

*To our friend and colleague  
David Burch*

# Food Security, Nutrition and Sustainability

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Geoffrey Lawrence, Kristen Lyons and  
Tabatha Wallington



publishing for a sustainable future

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## 5 Neoliberalism and Food Vulnerability: The Stakes for the South

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*Gabriela Pechlaner and Gerardo Otero*

### Introduction

Agriculture has historically represented the greatest stumbling block for promoters of neoliberal ideology and trade liberalization across the global marketplace. Having been set apart in the post-Second World War trade regime, neoliberal globalizers have consistently sought to bring agriculture into the free-trade fold since the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) (1987–2003), and later through the Doha 'Development' Round. With agriculture's products having the distinction of being the means to sustaining life, it is hard simply to designate them as commodities to be exchanged according to the dictates of national comparative advantage. Furthermore, advanced capitalist countries have been glaringly inconsistent in preaching free trade while practising protectionism in agriculture. In a market context, with such inconsistent liberalization the revenues generated from agriculture for export are far from predictable, stable and equitable. Similarly, the cost of purchasing food internationally is equally subject to the vagaries of the market. Consequently, food security based on market access is less risky for high-income nations, and national food sovereignty is of far greater concern to lower-income nations. Nonetheless, developing countries of the global South – many of which produce a surplus of food – have signed on to free-trade deals with hopes of ensuring market access to the developed countries of the North.

Given the power inequalities at play in the jockeying over trade liberalization in agriculture, trade negotiations shaping the international division of labour in agriculture and food have become regionally polarized. These slow and

unwieldy policy negotiations have been jolted more recently, however, by the shocks in world food prices experienced in 2007–2008. Consequently, even prior to any resolution of the issue of agriculture at the World Trade Organization (WTO), theoretical arguments about trade liberalization have been dislodged by the wealth of empirical evidence demonstrating the disproportionately negative impact of food dependency on lower-income countries. While the food crisis affecting developing countries has resulted from a mix of natural and policy factors, subscription to trade liberalization is increasing both their dependence and their peripheral status with respect to countries of the North. There is strong evidence that the resulting food vulnerability in developing countries is not only increasing national inequalities, but is also exacerbating the dependence of lower-income countries on their Northern neighbours. While more equitable arrangements are clearly required, we do not believe that an isolationist strategy is the only solution. Instead, we propose an internationalist form of food nationalism, one that privileges food sovereignty without cutting off opportunities for international trade or resorting to protectionism.

In the first section of this chapter, we discuss the main legal tenets of neoliberal globalism at the supra-state level, which we refer to as 'neoregulation'. Specifically, we outline those international trade-liberalization efforts in agriculture related to the Agreement on Agriculture (AoA) made under the auspices of the WTO. In the second section, arguments around trade liberalization are cast in the context of the ongoing food crisis. Given the likely exacerbation of this crisis by the severe economic problems triggered by the US financial 'meltdown', we focus on painting a broad picture of the impacts of the food crisis on the ability of developing countries to address issues of food vulnerability. The third section examines such food crisis impacts for one country, namely Mexico, which was chosen based on its status as a developing country that has a trade agreement with two developed neighbours to its north. In the final, concluding, section we argue that promoting food sovereignty and retaining national control over agriculture is the safest bet for developing nations of the South. Specifically, we call for an 'internationalist nationalism' in regard to food and agriculture, which has the potential to achieve these gains without resorting to isolation or protectionism.

### Neoregulation in agriculture

As we have argued elsewhere (Pechlaner and Otero, n.d.), regulation for trade liberalization is an ideological project, conducted under what we call 'neoliberal globalism'. Rather than the power of the state 'withering away' under globalization, as the situation is sometimes characterized, we see strong evidence that states are active participants in regulatory restructuring that aims to support the market as a self-regulating mechanism. Consequently, we prefer the term 'neoregulation', rather than the more popular 'deregulation', to better characterize state participation in restructuring. Vast economic and power differentials between states, however, mean that some states are more able to drive the creation of global regulatory regimes, while others must concentrate on

strategies aimed at adapting to the resulting conditions – conditions frequently not in their favour (see Ó Riain, 2000; McMichael, 2004). In this context it becomes easier to understand why current efforts to incorporate agriculture into international trade agreements are rife with contention, despite the strong role of agriculture in global trade throughout history.

