavy reliance on climate changing energy sources; and, reduced biological diversity, both through agriculture's incursion on non-agricultural ecosystems and through increasing reliance on a small handful of plant and animal varieties at the expense of the enormous diversity that used to be cultivated or raised. To this must be added the environmental cost of the global transport of food products, whose volume is impressive and growing.

An estimated 70 per cent of the water people use worldwide goes to agriculture. In many places, up to half that water is wasted through leaks, evaporation and other inefficiencies. Clearing forest and scrubland for cultivation contributes to deforestation and reduces the size of the global carbon sink. Industrial agriculture is a major user of fuels that worsen climate change, in particular oil, but also chemicals such as methyl bromide. As the public awareness of the health problems related to industrial agriculture grow, so the pressure for a healthier and more environmentally responsible production model increases.

Agricultural plans such as the Common Agricultural Policy were designed to maximize production. Some academics, such as Tim Lang of City University in London, argue that we now moving to a new paradigm for agriculture: we now live in a world where obesity and poor eating habits are killing as many people as malnutrition is (heart disease, cancer, diabetes and so on), and not just in rich countries, but around the developing world as well. It is difficult to imagine such a paradigm where so much of agricultural production and trade is dominated by a handful of transnational corporations.

Although there are still many debates around whether to adopt more sustainable agricultural practices, and, if so, which particular practices to favour, it is less and less controversial to assert that we cannot continue on the current path. We need more food, as the population continues to grow, yet we cannot count on the methods that were so spectacularly successful in the post-World War II context: there is relatively little new land available to bring into cultivation; many of the high-yielding technologies have reached the limit of what they can achieve (and have created a number of environmental headaches in the process); and, few of the countries that most need to can afford to invest in the infrastructure they need—for example, irrigation—to significantly increase their domestic food production.

The debate on more sustainable agriculture, whether through an MFA approach, an agro-ecological approach or yet another variation on the theme, has taken on new urgency as we find that environmental constraints to development are very real, if not quite of the kind we had predicted thirty years ago. However governments decide to meet food security obligations, it will have to be done using sustainable production systems.

In trade circles, the core support for MFA comes from Japan, South Korea, Norway and Switzerland: all wealthy countries with politically powerful farmers and relatively difficult production conditions. In the recent past, the farmers in these countries have relied on governmental support to maintain high domestic prices and keep out cheaper imports. They are net-food importing countries, whose food export volume is small. Norway and Switzerland have small domestic markets as well, making them of limited interest to exporters. The European Commission has also supported MFA, although there are divisions within the Commission and among member countries as to the usefulness, validity and application of the concept.

To understand the challenge MFA poses for agricultural trade negotiations, consider Japan's comprehensive proposal to the WTO negotiating session on agriculture of November 2002: Japan proposed to leave domestic support levels untouched and to raise market access barriers on rice. In a footnote to its Tariff Quota Volume proposal, Japan explains "[a]s for primary agricultural products in each Member, a certain level of domestic production needs to be maintained for addressing non-trade concerns such as food security, rural development and environmental protection."[20]

A fundamental criticism of proposals made in the name of MFA is that for them to be economically feasible for all WTO members, the proponents would have to make a serious proposal for how to accommodate developing country needs and concerns. As it is, the countries that promote MFA allow and even encourage their exporting firms to dump their agricultural produce at below cost of production prices in world markets, too often providing export subsidies as well. The result is to undermine agricultural production elsewhere, particularly in developing countries, whose governments are least well equipped to protect their farmers.

Countries with a commitment to exporting agricultural products (notably the Cairns Group members) argue that proponents of MFA set out laudable, and widely shared, goals (including food security) but propose inefficient means for their accomplishment. The Cairns Group governments reject the need for production-linked payments to meet MFA objectives. However, Norway and others have argued that it is exactly these payments that are needed to sustain domestic agricultural production.

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[20] "Market Access, Domestic Support and Export Competition," Submitted by Japan, WORLD TRADE ORGANIZATION, JOB (02)/164 (214 November 2002).

