

# Governance of the world food system and crisis prevention

Platform Agriculture, Innovation & Society



# **Governance of the world food system and crisis prevention**

Kees Burger\*

Jeroen Warner\*\*

Eefje Derix\*\*

September 2010

\* Development Economics, Corresponding author, Wageningen University, Hollandseweg 1, 6706 KN, Wageningen, Netherlands

\*\* Disaster Studies, Wageningen University

This report was initiated and financed by the Platform Agriculture, Innovation & Society from the Ministry of Economic Affairs, Agriculture and Innovation ([www.platformlis.nl](http://www.platformlis.nl)).

## Table of Contents

<b>1. Introduction</b>	<b>5</b>
1.1 What is global governance?	6
1.2 Analytical tools: The security chain, risk and vulnerability	7
<b>2. The world food crisis of 2007/8: causes and remedies</b>	<b>10</b>
2.1 Causes of the ‘food crisis’	10
2.2 What is a crisis, really?	11
<b>3. The global food regime</b>	<b>13</b>
3.1 The food quantity regime	13
3.1.1 The food aid regime: the Food Aid Convention	14
3.1.2 The private sector	16
3.2 The food safety regime	16
<b>4. Scarcity, uncertainties and complexity</b>	<b>18</b>
4.1 Scarce resources	18
4.2 Food security and securitisation: <i>security governance</i>	19
4.3 European policy on food security	20
4.3.1 Securitisation of EU-ACP-relations	21
4.4 Global governance regimes in other issue-areas	22
4.4.1 Health	22
4.4.2 Climate	23
<b>5. Potential instruments to tackle the next food crisis</b>	<b>24</b>
<b>6. Conclusions and recommendations</b>	<b>31</b>
<b>References</b>	<b>33</b>
<b>ANNEX 1: The crop insurance market</b>	<b>38</b>

## Glossary

ACP	The developing countries associated with the EU in Africa, the Caribbean and the Pacific
BSE	Bovine Spongiform Encephalopathy
FAO	Food and Agriculture Organisation of the United Nations
DFID	Department for International Development ( UK)
DRR	Disaster Risk Reduction
EU	European Union
FSC	Forest Stewardship Council
GATT	General Agreement on Tariffs and Trade
HCSS	The Hague Centre for Strategic Studies
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
MNCs	Multinational companies
NATO	North Atlantic Treaty Organisation
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
OIE	World Organisation for Animal Health (originally: <i>Office International des Epizooties</i> )
TA	Technology Assessment
UNCED	United Nations' Commission on Environment and Development
UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations
US	United States of America
WHO	World Health Organisation
WTO	World Trade Organisation

# 1. Introduction

The world food crisis has served as a wake-up call to many. Prices skyrocketed, leading to panicky play in the markets panicked as well as political unrest. While the mood has calmed and prices have stabilised, analysts predicts rising prices will be a recurring phenomenon. Nonetheless only very little seems to have been set in motion to prevent a repeat.

Worse, structural developments only seem to have served to increase risks. As trade opportunities between countries expand, regional specialisation tends to take place. Specialisation helps to smoothen the response to differences in availability of labour and natural resources, to achieve economies of scale, depressing production costs. But these benefits have a worrying flipside: prices generally take too little account of environmental externalities as ‘monoculture’ increases the pressure on the environment (and on people); they can engender a concentration of risks to production and trade and create greater dependency on certain trade flows.

This latter aspect, susceptibility to disturbances, inspired the Technology Assessment Steering Group to commission research on the sensitivity of European food supply to potential disruptions in production and supply, currently and into the more remote future. The first report on this, by Bindraban *et al.* (2008) concluded that the European Union can expect to remain almost entirely food self-sufficient until 2020, even in free-trade and climate-change scenarios.