Trade liberalization in agriculture is an important component of the full implementation of neoliberal ideology in international regulations. In many ways, the argument for free trade echoes historical discussions regarding comparative advantage. It is argued that trade works best when each country specializes in what it can produce best, or most efficiently, and then trades with other countries that have done the same, but have specialized in other products. With respect to agriculture, it has been argued that it would be inefficient for each country to seek to produce all its own food. As Pascal Lam, Director General of the WTO, has argued 'if Egypt had to be self-sufficient in food, there would be no water left in the Nile' (cited in Bradsher and Martin, 2008). In short, it is assumed that global food production would decrease if each country – no matter how ill-suited – attempted to produce all of its own food. Further, while agricultural products have been traded internationally for centuries, agriculture has also been strongly protected at the national level, with the most protectionist (or farmer-subsidizing) countries being advanced capitalist societies, namely the US, member countries of the European Union (EU) and Japan. Given that developing countries do not have the resources to compete with the subsidies provided to the sector in these regions, signing on to trade liberalization would theoretically provide access to otherwise highly protected markets.

The locus for negotiations over trade liberalization in agriculture is the WTO. While some dictates for trade in agriculture existed in the WTO's predecessor, GATT, it was only during the Uruguay Round of negotiations – resulting in the transformation of GATT into the WTO in 1994 – that an agreement dedicated to agriculture was initiated. The resulting Agreement on Agriculture (AoA) was a preliminary step towards reducing trade distortions in agriculture. At its core are three 'pillars' for reforming trade – market access, export competition and domestic support – with different phase-in periods being specified as appropriate for developing and developed countries.

The market access pillar requires the conversion of all non-tariff barriers (such as quotas and voluntary export restraints) into tariffs, through a process called 'tariffication'. Once each country's barriers had all been converted into tariffs, the tariff amount was set and could not be increased. The tariffication process aims to create a more predictable system, and to facilitate the numerical reduction of tariffs over time according to set targets. The second pillar, export competition, relates to export subsidies. Export subsidies are by their very nature trade distorting because they encourage the export of goods through various government measures (such as tax relief), thus increasing sales on the international rather than the domestic market. It is easy to see how these two pillars distort trade, either by increasing the costs for those trying to import goods into the country (thus keeping local prices artificially high), or by

helping local producers export their goods outside the country (thus driving market prices artificially low). In either case, producers outside the country who are not similarly protected face a trade disadvantage as a result of these measures. The last pillar is the domestic support pillar. Domestic supports are problematic in a free trade regime because they encourage overproduction, which affects the potential for imports and can lead to 'dumping' on world markets (WTO, 2007).

Importantly, the AoA categorizes domestic support measures in terms of 'boxes', which are somewhat analogous to traffic lights. Green box measures include subsidy programmes around environmental protection, regional development and direct income supports to farmers that do not affect production levels (WTO, 2007). While green box subsidies are permitted, these subsidies must not deliberately distort trade, although some minimal trade distortion effects may be acceptable. In contrast, amber box forms of domestic support are known to distort trade by supporting price or production levels, although only a minimal amount of such distortion is permitted. Finally, while not named as an actual 'box' in the AoA, any domestic support measure that exceeds the permitted amount of amber box subsidies could be considered 'red'. Beyond the traffic light metaphor are blue boxes, which are essentially amber boxes with restrictions, and which have no subsidy limit (WTO, 2002). Thus, an amber box policy that has a condition requiring farmers to limit production is placed in a blue box.

The AoA has numerical targets for the reduction of tariffs and subsidies, with a six-year phase-in period for developed countries starting in 1995; a 10-year phase-in period for developing countries; and no reductions required for least-developed countries. The average cut in tariffs for all agricultural products and export subsidies was to be 36 per cent for developed countries and 24 per cent for developing countries. Cuts to domestic supports were to be 20 per cent for developed countries and 13 per cent for developing countries (WTO, 2007). Implementation of these targets has had some very unequal effects. Essentially, there is a significant difference between implementation according to the spirit of the agreement, and implementation that – while still technically in compliance – nonetheless manages to maintain agricultural protection. Trade liberalization is not as transparent as touted. Consequently, while these trade liberalization strategies appear to make provisions for the relatively weaker status of developing and least-developed countries, there are indications that the changes are nonetheless significantly disadvantaging these countries. According to a WTO 'backgrounder' published near the end of the phase-in period for developed countries:

*Many developing countries complain that their exports still face high tariffs and other barriers in developed countries' markets and that their attempts to develop processing industries are hampered by tariff escalation (higher import duties on processed products compared to raw materials) (WTO, 2004).*