Conclusion

Governments have agreed to a comprehensive definition of food security, in the realm of human rights, multilateral food and agriculture policy and elsewhere. Food security is a fundamental human right whose realization depends on collective, public action. The publicly agreed definition should guide assessments of whether trade policy—or environment and health directives—are meeting food security objectives. Food sovereignty advocates need to answer some tough questions on how competing national visions for agriculture will be resolved equitably for all concerned.

National self-sufficiency for all is not the way to guarantee food security; nor is slavish devotion to free trade. Instead, a pragmatic approach is essential—an approach that accepts second-best solutions may be best, particularly if we are trying to reconcile a number of objectives: economic, social, political and cultural. The trade system needs to accept a place in the wider multilateral system, particularly if trade negotiators are serious about respecting food security and environmental constraints. The challenge to localize decision-making, a challenge clearly made by advocates of food sovereignty, is a reminder that the multilateral system must continually prove its worth to remain relevant and supported. Food security depends on strong but flexible trade rules; governments are still searching for the best framework to make that possible.

Annex 1: La Via Campesina on Food Sovereignty

La Via Campesina first coined the term. In 2003, they defined the concept as follows:

> Food sovereignty is the peoples', Countries' or State Unions' RIGHT to define their agricultural and food policy, without any dumping vis-à-vis third countries. Food sovereignty includes :
> – prioritizing local agricultural production in order to feed the people, access of peasants and landless people to land, water, seeds, and credit. Hence the need for land reforms, for fighting against GMOs (Genetically Modified Organisms), for free access to seeds, and for safeguarding water as a public good to be sustainably distributed.
> – the right of farmers, peasants to produce food and the right of consumers to be able to decide what they consume, and how and by whom it is produced.
> – the right of Countries to protect themselves from too low priced agricultural and food imports.
> – agricultural prices linked to production costs : they can be achieved if the Countries or Unions of States are entitled to impose taxes on excessively cheap imports, if they commit themselves in favour of a sustainable farm production, and if they control production on the inner market so as to avoid structural surpluses.
> – the populations taking part in the agricultural policy choices.
> – the recognition of women farmers' rights, who play a major role in agricultural production and in food.

Many advocates of food sovereignty met in January 2005 in Chapeco, Brazil. Among the recommendations for governments from the group of family farmers, academics, NGOs and others who met was to "prioritize food production for the domestic market… in order to satisfy food needs." Import protection is described as a right in the Call from Chapeco.

Another demand was for "remunerative agricultural prices," to be achieved through, "border protection, supply management, collective marketing, and sustainable production methods."

The full document is available online at: http://dakardeclaration.org/

Annex 2: Achieving Food Security

The Elements of Food Security

Supply			
Self Sufficiency	**Trade Liberalization**	**Food Sovereignty**	**Sustainable Agr.**
Depends on natural resources available in country—if adequate, then provides a national level of security (but does not ensure supply reaches everyone—see distribution and access). For most countries, likely to push an unsustainable and inefficient use of resources—few countries can meet their food security needs (and definitely not their consumers' preferred choice of food) entirely from domestic supply.	Relies on the global market for supply—in theory the biggest supply out there; in practice only 10 per cent or so of food produced is traded internationally, and some products are not traded at all. Good insurance against weather failure. If managed under multilateral rules, the some predictability in access to the market as needed. Expands market for producers, if they have access to an exporting firm (such as Cargill or others). This can stimulate production, raise prices paid to producers and facilitate diversification of the economy.	Sovereignty leaves balance of domestic and international supply to the global market, with a clear preference for domestic production for domestic consumption taking precedence over imports and exports. Advocates supply management, which when it works, offers stable and reliable supplies, with stocks held against harvest failures or other supply shocks. By and large would tend to stimulate production, which would need careful management in some countries, but in some developing countries, especially in Africa, would be a welcome outcome.	Focus on ensuring at least a minimum of domestic supply, although not closed to imports. Interest in payments to better manage natural resource base—in countries promoting MFA, reduced production would often be the point, but sometimes sustained production despite economic losses is the objective. More broadly, an ecological approach would be looking for alternatives to industrial production models, seeking to reduce production of certain crops, and to transform the production system to ensure that future supply is not compromised by inadequate soil and water resources, or by lost biological diversity, fostering vulnerability to disease and pests.
Distribution			
Self Sufficiency	**Trade Liberalization**	**Food Sovereignty**	**Sustainable Agr.**
Self-sufficiency does not discuss distribution explicitly; the theory is concerned with securing sufficient food at the national level.	Global trade patterns both broaden and alter distribution patterns. Where countries have disbanded their national marketing structures, a common experience has been to see a flurry of private sector interest, which then collapses into one or two survivors, often in alliance with an international firm. These new companies often do a better job of reaching urban markets than the state (at lower prices in some cases), but they will be less good at reaching more remote areas, where hunger is generally more acute.	Food sovereignty does not tackle distribution head-on; its focus is more on a model of production than on food security. The implications of the model would be to emphasize domestic production first, and then imports (and exports) secondarily.	Again, sustainable agriculture is not focussed on distribution issues, although through MFA and similar, there is an emphasis on maintaining production even in less competitive regions, which affects what food is available in which markets, and at what price.