This generally rosy picture of European self-sufficiency leaves room for debate. Bindraban *et al.* themselves indicate that the EU is dependent for its meat production on imported vegetable protein, particularly soy. While stagnating soy would be a headache, such imports are unlikely to lead to famine in Europe, but they can trigger strong price shocks for producers and consumers. These shocks will even intensify if European production happens to be low, for example due to drought. It may also be noted that the European food supply will continue to be highly dependent on other regions for fertilizer, especially phosphates. A recent report published by the TA Steering group (Udo de Haes *et al.* 2009) shows that the declining global phosphate stock will necessitate a change in production patterns in the foreseeable future. Finally, the EU may be resistant to external shocks, in part buying substitute fodder and meat on the world market, but that such purchases may impact negatively on third-party countries, notably those in the developing world.

Can the international food system be regulated, and if so, how and to which extent? *Which mechanisms are already operative, which should be introduced, what role do international organisations and international agreements play?* These questions are central to the present study. We shall first conceptualise the global governance of crises and the instruments that may be used for this. Next we examine the management of the food supply system, split into the regulation of quantitative aspects (the physical food availability in kilogramme terns; food security) and agreements and legislation on qualitative aspects: food safety<sup>1</sup>. We show that in the former area, little has been provided for but for weak agreements on food aid, but more impressively in the latter. Thereafter we evaluate existing international and European regulation/governance arrangements. De extreme food prices of 2008 have incited many national governments to effect (temporary) policy changes. The changing political climate for food regulation is up next, including the geopolitics of food and important food-production inputs such as water. In particular we shall discuss a scenario in which food prices are structurally high, and a change of trade policy may be demanded. After a comparison with international initiatives in other domains, such as climate change and health care, we suggest

---

<sup>1</sup> Confusingly in Dutch the word for food safety (is it safe to eat?) and food security (is there enough?) is the same. An authoritative definition of food security, introduced by the Food and Agricultural Organisation is: “Food security” means that food 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. Only when all these conditions are in place can a population be considered “food secure.”

potential starting-points for policy change, whether or not coordinated with international business. We conclude with a set of conclusions and recommendations for next steps.

## 1.1. What is governance?

The globalisation of the economy unfolds faster than its regulation. If we leave out the World Trade Organisation (WTO) for the moment,<sup>2</sup> the multilateral system to regulate global funds and commodities is essentially the same as it was as just after the Second World War. New multilateral organisations have never really taken off. While a successful treaty has been concluded with respect to preserving the ozone layer, the Montreal protocol, treaties such as the Kyoto climate protocol up has had to contend with fierce opposition from the US, India and China. Regional cooperation on the other hand flourishes (Ahearne *et al.* 2006). This regionalisation may obviously pose a problem to those countries left out or opting out of a regional trade bloc.

Global governance is the reincarnation of regime theory, developed in the 1980s with a view to understanding why and how international actors cooperate despite the absence of a world government. For some time, now, the actors in the global system are not only sovereign states on which the Peace Treaty of Westphalia of 1648 was built, but a range of other actors: multilateral organisations, transnational NGOs, MNCs and local governments can conduct their own foreign policies, a civil society consisting of NGOs, trade unions and pressure groups and informal transnational processes that tend to proceed outside our purview. A leading definition characterises a ‘regime’ as: the norms, values and procedures regulating an issue-area in International Relations<sup>3</sup>. States can curb the activities of private actors and in case of emergency alter their property rights, in order to generate stability in an uncertain arena and in so doing reduce transaction costs. Global governance, so the literature states, is needed to overcome the limitations of *ad-hoc* policy, to resolve conflicts and also to give voice to the marginalised. This thinking is strongly functionalist (problem-solving oriented), which has elicited the reproach of depoliticisation and technocracy (e.g. Strange 1984). In addition, one may wonder if international organisations really want to solve problems; sometimes they can be a talking shop, a smokescreen for ‘non-decision-making’. For example, an International Jute Organisation has been established to stabilize the jute market. This organization however never really achieved anything, and its successor, the International Jute Study group, is just languishing. In both cases, the feat of establishing an institution appears to have been of greater importance to its members than getting anything done.