Another frequently-made critique of the trade-liberalization programme is that the 'box' process of subsidies has been manipulated to the advantage of developed countries, thereby circumventing the opening of their markets while developing countries have followed through with agreed trade liberalization measures. For example, the organization ActionAid claims that since the AoA has been in place, developed countries have been shifting their subsidies between boxes in order to avoid their reduction commitments, and as a consequence have actually managed to increase their agricultural subsidies by some 9 per cent between 1986–1988 and 1999–2001 (ActionAid.org, n.d.). Through such box manipulation, developed countries are able to maintain their subsidies, and to continue the practice of 'dumping' agricultural products on the world market at prices below the cost of production – a practice that damages the domestic agriculture sectors of developing countries unable to match such subsidized production. In the decade prior to 2003, for example, ActionAid estimates that the US has sold various agricultural products at prices significantly below the cost of production: for example, maize has been sold at 5–35 per cent below cost, with figures cited as 20–55 per cent for cotton, 20–35 per cent for wheat, 15–20 per cent for rice, and 8–30 per cent for soybeans (ActionAid.org, n.d., p8).

Subsequent negotiations towards agricultural liberalization were to be pursued during the 9th Round of WTO negotiations in Doha in 2001. Despite its billing as the 'development round', supposedly prioritizing the issues of developing countries, these countries found their concerns over the non-trade values of agriculture and food – such as food security, poverty alleviation, rural development and rural migration – insufficiently represented in negotiations. In 2006, a number of developing-country groups issued a joint statement emphasizing that for negotiations to work, the protectionist tendencies of developed countries had to be addressed:

*The most substantial results must be achieved in the areas where the greatest distortions lie, in particular on trade-distorting subsidies in agriculture that displace developing country products and threaten the livelihoods of hundreds of millions of poor farmers (G-20, 2006).*

Consequently it is not agricultural trade as such that is the concern for developing countries – to be sure, such trade might be to their advantage. The issue, rather, is trade between countries with vast power differentials, and with no provisions for the special status of food and agriculture in disadvantaged countries. The discord over agriculture ultimately caused negotiations to completely collapse in July 2006, and again in November 2008.

### The food crisis

While numerous developing countries have fought against the unqualified liberalization of agriculture, recent shocks to world food prices have moved

these debates out of the sidelines and on to the world stage. The Food Price Index of the Food and Agriculture Organization of the United Nations (FAO) recorded a steady increase in international food and feed prices from early 2006, a situation that reached crisis proportions by 2008. Demonstrations and food riots have flared up in developing countries such as Guinea, Mauritania, Mexico, Morocco, Senegal, Uzbekistan and Yemen (Bradsher, 2008). People have died in violent protests in places such as Haiti (Associated Press, 2008) and Africa, where government stores were burned and looted in the rampages (Walt, 2008). While prices began to drop by October 2008, they still were 28 per cent above October 2006 levels (FAO, 2008a). Food prices are responsive to many factors, and shifts can be expected, but a majority of the factors precipitating the crisis are likely to continue their upward pressure on prices.

The causes of the current food crisis are manifold. As noted by the Economic and Social Council of the United Nations (ECOSOC), while there is wide agreement on the factors that caused the crisis, there is 'less agreement on their relative importance,' no doubt in part due to the political significance of this weighting (ECOSOC, 2008). The concerns noted by ECOSOC and many others include rising food demand, declining productivity growth, weather events such as the multi-year drought in Australia, rising energy prices, and competition from 'biofuels' – referred to more accurately by McMichael (2009) as 'agrofuels'.

While food demand is in part a factor of population growth, it is also a factor of increased income in developing countries, where between 1970 and 2005 the per capita income has almost tripled (Rosen and Shapouri, 2008, p12). This has increased food demand and, more specifically, the demand for higher-value foods such as protein (including meat), which require more resources to produce than grain. Despite the predictability of many of these factors, years of agricultural surplus in the US and the EU have seemingly biased perceptions about the need for agricultural research and development, with a consequent reduction in investment. As a result, yield growth decreased from 3 per cent in the period from 1961 to 1984 to its current level of 1 per cent – close to the world population growth rate (Reguly, 2008).

