Chapter 3

Agricultural liberalisation and its ‘high risks’ for Food Security

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Abstract

Agricultural liberalisation has played an important part in preparing the ground for the sustained food crisis we face. The WTO’s Agreement on Agriculture helped increase food trade, but did not alleviate global hunger. Then, with strong food price rises, global hunger increased strongly. What responsibility is there for a process which has argued a ‘food security’ which opposes local production and promotes global exchange? In this paper I argue three interlinked ‘high risks’ for food security, which are embedded in agricultural liberalisation. These three are: the rationalisation and undervaluation of land, the exposure to price volatility and the unaccounted costs of large monocultures, including biofuels. Under market rationales, land is being alienated and undervalued at a fraction of its real opportunity cost, marginalising thousands of poor communities. Food import dependence generates a double risk in price volatility: exposure to low prices which decimate local producers, and exposure to high prices which throw the cash poor into starvation. Finally, the promotion of export oriented monocultures has led to the corporate capture of land and food production, while passing on to society massive ecological ‘externalities’, such as soil and water degradation. In these
circumstances, for those countries which do not generate a substantial staple food surplus and have strong social security systems, any prudent approach to food security must involve a strengthening of domestic staple food production and effective measures of domestic distribution.

This chapter argues that agricultural liberalisation has played an important part in preparing the ground for the sustained food crisis we face. The WTO’s Agreement on Agriculture helped increase food trade, but did not alleviate global hunger. A salient question is, therefore, just what role has agricultural liberalisation played in the universally approved goal of improving food security?

Even by 2007, those suffering hunger in the world had risen from a 1990-92 base of about 820 million to 923 million, making the Millennium Development Goal target of 420 million near impossible (FAO 2008a). Then, with strong food price rises in 2007-08, the numbers of undernourished rose sharply to 963 million ‘and the ongoing financial and economic crisis could tip even more people into hunger and poverty’ (FAO 2008b). In late 2008 and 2009 food prices fell, but stabilised at higher levels than before the 2008 crisis. By April 2009 food emergencies remained in 32 countries (FAO 2009d).

The recent high food prices have been driven by high oil prices, premiums in oil and food derivative markets, demand for richer diets and pressure on land, including from the biofuel industry. More than a decade ago Patnaik (1996) pointed out that economic liberalisation, including in agriculture, had come at the expense of food grain
production and food security in developing countries. So what responsibility is there for a process which has argued a ‘food security’ which opposes local food production and promotes global exchange?

In this chapter I argue that there are three interlinked ‘high risks’ for food security embedded in agricultural liberalisation. These are the rationalisation of land, exposure to price volatility and the unaccounted costs of large monocultures, including biofuels. The promotion of export oriented monocultures has led to corporate capture of land and food production, while passing on to society massive ecological ‘externalities’ such as soil and water degradation.

I first look at the ideas and interest groups behind agricultural liberalisation, with its distinct approach to food security. Next I make a critical, institutional review of global food markets. Third I look at the ‘high risks’ posed for food security by agricultural liberalisation, before concluding with some thoughts on how those risks might be better managed. I suggest that, for those countries which do not generate a substantial staple food surplus and have strong social security systems, a prudent approach to food security must involve a strengthening of domestic staple food production and effective measures of domestic distribution.

1. Agricultural liberalisation and ‘food security’
The economic liberal approach to food security – promoted by large staple grain exporters such as Australia, Canada and the USA – suggests ‘the important role that trade liberalisation can play in reducing poverty and
increasing food security’ (DFAT 1996: vii). The logic of this is that expanded specialisation and trade will enhance incomes and these in turn will provide the purchasing power necessary to alleviate poverty and purchase food. Food insecurity is assumed to be largely a consequence of income poverty and ‘open markets’ are relied on to organise production and distribute income.

Such conclusions are backed by the modelling of research agencies which have been conscripted into the search for new agricultural export markets. So for example Australia’s ABARE suggests that a fifty percent reduction in agricultural support levels would lead to a US$53 billion increase in global gross domestic product. While most of this would go to the wealthy countries, US$14 billion is suggested as the benefit for developing countries (Freeman et al 2000: 1-2).