Whichever the case may be, regime effectiveness is hard to operationalise. Regimes rarely solve problems, and do not necessarily contribute to sustainable and equitable outcomes. They do promote predictable behaviour, social practices, in the global community but do not necessarily bring about stability (Young 1997). An enduring regime is not necessarily a strong regime. The effectiveness of a regime could be plotted on a ladder: what can the actors realise together to cope with an (emergency) situation. The coherence and susceptibility to erosion of a regime not only depends on first-order rules and rights, but also second-order issues: what happens when some party does not comply with the first-order regime rules? (Kratowil 1989)? A strong hegemonic power or power constellation can keep a regime focussed with the help of three types of power resources: coercion (*hard power*), financial stimuli (*side payments*) and persuasion or the power of good example (*soft power*).

---

<sup>2</sup> The World Trade Organisation (WTO) emerged from the General Agreement on Tariffs and Trade (GATT), which regulated the world trade de facto and ad hoc without a clear legal basis. The WTO was formally established in 1995.

<sup>3</sup> The ‘agreed upon principles, norms, rules, decision-making, procedures, and programs that govern the interaction of actors in specific issue-areas’ (Levy, Young and Zürn 1995). Other schools of regime analysis focus on actors or cognitions (Hasenclever et al. 1998). Contrary to the aforementioned liberal-institutional approaches, the regime approach by Harriet Freeman and Philip McMichael is a Marxian analysis based on the regulation school.

Some regimes are weakly developed, for example because there are only few global actors and problems, such as in the logically strongly regionalised fresh water sector. Other regimes by contrast are highly coercive, such as the non-proliferation regime for nuclear weapons, where the consequences non-compliance can be unimaginable. Regime effectiveness seems to be related to the degree of ‘securitisation’: does the world community attach enough importance to the policy issue a high politics (war and peace), does the continued existence of the states system hang in the balance, or is ‘merely’ the well-being of citizens at stake (low politics)? Apart from the focus on states and citizens, at the European level attention is increasingly paid to the security of *critical systems that sustain life* (Sundelius 2003) – power grids, schools, hospitals - which can be of importance to the present study where we consider the bottlenecks in the agri-food chain.

The global food regime gives the impression of being quite powerless. It mainly gains momentum when food riots call state stability into question. The security of states and of individuals can pull in different directions. For example, the right to food, enshrined in international Law, would appear to be a strong impulse for realising ‘individual (human) security’.<sup>4</sup> But rights which call on states to act in order to enable them (economic and social rights) are much harder to enforce than rights calling on states to desist from certain actions (to safeguard civil and political freedoms).

In addition to the ‘hardness’ and enforceability of interventions, the timing of interventions is important. Do international actors/actor constellations enjoy a mandate to take preventive/proactive action, or can they only pick up the pieces after the damage has been done?

The present study offers a framework, rooted in Disaster Studies, to create some order in all this. The next few sections will first discuss the analytical tool box, which we have largely drawn from Disaster Studies. Thereafter the food regime will be looked into in the quantitative (food security, Section 3.1) and qualitative sense (food safety, Section 3.2), and the actors and rules and regulations for international food aid discussed. It will become clear that the private sector has a key role to play in both categories. Chapter 4 calls attention to the increasing complexities and uncertainties in the global food system that complicate food governance. To get anything done at all, a simplification seems necessary, such as declaring a food problem a safety issue.

## **1.2. Analytical tools: The security chain, risk and vulnerability**

In popular terms, the present study explores the ‘controls’ international, notably European, actors can manipulate, on their own or in concert, to cope with a food crisis. *Risk assessment* is about the loss scenarios (probability times effect) focusing on a single or multiple threats. *Risk management* considers potential interventions either to stave off the threat, or to change its entry point, for example to influence human behaviour or needs such that the threat does not emerge (any more), by opening up alternative options for behaviour, isolate dangers so that exposure is prevented or vulnerability to its impact reduced (Renn 2008). If risk is probability times impact; successful intervention on either of the two variables reduces total risk. Since probability can never be reduced to zero, we should be looking to reduce impact (safe-fail) rather than seeking to design the perfect, fail-safe system.

The *security chain*, also known as the *disaster (risk reduction) cycle* has been used in the Netherlands by the Ministry for the Interior since 1992 and is increasingly found in European risk analyses. It provides entry points to analyse where risks are, can be or should be tackled: Disaster Risk Reduction (DRR). The number of links in the chain may vary; in this report we shall employ the simplest version of the risk management cycle: *prevention, preparation, response and recovery/reconstruction* (Fig.1).