A related issue is that of high energy prices, which have pushed up the cost of food production through the increasing cost of fuel, fertilizer and pesticides. These same energy concerns have driven the demand for agrofuels, which compete for crops and cropland (McMichael, 2009). We attribute greater significance to the contribution of agrofuels to increasing food prices, than to politically neutral explanations of the food crisis triggers, for two reasons. First, the push to develop agrofuels has become an accelerating policy train. The leading agrofuel producers are the US and Brazil (together accounting for almost 90 per cent of ethanol production), and the EU (accounting for approximately 60 per cent of biodiesel production), with a growing number of other countries – including China, Canada and India – joining the policy train (FAO, 2008b, p15). A wide range of government support programmes at various stages of production and consumption have accelerated agrofuel production since 2003. A report by the Global Subsidies Initiative estimated that

by 2007, support for the industry in Organisation for Economic Co-operation and Development (OECD) countries was approximately US\$13–15 billion per year (Steenblik, 2007, p4). While disputed, there is ample evidence of the significant contribution of agrofuel development to the increase in food prices. For example, despite US assertions that agrofuels contributed just 2–3 per cent to global food price increases (Borger, 2008), the International Food Policy Research Institute estimates that the US contribution to global commodity price increases is between 25 and 33 per cent (Martin, 2008). Moreover, the OECD has estimated that agrofuels accounted for nearly 60 per cent of the increased demand for cereal and oils between 2005 and 2007 (Borger, 2008).

The second point regarding the relationship between agrofuels and food price increases is that, while many of the factors that affect food prices are difficult if not impossible to control – factors such as drought, rising incomes and population growth – the decision to prioritize fuel over food as the purpose of agricultural production is a policy decision. Moreover, it is a decision that is currently being implemented by the very countries that are simultaneously advocating trade liberalization in agriculture. Brazil, the one developing country which stands to profit from significant agrofuel production – and, importantly, whose production of sugar ethanol does not compete with food crops – is subject to high import tariffs in the EU (Cronin, 2008). Future subsidy and policy commitments to agrofuel development in OECD countries (such as the EU commitment to 10 per cent mandated agrofuel content by 2020) suggest that the pressure on food prices will be maintained, if not increased. Despite the predictability of many of the food crisis triggers, their confluence was allowed to unfold into a 'perfect storm' that acted on the price of food staples such as rice, wheat and corn. Rice prices differ by type, but in 2006 most types hovered around US\$300/tonne and peaked in May 2008 at almost triple that price. Thailand, for example, has been the top rice exporter since 1980 (FAO, 2004) and the price of Thai white rice increased by 310 per cent, from US\$311/tonne in 2006 to US\$963/tonne in 2008 (FAO, 2008c). Similarly, the price of US No 2 Hard Red wheat increased by some 227 per cent, from US\$212/tonne in 2006 to peak at US\$481/tonne in March 2008, while US No 2 yellow maize increased 201 per cent from US\$145/tonne in 2006 to peak at US\$292/tonne in July 2008 (FAO, 2008d). While such price increases may cut into the discretionary spending of the middle-income earner in a developed country, its impact is far greater on those in developing countries – most notably on the low-income, food importing countries in Africa and Asia.

The leaders of developing countries consequently have good reason to doubt the rosy 'everybody wins' hypothesis articulated around trade governed by the neoliberal paradigm. A document from the EU issued prior to the collapse of the Doha Round stated that Doha would help reduce food prices on the basis that reducing subsidies and barriers would encourage the agriculture sector to respond to market signals and to increase production in developing countries (Europa, 2008). In the immediate term, however, the food crisis has sent governments and international agencies scurrying for solutions and either backtracking on, or defending, policies with regard to any factor that could be

said to influence food prices. A key topic of the FAO's High-Level Conference on World Food Security held in June 2008 was the question of agrofuels and the extent to which they were a contributing factor to the world food crisis. The resulting declaration called for an international dialogue on agrofuels in the context of food security and sustainable development goals. More pointedly, the same OECD countries that are behind the push for agrofuels are facing increasing pressure to tone down their agenda in the face of the food crisis. Specifically, the EU faces pressure to suspend its mandated 2020 agrofuels target (Martin, 2008). It seems doubtful that – even in the context of an agricultural production system more closely responsive to the wider market – future production could be sufficiently raised to mitigate all demand pressures from a greatly expanded international agrofuels industry.

Speculation aside, the crisis has provoked real-time policy responses. National governments in countries hardest hit by the food crisis have reacted with a wide range of policy responses: reducing the tax on imported foodstuffs (such as in Congo, Azerbaijan and Brazil); eliminating or reducing import duties and tariffs (such as in Ghana, Kenya, Nigeria, Mauritania, China, Pakistan, Brazil, Mexico and Nicaragua); banning exports of selected foodstuffs (Liberia, Egypt, Bangladesh, India, China and Argentina) or otherwise imposing export controls, duties or taxes (Kyrgyzstan, Belarus and Argentina); subsidizing distribution (Honduras, Panama, Ethiopia and Rwanda); placing a freeze on food-item prices (Mexico); and using ration card systems (Egypt). Some governments have also tried to stimulate production by such means as providing subsidies or increasing the prices paid to farmers (Zambia, Azerbaijan, China, India and Malaysia), distributing seed (Guyana), or attempting to ameliorate the impact of high energy prices on farmers through fuel and fertilizer allocations and subsidies (China and Indonesia). These are just some examples of the wide range of responses (FAO, 2008e). Of course, the availability of responses depends both on international trade rules and on the financial abilities of the countries involved.