The Australian approach has been to make a distinction between ‘self-reliance’ (the ability to secure food supplies) and self-sufficiency (the ability to produce one’s own food). It is argued that food prices have been artificially low (due to the huge subsidies in other wealthy countries) and therefore unfair to agricultural exporters. While it is recognised that more widespread policies of self-sufficiency would lower world food prices and that liberalised trade would increase food prices (DFAT 1996: x), this is said to be a good thing. It is indeed the case that cheap or dumped grain has damaged small growers and local markets in many countries, by removing their incentive to plant next season’s crop (e.g. Bello 1999). Nevertheless, the proximate causes of the food crisis of 2008 were the steep rises in food prices.
Since the agricultural exporters became an important part of the GATT-WTO process in the 1980s and 1990s, even after the food price crisis of 2007-08, senior WTO officials have urged further agricultural liberalisation. In 2009 WTO Secretary General Pascal Lamy spoke against moves towards ‘food self-sufficiency’ and import substitution in food, claiming that ‘stability’ was to be found in further liberalisation:
‘The Doha Round’s agricultural package, which reduces tariffs, reduces harmful internal subsidies that prevent in particular the developing world from fairly competing, and which eliminates export subsidies altogether, is no doubt worth pursuing.’ (Lamy 2008)

Implicit to this approach are the ideas that increased trade expands income, income is reasonably distributed and a reliable source of good quality food is always available. This theory might work in a poor country where land remained widely accessible, or in a rich country with a strong social security system or a relatively even distribution of income. Wealthy countries which do not have good quality land, such as Singapore and Japan, would seem to be prime candidates for an economic liberal approach to food security. However even here we see counter movements, such as in Singapore’s rooftop gardens (Wilson 2005) and, in the case of Japan, ongoing and strong support for domestic rice production. Japan subsidises domestic rice production even though it is routinely criticised for this inefficiency, particularly by rice exporting countries. The principle of domestic production remaining central to a stable food supply is spelt out clearly in Article 2 of the Japanese ‘Basic Law on Food, Agriculture and Rural Areas’:

‘In consideration of the fact that food is indispensable in maintaining human life … a stable supply of good-quality food at reasonable prices shall be secured .. [due to] certain unstable factors in the world food trade and supply/demand, this stable food supply … shall be secured with increase of domestic agricultural production as a basis, together with an appropriate combination with imports and stockpiles.’ (MAFF 2009)

Due to this firm principle - and even though Japanese rice production in 2007 declined to 40% of consumption, cultivated land shrunk (Tokyo Foundation 2008), and the cost of Japanese rice rose strongly - domestic rice production retains strong government support. As part of its food security policy, the Japanese Government also maintains rice stocks equivalent to ‘as much as 2.5% of annual rice production’ (Tokyo Foundation 2008).

While the Cairns Group of agricultural exporters put agricultural liberalisation back on the agenda of the GATT /WTO, there were strong divisions within the group over food security. Several Cairns Group members (Argentina, Australia, Canada and Thailand) are big net grain exporters, but most are not. Most export non-grain foods such as fruits, seafood and coffee. While they have backed the campaigns against agricultural protection in Europe and the USA, several substantial grain importers (e.g. Brazil, Indonesia) remain sensitive to demands for further tariff reductions (see Table 1). They cannot compete with the allowable ‘green boxed’ subsidies (that require direct government payment for a list of ‘non trade distorting’ purposes) provided by the wealthy countries.
### Table 1: Food grain balance, select Cairns Group members

<table>
<thead>
<tr>
<th>CG Grain exporters</th>
<th>Exports: m. tonnes</th>
<th>CG Grain Importers</th>
<th>Imports: m. tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>21.096</td>
<td>Brazil</td>
<td>9.292</td>
</tr>
<tr>
<td>Australia</td>
<td>17.651</td>
<td>Chile</td>
<td>1.739</td>
</tr>
<tr>
<td>Canada</td>
<td>18.542</td>
<td>Colombia</td>
<td>3.600</td>
</tr>
<tr>
<td>Thailand</td>
<td>8.435</td>
<td>Indonesia</td>
<td>6.637</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malaysia</td>
<td>4.871</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Philippines</td>
<td>4.435</td>
</tr>
</tbody>
</table>

Source: FAO 2007: Table D3; figures for 2001-2003; millions of tonnes
In the Doha Round of the WTO this division led to many Cairns Group members joining the developing country bloc (the G22: led by China, India and Latin America) which opposed the round, with new developments in the Agreement on Agricultural (along with investment privileges and intellectual property rights) one of the main sticking points. It is notable that this WTO ‘development round’ was opposed by virtually all major developing countries.