---

<sup>4</sup> The guidelines for this were adopted two months after the FAO Committee on World Food Security endorsed them. Online: <ftp://ftp.fao.org/docrep/fao/meeting/014/k3175e.pdf>



The links in the chain are rarely taken into account all at the same time. In the past few years an awareness has taken hold that humanitarian and development policies should be better inter-coordinated, as humanitarian aid creates dependencies that can undermine development processes in a disaster area. In 2005, just after the tsunami of Christmas 2004, the Hyogo protocol was signed, a globally endorsed Framework for Action targeting local Disaster Risk Reduction. The Dutch government, for one, remains a laggard in Hyogo terms, and disaster and development sectors still tend to operate in isolation from each other.

PREVENTION	PREPAREDNESS	RESPONSE	RECONSTRUCTION
Improving the aid infrastructure and market access Strengthening livelihoods <sup>5</sup>	Early warning Building up emergency Food buffer stocks Insurance	Food aid Import/export controls Credit facility	Timely discontinuation of aid with a view to enabling development

**Figure 1. Response to food crisis in terms of the four stages of the safety chain, with examples**

Next to individual risks, the concept of ‘systemic risk’ is on the rise (OECD, 2003). That is, any risk to health or environment is embedded in a context of social, economic and financial consequences (Renn and Klinke 2004), in which risks are interdependent. Systemic risks have multiple drivers: demography, environment, socio-economic factors and technology, resulting in a high degree of complexity, dynamics, uncertainty, ambiguity, multi-layeredness and *social amplification*, i.e. the louder and louder of a risk story such as BSE and dioxin (Kasperson *et al.* 1988). A systems analysis needs to take into account how different groups contend with systemic shocks. After, for example, a war, political chaos ensues, the infrastructure is disrupted, so that local food shortages can emerge. By way of illustration: Tajikistan’s food crisis of 2006/7 mainly resulted from the abrupt reduction of remittances from relatives working abroad.

In this context the outcome of both the shock itself and that of subsequent (and previous) policies for the victims is important. Vulnerability is a function of *susceptibility to risk* and *resilience*. Resilience however has a cost aspect that cannot be expected naturally to outweigh benefits. Benefits at one level may be reaped at the expense of livelihood security at another level: pursuing common interests in reconstruction and continuity can clash with meeting local needs. While the study of Global Governance is primarily concerned with long-term global systems analysis, an orientation on (pro)action at a specific time and place is typical of Disaster Studies. That discipline however takes a wider view of vulnerability analysis (vulnerability = susceptibility to disruptive disturbances): it zooms in on the structural differences in resilience between social groups that cause a discrete event, such as a natural disaster or a political crisis to develop into a disaster for this group. Analyses of systemic risks examine different risks from one (for example, geographical) perspective (Renn and Klinke 2004). The vulnerability approach taken in Disaster Studies on the other hand looks at various actor and system characteristics which can cause one trigger to impact disastrously for certain groups – or not, as the case may be. The Political Economy school of vulnerability (Hewitt 1997, Wisner *et al.* 1994) moreover emphasises that an actor’s position in the socio-economic system is decisive for the degree of vulnerability that actor sustains. Damage and loss therefore are as much a function of internal (social structure, the political economy) as of external factors (the discrete shock event).<sup>6</sup>

In this view vulnerability is the aggregation of a host of risk factors, whereas the food security perspective tends to target one factor: hunger (Dilley and Boudreau, 2001). Vulnerability analyses currently tend to be complemented by a capacity analysis, which charts the material, immaterial and motivational means people have at their disposal to parry a shock (Anderson and Woodrow 1998).

<sup>5</sup> The most authoritative definition of ‘livelihood’ is ‘the capabilities, assets (including both material and social resources) and activities required for a means of living’ (Carney, 1998:4).

<sup>6</sup> Confusion about vulnerability as a point of departure or end point of analysis is discussed in O’Brien *et al.* 2004.