The differing abilities of countries to respond to crises make it impossible to consider neoregulation in agriculture and food without considering the issue of power in food dependence. A historical example of the consequences of such food dependence is the role of Japan in the 1973 US embargo on soybean exports, in response to a surge in demand and the price increases that followed as a consequence. Given the importance of soybeans to the Japanese diet, the 'embargo-induced shortage created panic' and induced 'the worst food crisis in Japan since the war' (Katsuro, 1984). In fact, given Japan's inability to produce food to meet its own needs, the 1973 events are often cited as the reason for Japanese investment in, and the subsequent growth of, the Brazilian soybean industry (Ray, 2004a). The 1980s US grain embargo on Russia as a foreign policy response to Russia's invasion of Afghanistan is another case in point. While the embargo did not have its intended impact (Ray, 2004b) as Russia sourced its needs elsewhere, it remains an important example of the risks of food dependence. Nonetheless, as current world events indicate, food shortages can evolve in the absence of such foreign policy interventions.

The tone of national self-preservation is already clear in the post-2006 food crisis. By June 2008, 29 countries had limited or banned food exports in such commodities as rice, wheat, corn and even sunflower seeds in order to ensure sufficient and affordable food for their own populations (Bradsher and Martin, 2008). As an outcome of such actions, which have reduced the available market stocks and thus further increased the cost of remaining supplies for import-dependent countries, international relief groups such as the World Food Programme in Rome are also having trouble purchasing stocks for emergency operations and food aid programmes (Bradsher and Martin, 2008). Despite the drive to liberalize trade in agriculture and the risks that are inherent in food-import dependence, such food-export restrictions did not garner significant attention in agricultural trade liberalization negotiations until the current crisis. Japan and Switzerland (both food import-dependent) have responded to the crisis by calling for a considerable strengthening of the rules on export restrictions in the current draft of the WTO. Notably, they have called for new rules to constrain export restrictions to the 'extent strictly necessary', for export restrictions to be subject to extensive pre-authorization and consultation requirements, and for disputes over export restriction proposals to be subjected to binding arbitration (ICTSD, 2008). A discussion paper by the Swiss National Centre of Competence in Research (NCCR), to cite another example of such rule-strengthening, emphatically asserts that '*A failure to discipline export restrictions would be particularly damaging when trade liberalisation increases competition on domestic markets*' (NCCR, 2008, p6, emphasis in original).

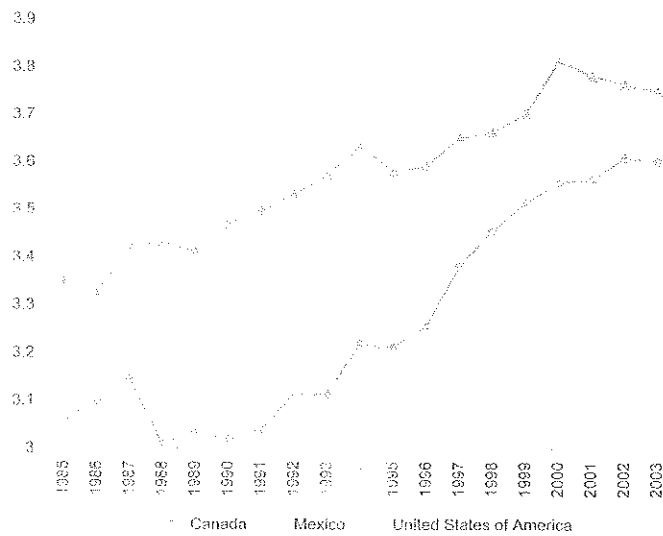
While many of the national governmental policy responses are efforts with predominantly local-level impacts, the impacts of those who resorted to so-called 'starve-thy-neighbour' export bans and related policies are devastating for those low-income countries dependent on the global market for their food. Significantly, but not surprisingly, these policies are not always evenly applied, as trade is never far from the reach of foreign policy. Politics are evident, for example, in the exceptions to export bans such as those associated with China's exports to the Democratic People's Republic of Korea, Argentina's exports to Brazil, and Ecuador's exports to Venezuela (FAO, 2008e). Such exchange agreements can be based on historical precedent or in-the-moment strategizing; for example, Malaysia's announcement that it will exchange palm oil for rice (FAO, 2008e). When the conditions for mutually beneficial trade break down, as they inevitably will, countries with little economic, military or other forms of global power will be without recourse.