2. Critical features of global food markets

Understandings of global food markets have been severely undermined by algebraic, generic models of trade liberalisation, which have in turn been linked (e.g. through ‘trade in services’) to capital liberalisation. Each idealistic ‘win win’ scenario has help drive further corporate demands for trade liberalisation, including agricultural trade liberalisation. We need to briefly review the track record of these models, before turning to a critical, institutional analysis which, I suggest, will better inform discussion of food markets.

The Asian Financial Crisis of 1997 laid bare the failures of rationalist, liberal modelling. This crisis, unlike the debt crisis of the early 1980s, could not be blamed on profligate public lending. It was a crisis of private capital markets -of predatory speculators, capital flight and public subsidy of corporate failure. Yet no model predicted this. The World Bank in 1994 had estimated that trade liberalisation in the East Asian region would lead to real income increases of between 3% and 5% per annum; modellers Murtough et al (1994) had suggested that
Thailand in particular would gain a more than 2% growth in real income per annum, simply as a result of the Uruguay Round of GATT, and more still with APEC liberalisation (Bureau of Industry Economics 1995: 62-65). Instead, by late 1997, both Thailand and most of the region was in deep recession. Even after the crisis, a survey of models of Asia-Pacific liberalization predicted the usual ‘win win’ scenarios, especially regarding agriculture, with little hint of the risks. After deference to the ‘usual caveats’ and the need for ‘caution’ this study claimed:

‘the benefits of APEC liberalization are potentially substantial … most members of APEC are likely to gain … members should guard against … backtracking of the liberalization agenda, or the stalling of liberalization in ‘difficult’ areas. In particular, a substantial proportion of the potential gains from APEC liberalization (in fact the majority) come from liberalization of agriculture’ (Scollay and Gilbert 1999).

The failure of such models to predict the 2007-08 food crisis, or the 2008 financial crisis, tells us that ‘caution’ is certainly due. Of course, such models are only as good as their assumptions, as Quiggin points out:

‘the headline result from a large and complex model can usually be reproduced with a much simpler model embodying the same key assumptions’. If those assumptions are right (or wrong) the model results will be the same’ (Quiggin 2008). To understand global food markets and their risks I suggest we need to take a critical, institutional approach. Risk assessment calls for a comprehensive review of all these institutional elements. It is logical, but not essential, to organise these elements in terms of their supply and demand side nature. The
supply side features (restricted or more expensive supply will drive prices up) acting on the food prices at the root of the 2008 food crisis were: the rise in oil prices (and therefore also fertiliser and transport), speculative premiums in the derivative markets for both fuel and food, ecological constraints on the exploitation of new arable lands and a substitution effect on land and crops from the rapidly rising biofuel industry. The demand side features (strong demand will also drive prices up) were: rising populations, increasingly wealthy populations (e.g. in east and south Asia) with a demand for richer diets (such as meats and oil seeds), and the new and strong demand for biofuel crops, as a result of the parallel energy crisis.

It would be wrong to single out any one factor, and ignore the others or indeed the inter-related nature of some of these factors. Estimates have been made of their relative weight. Joachim von Braun, head of the International Food Policy Research Institute (IFPRI) estimated that income growth and the demand for richer diets was the main part of the reason for the 2007-08 price rises, suggesting that biofuels added another 30% (Borger 2008). At least, these were important. However he has not really taken into account the oil prices and the premium added by speculative markets.

Three other matters should be noted here: the wealthy country domination of world grain markets, the relationship between food trade and food production and the special case of China.

Liberalisation of food grain trade is mainly of interest to wealthy countries. Contrary to some misconceptions, the
wealthy countries are the big food grain exporters. The list of countries that produce many times more than their consumption of food grains contains virtually no developing countries (FAO 2007: Table D3). The same countries that demand trade liberalisation have most often secured their own domestic food grain production, and a number of them are large exporters (see Table 2). On the other hand, many of the countries with serious food security problems have become grain import-dependent.