Economic but also non-economic forms of capital (social, political, natural resources) are important here (DFID 1999). Integrating this insight helps us broaden the concept of ‘food security’, which only describes whether a system (from the macro-region down to the household level) can meet its needs – with the degrees of food availability, access and utilisation. A food crisis is rarely only a function of food shortage, and seldom solved by putting more food on the table. The focus adopted here sheds a different light on the meaning of a food crisis.

The broader paradigm considers the multiple means of gaining access to food (*entitlements*), the local drivers as well as the political dimension of our interaction with nature (political ecology). This means shifting our attention in the security chain from Stage 2 (Preparedness) onto Stage 1 (prevention or mitigation), as well as flagging up the importance of Stage 4 (Reconstruction) as a sequel to Stage 3 (Response).

## 2. The World Food Crisis of 2007/8: causes and remedies

The food price explosion of 2007/8 is customarily labelled a 'crisis'. Below we shall first discuss its causes as found in the literature, after which we wonder if there was really question of a global food crisis.

### 2.1 Causes of the 'food crisis'

The impact of incidental factors such as adverse weather conditions in major cereal and oil-seed producing countries in 2006 and 2007 was reinforced by structural trends, low stock levels, a surfeit of liquidity and, on top of that, responses from policy-makers and speculators to the price rises. In food-importing countries, notably those states where state companies control imports, price peaks make it much harder for governments to buy on the world market when local market forces fail.

Structural trends often refer to:

- Population rise, higher incomes, especially in middle/income countries. Higher incomes lead to more meat consumption, which in turn requires more cereals. But does this also lead to higher food prices? What counts against this is that China and India are minor players in the global cereals market and that their imports did not rise in the period preceding the price explosion (Heady and Fan 2008). Both countries have thus been able to meet their increasing needs.
- Monetary developments. The structural rise in the price of oil and, as a result, of agricultural inputs, and the weakness of the American dollar caused a price rise on the world market. Structurally low interest rates in the US facilitate raw material purchases.

In addition, more incidental factors played a part:

- Increased demand for grains and oil seeds for biofuels. Energy crops command an increasing share of arable land, frequently cultivated with heavy state support. State influence and subsidies on biofuels has caused bad ill-feeling. Without state support, only Brazil could produce ethanol (from sugar cane) on a large scale. For rice the energy balance is even wholly negative.
- Reduced stocks: the global stock-to-use ratio for the total cereals and oil seeds stock had fallen from 30% to under 15%. This rather steep decline resulted from lower production in the years leading up to 2009.

Finally, there were strong and self-reinforcing effects

- *Knock-on effects* between markets: price fluctuations in a single market are reinforced in the global marketplace. The rising price of rice, for example, was a consequence of the price rise in cereals rather than production shortfalls or limited stocks (Mitchell 2008).
- Policies on the part of both food im- and exporting countries, especially with respect to rice, to reduce domestic food price inflation by reducing exports (higher tariffs) or increasing imports (lower tariffs). Both actions step up the upward pressure on global food prices.
- Speculation, betting on further price rises in futures exchanges, while agents in the financial markets suddenly jumped on food (Gilbert, 2009).
- Speculative hoarding by larger food importers (Committee on World Food Security, 34<sup>th</sup> session, 14-17 October 2008.)

A number of countries, including Russia, Morocco, Vietnam and Malaysia responded to the crisis by setting up a barter trade system, such as Malaysia offering palm oil in exchange for rice and fertiliser,

as financing of international food trade was under pressure due to capital shortage caused by the financial crisis.<sup>7</sup>

International food organisations sprung into action too. The FAO organised a World Food Summit to coordinate crisis response. The US\$20 billion pledged by the G8 in the next three year to pay for a food security initiative appear to have largely failed to materialise, but rather more activism is apparent to invest in structural reinforcement of the agricultural sector. Agriculture rose to the top of the agenda again, as it also happened to be the theme of the IBRD's World Development Report 2008. Andriess *et al* (2009) conclude from their analysis of a number of international reports that solutions proposed are only in the technical domain while institutions remain untouched.