### **A view from the ground: The food crisis in Mexico**

Let us further interrogate the case of Mexico. When considering aggregate data, Mexico is not self-sufficient in agriculture, although these aggregate data narrow the definition of agri-food (which we prefer to define broadly) and exclude more broadly defined agri-food exports, such as beer and distilled alcoholic beverages. With this wider definition, the country is self-sufficient. In

either case, if Mexico is not yet self-sufficient in agriculture, it is nonetheless very close to being so. Consequently, given its high level of agricultural production and its involvement in agricultural trade liberalization through the North American Free Trade Agreement (NAFTA) since 1994, Mexico is a good case from which to consider the impact of trade liberalization in the context of high food prices. We do this using per capita food consumption data, which we compare with that of its two NAFTA partners, the US and Canada.

Unfortunately, per capita food consumption data are not available up to and including the current food crisis, but we can nonetheless extrapolate from data up to 2003, the latest year for which they are available from FAOSTAT (see Figures 5.1–5.4 below). Comparing data for the three countries of the NAFTA region for per capita food consumption, we note several trends and shifts. First, while consumption in the US is clearly above that of both Canada and Mexico, it may be surprising to some that Mexico had a slightly higher per capita food consumption prior to 1994, the starting year of NAFTA. Starting exactly in that same year, however, Canada’s per capita food consumption exceeded that of Mexico, and approached that of the US by 2003. Finally, there is an upward trend in per capita food consumption throughout the period, but this is considerably more pronounced for the US and Canada than it is for Mexico, where the increase is barely perceptible. Going on this aspect alone, Mexico was left behind in per capita food consumption by its northern partners, even prior to the sharp food price increases that occurred in 2006.



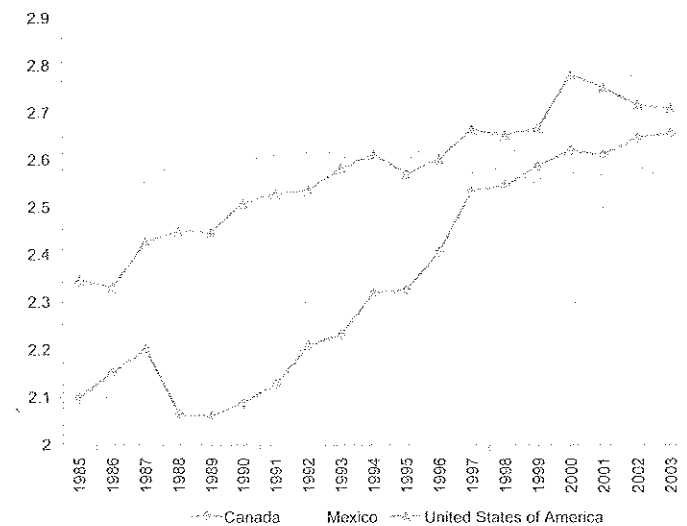
Source: FAO (2006)

Figure 5.1 NAFTA region food consumption



Source: FAO (2006)

Figure 5.2 NAFTA region protein consumption



Source: FAO (2006)

Figure 5.3 NAFTA region vegetable consumption





Source: FAO (2006)

Figure 5.4 NAFTA region fat consumption

If we break down the analysis by components of food: protein, vegetables and fats, we can ascertain some additional interesting contrasts. Once again, each of the three countries experienced slight increases in per capita protein consumption, but consumption in Mexico is 1.5 to 2.5 grams per day below that in Canada and the US, respectively, at any given time between 1985 and 2003 (see Figure 5.2). It should be acknowledged that the most likely catalyst for Mexico's increased per capita protein intake was the importation of cheaper meat from the US after 1994. Nonetheless, per capita protein intake in Mexico still falls far below that of the other two countries. The contrasts change when we move on to vegetable consumption per capita; while the US still has the highest consumption level, and has increased its per capita vegetable intake over time, Canada's consumption jumped from below that of Mexico to a level considerably higher. Indeed, Mexico's vegetable intake, which started out higher than Canada's, experienced a slight decline. This is quite ironic, as during the same period Mexico increased its vegetable exports to Canada and the US (Pechlaner and Otero, n.d.). Evidently this means that, while capitalized farmers were able to take advantage of liberalized trade through NAFTA, average Mexican consumers experienced declining purchasing power, affecting their ability to buy vegetables (see Figure 5.3). Lastly, per capita fat consumption in Mexico has always been something over half that of Canada and the US. While fat consumption in Mexico has remained fairly stable since 1984, with a slight decline at the start of the neoliberal turn in 1987–1990, the

trend for its northern neighbours has been to increase fat intake since that time (see Figure 5.4).