**INSERT TABLE 2 HERE**
<table>
<thead>
<tr>
<th></th>
<th>&gt;8x consumption</th>
<th>&lt;1.6 x consumption</th>
<th>Less than consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>18.85</td>
<td>China 1.55</td>
<td>Venezuela 0.95</td>
</tr>
<tr>
<td>Canada</td>
<td>11.81</td>
<td>Philippines 1.18</td>
<td>Kenya 0.84</td>
</tr>
<tr>
<td>Denmark</td>
<td>12.66</td>
<td>Nigeria 1.16</td>
<td>Sri Lanka 0.71</td>
</tr>
<tr>
<td>USA</td>
<td>9.82</td>
<td>India 1.14</td>
<td>Colombia 0.71</td>
</tr>
<tr>
<td>France</td>
<td>8.77</td>
<td>Indonesia 1.04</td>
<td>Sierra Leone 0.41</td>
</tr>
</tbody>
</table>

Source: FAO 2007: Table D3; data for 2001-2003
Global food production is much more substantial than trade, but trade remains important. Even though total food grain trade is only 15% of world grain production (FAO 2007), and rice trade is around 6% of global rice production (FAO 2009b), trade has a powerful impact on domestic prices. Of course, the price impact varies as amongst countries and social classes. Grain exporters welcome higher prices, poor consumers are devastated by them. There is no ‘win win’ here.

Rice markets show us some of the extremes of this relationship. Global production of rice is about 400 million tonnes; world trade in rice has been about 30 million tonnes or just 6% of production (FAO 2009b). The recent food crisis is shown in a magnified form, in rice price rises. By 2007 export rice prices had gained 60% from 2002-04 levels, up to $335/tonne. They then shot up in 2008 to 3.7 times that base level. By early 2009 they had settled down somewhat, but at 2.6 times that base level, or around $600/tonne (see Table 3).

INSERT TABLE 3 HERE
<table>
<thead>
<tr>
<th>Year</th>
<th>Thai export rice, US$ /tonne (1)</th>
<th>Thai export rice, US$/tonne (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>224</td>
<td>118</td>
</tr>
<tr>
<td>2005</td>
<td>291</td>
<td>125</td>
</tr>
<tr>
<td>2006</td>
<td>311</td>
<td>137</td>
</tr>
<tr>
<td>2007</td>
<td>335</td>
<td>161</td>
</tr>
<tr>
<td>2008 April</td>
<td>853</td>
<td>321</td>
</tr>
<tr>
<td>2008 June</td>
<td>870</td>
<td>370</td>
</tr>
<tr>
<td>2008 Nov</td>
<td>591</td>
<td>269</td>
</tr>
<tr>
<td>2009 March</td>
<td>637</td>
<td>269</td>
</tr>
</tbody>
</table>

B.N. Ghosh : Global Food Crisis

Rice is a special case, which may well be designated a special or sensitive product and so gain some exemptions from WTO liberalisation rules. However other staple food grain prices had similar upward trends. Average wheat prices rose steadily from 2000, from $118 per tonne to $199 in 2006, $263 in 2007, then peaking at $344 in 2008 before subsiding to $246 in 2009 (FAO 2009c).

China also represents a special case, as the world’s most populous nation which has harvested rice for thousands of years and which remains the world’s largest rice producer and consumer. The country produces about 30% of world rice, and used to export some of its surplus; however in recent years China has moved from surplus to deficit production. This deficit is largely a product of China’s success in industrialisation and urbanisation. Rice production rose strongly from the 1960s to the 1980s, slowed in the 1990s and then began to fall in the 2000s (Table 4).
Table 4: China’s Rice Production, 1956-2006

<table>
<thead>
<tr>
<th>Year</th>
<th>m. tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>81.5</td>
</tr>
<tr>
<td>1966</td>
<td>95.4</td>
</tr>
<tr>
<td>1976</td>
<td>125.8</td>
</tr>
<tr>
<td>1986</td>
<td>172.2</td>
</tr>
<tr>
<td>1996</td>
<td>195.1</td>
</tr>
<tr>
<td>2006</td>
<td>182.5</td>
</tr>
</tbody>
</table>

IRRI 2006
The big increases of the past half century are said to have been mainly from ‘increased grain yield rather than increased planting area’, while the decline has been attributed to limits of land and water, climate change and labour shortages (Peng, Tang and Zou 2009). More specifically, in recent years, agricultural livelihoods have not kept pace with economic opportunities in the cities. Chinese agriculture is said to employ ‘roughly half the labour force’ yet rural incomes are ‘just 30 percent’ the urban average. This has led to rural diversification into more high value agricultural products (such as fish), which in turn further undermines rice production (van den Berg et al 2005: 34). It is not hard to imagine, then, the powerful impact on world rice prices that would follow from China shifting just a few percent more into rice production deficit. China’s demand for just one tenth of its rice in imports would account for more than half the global trade in rice. Prices would skyrocket. Rice exporters would be cheering but the shift would be devastating for small, import dependent countries.