In November 2009 World Bank, World Food Programme and the American humanitarian NGO umbrella organisation Interaction warned we could anticipate another food crisis in 2010. Prices have risen again. The economic crisis exacerbates the structural hunger because access at local level has worsened; reserve stocks are no bigger than they were in 2007, and there are no new regulations against speculative hoarding.<sup>8</sup>

The above brief analysis indicates that in addition to incidental factors, structural factors cause the system to be permanently unstable system. This casts a new light on what a crisis really means. Is the focus on visible extremes the right approach? The next section goes into this issue.

## 2.2 What is a crisis, really?

*Crisis, what crisis?* The 'food crisis' concept can be confusing. A crisis is a crisis if it is labelled one. This means that creeping, protracted catastrophes often receive scant attention, while others emerge as possibly exaggerated media events, such as the Mexican influenza.

According to the FAO an *acute* world food crisis is basically becoming extinct and the price shock of 2007 was a rare outlier. The number of chronic, protracted crises on the other hand has been steadily increasing since the turn of the Millennium (FAO-ESA 2006). Some 850 million people are undernourished, about the same number as in 1990. The FAO therefore focuses on increasing food security in the context of fighting poverty, and a broad agricultural agenda to eliminate the chronic factors underlying the crisis. A crisis, then, is not only a crisis when it is 'immediate, violent, overt or rapid-onset', but a multi-layered phenomenon in which secular and less visible tendencies may be of equal importance (Pingali *et al.* 2005).

The political consequences of a crisis should not be underestimated. A crisis reveals the underlying tensions in society, and threatens or disrupts the implicit 'social contract' between citizens and government: the protection of the public order, public health and security (Dror, quoted in Boin and Rhinard 2008; Pelling and Dill 2009). A crisis calls into question the legitimacy of the political system ('t Hart, quoted in Boin and Rhinard 2008). To restore order, draconic measures may be called for. This presents tragic dilemmas as to whether to make a concerted effort to tackle the problem in hand or to restore legitimacy. The tsunami of criticism of the handling of the flood following Hurricane Katrina, where public response was disastrously inadequate, initially acting too late and subsequently restoring order in such a heavy-handed fashion that victims of the Pacific tsunami saw the state's presence as a humiliating blow rather than a welcome relief.

---

<sup>7</sup> Javier Bias, 'Nations turn to barter to secure food', Financial Times, 27 January 2008, <http://www.stwr.org/food-security-agriculture/nations-turn-to-barter-to-secure-food.html>; Leo Lewis, "Food crisis forces Malaysia into barter: palm oil for rice", The Times, 14 May 2008, [http://business.timesonline.co.uk/tol/business/industry\\_sectors/natural\\_resources/article3930237.ece](http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article3930237.ece).

<sup>8</sup>

<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22401095~menuPK:34457~pagePK:34370~piPK:34424~theSitePK:4607,00.html>.

Food crisis policy in developing countries is normally associated with managing the amount of food available - the supply side. On the one hand, there is indeed a real Malthusian supply problem: crop production does not keep pace with the rise in population. On the other hand, food shortage is only one driver causing a famine; according to the Nobel laureate Amartya Sen, *access* is key. This concerns the distribution of food and as a consequence is an institutional/political problem. Kay (2008) even maintains:

‘Famine is always the consequence of human action, even if it is triggered by a natural catastrophe. Food insecurity exists when access to necessary food sources is prevented or made extremely uncertain’.

For the many people who got into trouble due to the high price levels of 2008 there was a crisis, yet for others there wasn’t one at all. The question therefore emerges what causes a specific kind of crisis for a specific kind of social group. The answer to that question should not overlook the social position of these people-and the low degree of food security that position brings.

### 3. The global food regime

The power of decision in regimes could be plotted on a ladder running from punitive (e.g. the non-proliferation treaty) to toothless (e.g. the right to food). If we divide up the food regime into quantitative and qualitative security, it is notable that food quality is far better safeguarded than food quantity. In both regimes little democratic accountability is demanded, but in the past few years, globalising civil society has made considerable headway. Especially in the food industry however a tipping point has not been reached.<sup>9</sup>

Both regime types are sketched below.