Academic economists in Mexico corroborate these trends, clearly indicating an unfavourable evolution of food consumption for Mexico relative to Canada and the US. To start with, 2 million jobs were lost in the Mexican countryside, with many of these people migrating to cities or to North America, in most cases without immigration documents. According to José Luis Calva of the National Autonomous University of Mexico, the country's economy grew by a yearly average of 6.1 per cent from the 1940s to 1982. In the 14 years of NAFTA to 2007, however, Mexico's economy grew by a mere 1.7 per cent annually. While there was growth in Mexico's agriculture sector from 1.7 to 2.0 tonnes per hectare, such growth was much lower than that in the US, which increased from 7.0 to 8.9 tonnes per hectare.

Further, a United Nations Economic Commission for Latin America and the Caribbean (ECLAC) report estimates that the 2006–2007 consumer price indexes in Latin America and the Caribbean have risen at rates between 6 per cent and 20 per cent annually, with the average being around 15 per cent. The report goes on to state that 'a 15 per cent rise in food prices will increase indigence [the state of extreme poverty] by almost three points from 12.7 per cent to 15.9 per cent. This means that elevating food prices will lead another 15.7 million Latin Americans to destitution' (CEPAL News, 2008, p1). Even adjusting for income increases, ECLAC estimates that the figure will be 10 million.

For Mexicans, corn is a significant foodstuff both nutritionally and culturally. At the same time, market competition has meant that corn is not just directly consumed, but is also a very versatile ingredient found in processed foods such as corn oil, corn flour, high fructose corn syrup (used as a sweetener in many products), as well as in livestock feed. Most recently, it has also become a highly controversial input to agrofuel production, thus further increasing demand for the crop. This versatility goes some way to explain the role of corn in the global food-price crisis, with significant negative impacts for Mexican consumers. Oxfam estimates that between January 2007 and April 2008, tortilla prices in the country have increased 66 per cent (Shikoh and Shuriah, 2008). Indeed, the Bank of Mexico has revealed that of the 24 products with the highest price increases during 2008, 15 were food products, with some price increases being enormous. The price of green tomatoes, for instance, was 110 per cent higher – an increase 18 times greater than that of general inflation. As for developing countries generally, food-price inflation in Mexico disproportionately affects lower-income households.

From the above data we can see that the recent food price increases are more likely to have a significant impact on food import-dependent countries like Mexico. From a situation in which per capita food consumption hardly increased since 1985, we are already seeing declining consumption alongside these price increases. When prices increased by 15 per cent during the month of December 2008, consumption dipped by 30 per cent (Notimex, 2009). This trend has occurred for at least two primary reasons: first, the proportion of family

budgets spent on food is about four times as large as in developed nations; and, second, overall income levels are substantially lower in developing countries. In Mexico, this means that for people making three times the minimum wage inflation in 2008 was 8.02 per cent, but for those making six or more times the minimum wage inflation was 5.98 per cent (Martínez, 2009).

In short, what we can observe is that any negative impacts of trade liberalization have been far greater for Mexico than for Canada and the US, even prior to the post-2006 food-price crisis (for more on this topic, see Otero and Pechlaner, 2008). Once the crisis ensued, these disproportionately negative impacts have only deepened. We argue that these results can be largely generalized to other low-income developing countries. For low-income countries, the impact has a real and negative effect on people's well-being. Even those developing countries that are surplus agricultural producers suffer from these negative impacts, as we can project from the price increases.

## Conclusion

In this chapter we have discussed the uneven impacts of the post-2006 food-price crisis for Southern developing countries. The severity of the food crisis has provided a unique opportunity to reflect on the impact of neoregulation in agriculture, on the promotion of a new international division of labour in agriculture and food, and on the particular consequences of agrofuel production. As we have seen, even developed countries such as Japan and Switzerland are subject to the risks of food-import dependency. As exemplified by Japan's influence on soy production in Brazil, however, these countries have considerable recourse to other forms of power on the global stage. The developing countries of the South have fewer endowments to deploy in order to safeguard their national food self-sufficiency in such cases. In short, food-import dependence has risks, but these risks are substantially greater for developing nations.