The reactions by some governments (e.g. Russia, Argentina and Vietnam) to limits exports (BBC 2008) were clearly defensive moves in response to the logic of global markets. Yet the food crisis cannot be blamed on such reactive protectionism. Indeed as Polanyi (1944) argued many decades ago, societies will always seek to defend themselves from the corrosive impact of such ‘self regulating markets’.

3. The ‘high risks’ of agricultural liberalisation

In this increasingly volatile situation, food security approaches must be conservative. The likely risks of
agricultural liberalisation must be recognised, in particular those from well known threats:

· Rationalisation of land, including displacement and dispossession of communities from their traditional lands

· exposure to import price volatility, and

· inadequate accounting of the costs of large monocultures.

The ‘high risks’ from each of these threats deserve separate consideration.

3.1 Rationalisation of land

Most developing countries share a history of indigenous people being displaced from their lands, initially by conquest but later by a range of devices. This displacement and dispossession was, in all cases, disastrous for the development and security of those communities, including their food security. Yet in relatively recent times, modernist arguments have suggested that all countries would be better off with greater land rationalisation, typically followed by the ‘more highly productive’ large scale monocultures.

The history of proposals to register and rationalise land is important. In mid nineteenth century Australia, after a little debate, it was decided that indigenous people were not civilised and had no right to land ownership. The subsequent system of colonial land registration developed by Robert Torrens combined a system of registration with
‘indefeasibility’, a legal protection from almost all other claims except fraud (see Reynolds 1987; Esposito 2003). The aim was to block future indigenous land claims. Land registration later became popular in colonial Africa. Dickerman et al (1989: viii) point out: ‘Almost all land registration systems introduced in colonial Africa before 1950 … were primarily intended to secure European rights to land’. Similar laws were enacted in Algeria by the French and in the Congo and Rwanda-Burundi by the Belgians (Dickerman et al 1989: ix-x).

In the late colonial period, land registration for select groups of Africans (‘native purchase areas’) was introduced by the British in Southern Rhodesia. The 1950s Swynnerton Plan in Kenya similarly backed access to registered land for Africans, with modernist goals of providing ‘greater security to landholders, [and to] enhance the freedom to transact land and serve as a basis for agricultural credit’ (Dickerman et al 1989: x-xi). These are the themes used in liberalisation plans today. Lawrence, the chief British expert on land registration, came to the view that registration should be used only when there was a ‘general demand’ for registration, when the costs were not high and where there were likely gains in agricultural productivity (Lawrence 1970). However Okoth-Ogendo, former Dean of Law at Nairobi University, concluded that any such benefits were outweighed by specific disadvantages: the redistribution of political power, creation of economic disparities, generation of a ‘disequilibrium’ in social institutions, failure to develop extension and rural credit, and a general failure to improve agricultural productivity. He noted that, of the new registered land owners, less than 5% were
women; further, the new land regime was ‘creating new forms of stratification and status differentials’ amongst the small farming sector (Okoth-Ogendo 1986). More recently, others have concluded that ‘the hoped for benefits of [land registration in Africa] do not accrue automatically and, in some circumstances, the effects of registration may be the converse of those anticipated’ (Cotula et al 2004: 3). Registration may exacerbate land disputes, elite groups may claim land beyond their entitlements under the customary system, those without education or influence may find their land registered to someone else, secondary owners of land such as women ‘often do not appear in the land register and are thus expropriated’. In Kenya, there was ‘no significant correlation’ between registered land title and rural credit, there were ‘negative repercussions’ on vulnerable groups (Cotula et al 2004: 4-5).