#### 3.1 The food quantity regime

Globalisation internationalises a national problem, such as a famine or epidemic. A disaster at national level, such as failed harvests in China or Russia, may cause global instability. Nevertheless global food insecurity or unsafe food are not treated like epidemics such as HIV/aids or avian flu. There is no preventive mechanism or international policy coordination.

This is related to a great measure of domestic protection extended to farmers. In the world system the global market is characterised by excess supply. This results from domestic interventions leading to (sometimes large) fluctuations in supply and demand in the global marketplace. In light of the high degree of self-sufficiency in most trade blocs, the impact of world market dynamics on producers and consumers within the regulated areas is limited. Therefore there is little occasion for international policy co-ordination. States that have a free-trade regime are affected more by other states' policies. The typical distribution of interventions across countries in the world runs from support for producers in rich countries to levies on producers in poor countries often along with support for consumers.

EU policy and partial liberalisation of agrarian markets resulting from the Uruguay Round led to a slight lowering of tariff walls between countries. As a result there are more opportunities for trading as well as for companies involved in this trade. Yet at the same time safety standards of imported goods have seen significant tightening. Indirectly, this has created new barriers to trade.

Trade follows its own laws in the sense that food is shipped from locations where costs are low to locations where costs are high. Neither the costs nor prices account for environmental and social conditions, long-term effects of dependency, speculative buying and so on. Examples of cost factors that are insufficiently expressed in current prices are the ecological footprint and the 'water footprint', in other words, trade in the 'virtual water' encapsulated in food (Allan, 2005).

While the literature on virtual water can be accused of an excessive reliance on the regulatory powers of states<sup>10</sup>, the aforementioned globalisation literature sometimes seems to *underestimate* the regulatory power of states in the global system.

'Governments, regulation, and property rights are not market imperfections but rather the very structures that allow markets to operate' (see Bromley 1991).

Moreover, the field is dominated by only a few MNCs (Sheppard and Barnes 2002), which may lead to exaggerated profit margins. Agricultural multinationals however are not as vertically integrated as the automotive and electronics industry. This makes the international system an assemblage of

'dispersed, multifaceted liberal powers – public-private, bilateral and multilateral funding, managing and implementing programs, initiatives and entities' (Pereira 2008).

---

<sup>9</sup> Lisa Jordan (2009). Civil society's role in global policy making.

<http://www.partilharofuturo.com/Civilssocietysrole.doc>

<sup>10</sup> Roughly since the 3<sup>rd</sup> World Water Forum of March 2003 virtual water has reached the agenda as a policy recipe. The implicit assumption is that a virtual water policy at the national level can be directly implemented at the field level, ignoring the limited flexibility of farmers and the economic, social and political relations that promote a certain crop. More efficient use of water as a factor of production cannot be achieved by coercion.

The deregulation of food markets has eroded the national intervention capacity to respond to calamities, as buffers dwindle, domestic prices show unlimited fluctuation; were a crisis again to break out, there would be preciously little capacity to act. The UN Food agencies (FAO and World Food Programme) have seen food aid buffers plummet. In part this is attributable to the liberalisation conditionality to which World Bank and IMF loans to needy countries are subject. But the EU itself has also significantly reduced its emergency stock.

To put things into perspective, the recent food price rises have shown that countries are hardly bereft of intervention tools. An FAO survey<sup>11</sup> reveals that hardly any country has refrained from taking measures. Many countries, the report shows, prioritise self-sufficiency over food security. But as Yu *et al.* (2009) show, these measures may have given world market prices a strong upward push, +23% for rice and +14% for wheat. Such price rises can incite other countries to intervene: in a phrase, there are knock-on effects.

As a matter of fact, the global food system basically only encompasses a limited subsection of the market: trade is largely conducted between large agricultural producers and megacities in the South. Local farmers and the landless have scant access to this market – they are locked in a permanent, structural poverty crisis. A crisis in the world food trade therefore mainly affects the larger cities rather than the countryside. It should be noted in this context that over half the global population is now urban while the number of megacities keeps rising, so that pressure on the world food system mounts.