While some countries have no choice but to be food-import dependent, other countries that are self-sufficient in agriculture (or close to it) are confronted with a choice between producing luxury products for export under a liberalized trade regime, or prioritizing a nationalized agricultural sector that promotes the production of staples for domestic consumption. The implications of our analysis here lead us to favour the latter approach. Although there is little doubt that future international trade agreement negotiations will dedicate far more attention to such issues as export bans, they are unlikely to be able to cover all the eventualities. In the context of production for export – with likely restrictions on many of the policy measures taken by developing country governments in response to the current crisis – many of these governments would find themselves even more deeply dependent on the benevolence of other nations. In the context of insufficient purchasing power, the freedom to purchase on the open market is a rather weak freedom. Finally, it goes without saying that even perfectly equitable trade agreements that are attentive to national inequalities are still subject to political influence in their ongoing execution. In short, agreements can be broken.

The food crisis has provided some insight into the drawbacks of neoregulation for agricultural trade liberalization in an international context rife with power differentials. In this context, wholesale subscription to the ideology of neoliberal globalism can carry a very high price for the people in developing countries. Cuts to farm assistance programmes, such as have occurred in Mexico as part of a neoregulatory effort to eliminate masses of 'inefficient' farmers, have had the desired effect of reducing the farm sector. But the costs have been far reaching: the creation of masses of ex-peasants which the domestic economy has been unable to absorb; and increased local food vulnerability.

We argue that such consequences, and others detailed in this chapter, point away from neoregulation and toward the reinstatement of policies that support local agriculture and, with it, an increase in local food production, and that reduce reliance on imports. Supporting small-scale peasant producers has at least two long-term advantages. Firstly, they have demonstrated that even if they are not nearly as efficient as the more capitalized farmers of the North, they have been able to produce subsistence for millions of peasant families. Keeping farmers on the land, as opposed to economically expelling them from the country in the form of increased out-migration, also preserves rural communities as more vibrant entities. Studies have found that out-migration from rural communities sharply increases work for women in communities populated primarily by the elderly, women and children (Preibisch, 1996; Hanson, 2007). Secondly, small-scale peasant production has also been found to be important for preserving plant biological diversity (Bartra, 2004; Fitting, 2008). Such diversity is a fundamental insurance policy to buffer against future food vulnerability across the globe.

In short, peasant production fulfils both social and environmental 'services' that are rarely recognized when made to compete with the capitalized and subsidized farmers of the North (Bartra, 2004). Rather than taking an anti-trade stance (we must recognize that agricultural trade can, in fact, be an important economic generator for developing countries), we argue that maintaining local food self-sufficiency is an important national policy objective, wherever this is agronomically feasible. Trade agreements must either be supportive of this 'special' status of food and agriculture in developing countries, or developing countries should continue to resist further subscription to the neoregulatory regime crafted by countries of the North. This is what we mean by the need for an 'internationalist nationalism' in regard to food and agriculture, which involves promoting a hegemony of a new form of nationalism focused on democratic and environmental sustainability concerns.

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## 6 Energy Security, Agriculture and Food

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### Introduction

This chapter explores the effects of the changes in global energy security for agriculture and food production systems. The discussion centres on a set of emerging problems in the global petroleum environment and the potential consequences of these shifts for the future of agriculture and food production, including agricultural production and transport systems. Given the urgency of these problems, the chapter concludes by advocating much greater research and policy attention to energy issues within agriculture and food production.

Since 2004, the world has witnessed dramatic changes in the global petroleum security environment. This changing energy security environment has enormous implications for agricultural systems and food production, given the acute dependency of agricultural and food systems upon petroleum. The economic, social and environmental impacts associated with changes in energy security are both insufficiently recognized and poorly understood, particularly in terms of the direct consequences of these changing conditions for food and agriculture. While global oil shocks have occurred before, most prominently during the 1970s, the recent volatility in global oil prices and supplies has taken place in a far more internationally integrated – and arguably more petroleum dependent – world than that which existed three decades ago. International trade, including trade in agricultural commodities and food, occurs in much greater volumes than was the case just a decade ago, linking a wider web of international producers and consumers. As a major petroleum-consuming economic sector, global agriculture faces an inevitable adjustment to a more volatile petroleum era.

Conventional agriculture is heavily reliant on petroleum for production processes and for the transportation of produce to distant markets. Since at