Rationalisation and displacement of communities from land has often been linked to problems of food security. Maxwell and Wiebe (1999: 830) note the ‘conventional links’ of a ‘linear framework’, that suggest land must be mobilised for large scale production, to generate more income; this income, in turn, can be used to purchase more food. This is a pattern relied on by many liberal modernist writers (e.g. De Soto 2001). However the commercialisation of customary lands can rapidly feed into ‘forced asset sales’, rationalisation and displacement of large populations. This is exactly what occurred under the 1990s structural adjustment programs of Fujimori in Peru and Salinas in Mexico, aggravating rural poverty (Plaza and Stromquist 2006; Veltmeyer and Petras 2008; Sheahan 1997). Yet the disruption of small, diverse
B.N. Ghosh : Global Food Crisis

farming patterns can destabilise regional food production and traditional distribution mechanisms. A push to commercialise small land holdings ‘may fail to serve either growth or equity purposes [whereas] diversification, rather than specialisation, is an imperative for food security’ (Maxwell and Wiebe 1999: 841).

In the few regions where a fairly even distribution of land remains (e.g. Melanesia), serving as a natural mechanism for the production and distribution of food, liberalisation pressures have sought to undermine ‘weak’ tenure through similar modernist arguments: for greater security of title, agricultural productivity and rural credit. In Papua New Guinea (PNG), local communities have leased their land to oil palm plantations for as little as $10 per hectare per year, plus minimal royalties. Yet the subsistence production value of one such hectare of good land (i.e. the local market value of one family’s food, grown and consumed) can often reach $5,000 per year. Companion planted cash crops then add another several hundred or several thousand dollars to this amount (Anderson 2006). The capacity of land to deliver sustainable yields, year after year, is never fully reflected in the rents, leases or sale prices of such undeveloped ‘markets’. Nevertheless, very little land has been alienated in Papua New Guinea or the Solomon Islands and, as a result, nutrition in these countries has not been much affected by the global food crisis or even (in the case of the Solomon Islands) a domestic political crisis (UNDP 2007: Table 7).

3.2 Exposure to price volatility

The situation is rather different for those small countries
whose histories have seen both a breakdown in widespread land tenure, and the collapse of domestic food grain production. Even assuming a rational distributive mechanism within the country, such countries are highly vulnerable to the volatility of international food grain prices. On the tenth anniversary of the WTO’s Agreement on Agriculture, and noting the post-1994 rise in food imports, the UN’s Food and Agriculture Organisation commented:

‘Although lower basic food prices on international markets bring short-term benefits to net food-importing developing countries, lower international prices can also have negative impacts on domestic production in developing countries that might have lingering effects on their food security’ (FAO 2004).

The food crisis of 2008 was the culmination of a double movement in price volatility, which had been brewing for some years. In the first phase, cheap subsidised grain imports killed local developing country markets. In the second phase, expensive grain imports starved whole populations. Until the recent crisis, small farmers had been hurt by cheap imports. When imported staple food is cheap, farmers cannot justify planting next season’s crop. The earlier low prices were a result of heavy domestic subsidies by the big grain exporters, such as the EU, the USA and Australia, and pressures for agricultural liberalisation. Through the WTO’s Agreement on Agriculture, the rich countries’ subsidies are ‘green boxed’ and allowed as being not directly ‘trade related’.

A good example of this price volatility can be seen in Haiti, a country which was almost self sufficient in staple
food production in the early 1980s, but by 2008 was food import dependent and starving. Like many countries, Haiti had moved from more diverse staple foods (rice, corn, cassava, millet) to greater dependence on rice. Yet the country had been nearly self-sufficient in rice, until the 1980s. Then, under financial pressure from the US and the World Bank it began to dismantle its tariffs and other forms of protection (Georges 2004). Increases in U.S. food aid drove down the prices of Haitian agricultural goods in local markets. Rice production fell sharply in the early 1990s and at the same time imports rose strongly (Toler 1996). By 2000, US rice imports into Haiti had risen to more than 200,000 tonnes. This drove many local farmers out of business and, when prices rose again, poor people could not afford to buy rice (Georges 2004).

Haiti was in a serious food crisis in 2003, with damaged agriculture, food aid dependence and almost 4 million hungry (FAO 2003). By 2008 the situation had worsened (UN 2008).