Distribution			
Self Sufficiency	**Trade Liberalization**	**Food Sovereignty**	**Sustainable Agr.**
	Global trade can also alter what is available in the market, and where—without corrective measures, the market sells to the highest bidder, which is not always the best result when food security is at stake.		
Access			
Self Sufficiency	**Trade Liberalization**	**Food Sovereignty**	**Sustainable Agr.**
Again, self-sufficiency is about supply at the national level; less about individual access to food.	Global trade offers increased choice, but not to everyone. Those near enough to the markets, those with sufficient purchasing power, those wanting to buy what the world market has to sell—all these people benefit. However, poorer households, or those far from the main centres, are at risk of losing out. The very rapid expansion of global trade has not been accompanied by a fall in the number of hungry people, even allowing for overall population increases.	Food sovereignty is interested in production more than consumption, however, by focussing on economically remunerative agriculture for peasant and small-holder agriculture, FS does focus on some of the poorest (and hungriest) populations; an economically healthy agricultural sector will almost by definition reduce the incidence of hunger. Still, the approach does not (or does not yet) discuss such issues as fair wages for agricultural workers, which would go even further to reducing the vulnerability of some of the most hungry people.	Sustainable agriculture is the only approach to consider directly the question of inter-generational access (and supply). The thinking aims to ensure that meeting today's need for food does not come at the expense of the next generation's food security. The approach has also focussed on such things as preserving traditional knowledge, which can provide important access to a nutritional diet for farmers themselves. Interesting example of MASIPAG in the Philippines—shift from GR rice to organic cultivation of traditional variety increased nutritional levels by i) reducing outlay and therefore reducing pressure on HH budget and ii) allowing fish to live in the paddy, providing an instant source of protein that use of pesticides had eliminated.

Four Paths to Food Security

Self-Sufficiency

Pros	Cons	Example
Provides independence from volatile world markets. World markets offer a limited choice of culturally preferred foods (e.g., halal meat, sorghum, etc.). Provides a guaranteed market (and livelihood) for local producers. Food is often used as a political weapon (the U.S. embargo on Cuba for example); self-sufficiency is one way to avoid the political pressure.	Is often an inefficient use of resources (ignores comparative advantage). Hard to provide against weather or other disaster. National borders not determined by food-production capacity; most countries in the world import food, although often 10 per cent or less of total need (that is now increasing). Forces reliance on seasonally available food.	A number of countries tried this strategy; most abandoned the effort. North Korea tried, but failed miserably and relies on food aid. China was relatively successful, but has moved on.