Low food prices damage local production. High food prices hit poor people who have to buy their food. This is the unstable situation created by trade-dependent food patterns. The 2008 experience – driven by high oil prices, the biofuel industry and speculators – demonstrates that this volatility has worsened and the consequences are grave. Dozens of poor countries were affected. The UN’s World Food Programme (WFP) admitted that, with the price rises, it did not have the money to maintain its existing feeding programmes in 78 countries, let alone start new ones (Borger 2008). This was a predictable consequence of agricultural liberalisation, indeed a
consequence predicted and hoped for by the big food exporters.

3.3 The unaccounted costs of large monocultures
The claimed social benefits of large monocultures are typically over-stated. Corporate investors encourage this. Yet the extraction of profits from local resources and labour is the main reason large monocultures are created. So, in political debates, the income benefits to local communities are often exaggerated and the environmental costs are played down (e.g. SSCM 2008). With its narrow focus on export incomes and assumptions of unlimited growth, agricultural liberalisation promotes large chemical-intensive monocultures and ignores two substantial issues: the social value lost through displacement of small farming and the environmental damage of the monocultures. These massive ‘negative externalities’ (costs not incorporated into market prices) are passed across by large agricultural corporations to communities and the environment.

Small farms are typically undermined and displaced by the monocultures; yet there are a range of social benefits from small farming. While the domestic and export market contributions of small farmers may struggle to match those of the monocultures, they add value through substantial subsistence production, widespread employment and social security. When the formal economy fails in developing countries, widespread small farms provide a refuge for livelihoods. Small farms also stabilise ecologies, with greater crop diversity and less damage to soil and water systems. U.S. food security expert Peter Rosset says:
productive, more efficient and contribute more to economic development than large farms. Small farmers can also make better stewards of natural resources, conserving biodiversity and safeguarding the future sustainability of agricultural production’ (Rosset 1999).

Where small farming has not yet been displaced, unequal markets dominated by corporations and their monocultures squeeze the small farmers. For example, in Papua New Guinea ‘village oil palm’ farmers are paid for their oil palm fruit contributions to the monopoly mill. However they are forced to accept fruit prices set by the company. The average income for oil palm farmers in PNG’s Öro province (61 Kina per week) is higher than the minimum wage (37 Kina) but less than half the average informal sector incomes (130 Kina) for example those of small businesses, fruit selling and transport. The small farmers are also encouraged to lease their ‘excess’ land at pitifully low rents (see Anderson 2006). This demonstrates the damage large monocultures do to distributional outcomes. The economic liberal argument is that monocultures produce more income, which can be used to purchase food. However most of the new income is appropriated by the investor company.

The additional social value provided by small farming communities has been referred to as ‘multifunctionality’. Yet these ‘positive externalities’ (benefits not incorporated into market prices) are not accounted for in the arguments for expansion of chemically-intensive monocultures. The effect is to undermine strategies of sustainable development, and that is why it has been said that: ‘the multifunctional view of agriculture … offers the
possibility of going beyond the questions concerning productivity and market competitiveness towards establishing a debate in terms of strategies for sustainable development… [multifunctionality] does seem to present an opportunity for numerous countries of the South to pursue their public policies on a new basis’ (Losch 2004). Furthermore, as Mazoyer points out, small farmers are affected both as consumers and producers in food crises. Both low and high prices can hurt. ‘The majority of those suffering under nutrition are not purchasers and consumers of food, but rather producers and sellers of agricultural goods who have been reduced to extreme poverty through falling agricultural prices; secondly, because the poverty and under nutrition of non-farmers are indirectly but largely due to the impoverishment of under-equipped small farming communities’ (Mazoyer 2001).

Monocultures have an ugly ecological footprint. The ‘Green Revolution’ of the 1960s, which promoted new seed varieties, chemical additives and irrigation, was hardly ‘scale neutral’. It always worked in favour of monocultures, and the benefits were seriously overstated. The ‘Green Revolution’ of the 1960s was not ‘green’ in the contemporary sense of being environmentally friendly, indeed it was as much as anything a move to avert the ‘Red Revolutions’ of socialist land redistribution. We know now that these technological shifts brought with them serious environmental and health costs – damage to river systems, soil erosion, salinisation and chemically induced cancers. These costs were passed on to the wider community and were not accounted for in the economic statements of industrial agriculture. Further, productivity
gains were ‘uneven across crops and regions’ and ‘farmers benefited only where cost reductions exceeded price reductions’ (Evenson and Gollin 2003). Most small farmers could not afford the more expensive inputs and consumers and small farmers alike have discussed for many years the need to get off this ‘pesticide treadmill’ (e.g. Hansen 1986; Nicholls and Altieri 1997).

A ‘second green revolution’ has been spoken of for many years now (e.g. Eicher 1995) yet in recognition of the environmental damage caused by intense fertilisation, and the non-renewable nature of many fertilisers, the focus has been on improved seeds that can do without such fertilisers (Lynch 2006). Yet hopes for a new ‘technological fix’ to deal with the ecological and economic problems are misguided. The inputs, many from fossil fuels, have become increasingly expensive, due to ‘peak oil’ the energy crisis. Aileen Kwa points out that, in industrial agriculture:

‘Yield increases from high yielding Green Revolution technologies have been decelerating, and in some cases stagnating and even contracting … Traditional rice farming in Asia produced 10 times more energy in food than was expended to grow it. Today’s Green Revolution rice production cuts the net output in half. In the long run, [chemical intensive] methods encourage desertification, soil erosion, pesticide contamination and the depletion of groundwater. Yet these ecological problems are ignored because of the difficulty in quantifying and assigning monetary values to ecological degradation’ (Kwa 2001).

Monocultures reduce the diversity of production in a
region, and reduce the capacity of small farmers to companion plant and spread their crop options. Sugar cane, soy beans and oil palm are similar in this regard. Land clearing erodes and degrades the soil, silting up rivers and choking surrounding marine reef systems. Much of the fertiliser used runs into the water, causing algae blooms. These are the substantial costs of an unstable system.

Finally there is the contribution of biofuels, which have raised competition between food for people and food for cars. Biofuels have generated a substitution of food crops for fuel inputs in recent years. Before the 2008 food crisis an International Food Policy Research Institute (IFPRI) study predicted that, with strong growth in biofuels, maize and oilseed prices would rise between 18 and 72 percent over the next decade (Msangi 2009). As it happened, they rose into that range in less than one year. The UN’s Special Rapporteur on the Right to Food, Jean Ziegler, strongly opposes the biofuel industry and points to a startling opportunity cost: ‘232kg of corn is needed to make 50 litres of bioethanol. A child could live on that amount of corn for a year’ (Biofuels Digest 2007). Food expert von Braun suggested that biofuels added a substantial amount - perhaps 30% - to the food prices rises of 2007-08 (in Borger 2008).

4. Conclusion: managing the ‘high risks’
I began this chapter by explaining the trade-based economic liberal approach to food security, and the fractious coalition (the Cairns Group) which pushed an agricultural liberalisation agenda at the WTO. I then ‘Small farms are ‘multifunctional’: more productive, more
reviewed global food markets. The risks in these markets, I suggested, might best be understood from a critical and institutional point of view which includes all major relevant factors. The ‘win win’ algebraic models that have always predicted gains from further liberalisation are of little help.

Agricultural liberalisation has carried with it several ‘high risks’ for food security. Firstly, risk is inherent in a rationalisation of land, which disconnects and dispossesses populations from their traditional and sustainable source of food and social security. Promises of success in more formal cash economies have most often not substituted for land. Secondly, risk is embedded in the exposure of cash poor populations to the vagaries of international staple food prices, which have become more volatile in recent years, for a powerful combination of reasons. Thirdly, risks are obscured by the unaccounted costs of large monocultures. The loss of small farming and the damage to soil, water and biodiversity regimes is rarely reflected in arguments for large scale commercial agriculture.

We should not confuse protectionist reactions to the food crisis with the underlying causes, as societies will always seek to defend themselves from the corrosive impact of such ‘self regulating markets’. But state reactions do add to the volatility and the dilemma. In face of the strongly rising rice prices in 2008, the governments of several rice exporting countries acted to restrict exports and so stabilise domestic prices and guarantee their own food supply. These reactions were natural and – while they may frustrate export ambitions – quite consistent with a
prudent approach to food security. Indeed, for those countries which do not generate a substantial staple food surplus and which do not have strong social security systems, a prudent approach to food security must involve the strengthening of domestic staple food production, ensuring widespread access to land as well as other suitable and sustainable measures of domestic food distribution.
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