International Trade

Pros	Cons	Example
Increases the potential supply, thereby smoothing out prices. Increases choice of food for consumers that can afford to pay. Avoids the costs and inefficiencies of central planning or governments-run production and distribution. Fewer border measures reduces opportunities for rent-seeking and corruption. Often borders are porous, so regulations become unenforceable and black market results. Where governed by multilateral rules, provides a setting where larger countries are less able to bully smaller ones and stops one country hoarding food or extorting high payments from countries that need the imports to meet their food security needs. Most countries need to import at least some food; many of the most food insecure will need to keep increasing imports in the near future—multilateral rules offer a way to keep markets open and to avoid politicized access (e.g., food for political friends and not others).	In practice, the traded portion of most food production is small, so world markets are prone to volatility (e.g., six per cent of rice; 17 per cent of wheat—overall, roughly 10 per cent of all food production). The further farmers are from the final market, the less likely they are to make a reliable (and profitable) living unless they are organized into a sales unit (as Fontera for New Zealand dairy). Consumers often do not get all the benefit of lower world prices—sometimes they do not get any of it. Relates to: World food markets are oligopolistic, creating market distortions that cost farmers and consumers alike. Agricultural markets do not model well under open market assumptions; elasticities of supply and demand for many goods are too small. Inherent assumption that agriculture is not a viable living for more than four to 10 per cent of the population. Yet currently employs from 20 per cent to 90 per cent in developing countries: how will that much labour be absorbed in current conditions?	Almost all developing countries have opened their agricultural markets under structural adjustment, regional trade agreements, WTO rules or combination of three. Successful food importers include Venezuela (which has oil income to pay for the imports) and Cape Verde (which has focussed on other sectors as its agricultural base is so small. Less successful are many sub-Saharan African countries that lack steady foreign exchange, have farmers trying to make a living on local markets who often cannot meet stringent export quality standards—their domestic food production is down and their ability to buy food internationally is limited. New Zealand agriculture has done well under deregulated and liberalized regime.

International Trade (continued)

Pros	Cons	Example
	Food security becomes a "by-product"; it is assumed to result, yet unregulated markets are not good at either distribution or access questions, which are central to food security. High barriers to entry—closes out developing country competitors. Assumes one world price makes sense, yet world prices are very distorted—often "thin" markets, often subsidies in play, or a residue (dark chicken meat) that skews profit calculation.	

Food Sovereignty

Pros	Cons	Example
Gives governments flexibility to respond to local conditions. Gives prominence to farmers' voices, which experience has shown to be important in developing a strong agricultural base. Confronts market power issues directly, challenging governments to regulate oligopolies and protect farmers (and consumers) from predatory business practices. Talks about more sustainable production (although more explicit on farmers' rights than natural resource management).	Still not well defined—a new and still emerging concept. Begs question of reluctant, misguided, uninterested or corrupt governments; heavy reliance on democratic process. Does not clearly answer how competing sovereignties can be accommodated—if country A wants to trade, but country B does not want to import (or export), who trumps? Is there a right to produce? Right to a livelihood does not translate into a right to a specific livelihood.	Too new to be a country's self-described program; need to look for regional or local examples.

Multi-functional Agriculture and Sustainability

Pros	Cons	Example
Faces the unsustainable nature of current agricultural practices. Acknowledges inter-generational responsibilities to provide our descendents with a viable natural resource base. Makes food security an explicit objective of agricultural policy. Recognizes important benefits from agriculture that are not captured in the monetized economy. Addresses the health and environmental problems now understood to be endemic in an industrial approach to production.	MFA has failed to address development concerns and priorities (although agro-ecology is rooted in developing country's traditional agricultural knowledge). Difficult to make assessments on what policy to follow when weighing inter-generational costs and social, economic and ecological issues all at stake. MFA involves direct costs to the public purse that many countries are not in a position to make; we need more creative ways to make the transition (some examples available from agro-ecologists, although some question their potential to "scale-up."	Proponents of MFA are experimenting with new programs. For example, Switzerland now pays more to farmers that follow tighter environmental standards in their agriculture. Post-USSR Cuba is an interesting example: the collapse of their supply of pesticide and fertilizer forced a radical shift to organic production, with some very positive results. Pretty (DFID, '04) gives interesting example from China.

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