The permanent food crisis however does directly affect the countryside. Lack of access to the means of production, capital, markets and knowledge is the real problem here and requires a regional, *in situ* strategy. Remote stocks are not conducive to tackling this problem. The rural poor in Africa tend not to benefit from EU food buffers. As a consequence, Angolan farmers find they cannot sell their onions, while they see lorries carrying emergency food from other countries pass their village by (pers. comm. Hilde van Dijkhorst, Disaster Studies, Wageningen University). This example indicates the importance of a strong *macro – micro* linkage. Whatever is agreed on at global level has little direct influence on the lives of the majority of the world's population, although they are indirectly affected by their knock-on effects.

### **3.1.1 The food aid regime: the Food Aid Convention**

The Food Aid Convention (FAC) is the only formal international food aid accord that has legal status, but lacks a mechanism for enforcing agreements. Moreover, only donor states can be members; neither recipient states nor operational organisations are involved.

The United States is by far the largest donor of food aid. In the 1960s, American agricultural policy, together with local crop failure (due to extreme climate events and violent conflict) together produced a world-wide dearth of cereal supplies. The US felt threatened by increasing European grain surpluses and insisted on a cereals agreement. In the framework of the Kennedy Round of the GATT, the Food Aid Convention and a new Wheat Trade Convention, the International Grains Agreement, were agreed in 1967 (Hoddinott *et al.* 2008).<sup>12</sup> Even before that, since 1954, any food aid shipments were supposed to be reported to the FAO's CSSD (Consultative Sub-Committee on Surplus Disposal), but this requirement was – and still is - given little heed.

In the 1980s food aid had expanded considerably but proceeded with only scant co-ordination. The Food Aid Charter, adopted in 1990 and reviewed in 2009, sought to create a stable food situation for the Sahelian countries rather than stopgap solutions. This Charter is an agreed-on code of conduct rather than a formal agreement. An evaluation by the *Club du Sahel* (which forms part of the OECD)

---

<sup>11</sup> [http://www.fao.org/fileadmin/user\\_upload/ISFP/pdf\\_for\\_site/Country\\_Response\\_to\\_the\\_Food\\_Security.pdf](http://www.fao.org/fileadmin/user_upload/ISFP/pdf_for_site/Country_Response_to_the_Food_Security.pdf)

<sup>12</sup> <http://www.oecd.org/dataoecd/31/10/41276585.pdf>,

[http://findarticles.com/p/articles/mi\\_7055/is\\_3\\_14/ai\\_n31151491/](http://findarticles.com/p/articles/mi_7055/is_3_14/ai_n31151491/)

reveals that despite all good intentions, too little transparency is being observed. Problems keep haunting the FAC. When market prices are high, donors tend to delay food deliveries. In case donors fail to make good on promised food aid shipments, they are allowed to make up for this in the following year, without penalty. The accord also does not stipulate anything on the quality of donated food<sup>13</sup>.

The amount of emergency food aid has steadily declined: in the past few years food security rather than aid has been prioritised. As much as possible, shortages are made up for from sources within the region. Proper co-ordination, both between donors amongst themselves and between donor and recipient, however remains a serious problem. The minimum of 10 million tonnes of food aid per year agreed under the FAC is mostly attained, but in 2006 it amounted to only 7 million.

The European Union and Canada decided long ago to decouple food aid from their own food production: they now donate funds with which to buy emergency food supplies in the affected region itself. The United States however had treated food aid as a consequence of its policy to support domestic agriculture. In 2005 almost half of all food aid was American in origin and 20% of the cost of the cost of American food aid was spent on transport. Now that energy prices are so high, these costs are even more burdensome. Research and lobbying prior to the WTO Ministerial Conference in Hong Kong in December 2005 have marked out the mechanism of ‘tied aid’ as trade interests in disguise, and therefore conflicting with WTO rules.<sup>14</sup> Subsequent research however has revealed that there is no more question of an effect of the production of the donor country on the amount of aid given (Kuhlgatz, Abdullai and Barrett 2009).

Food aid can crowd out normal commercial imports by the recipient country. Aid can also be used to obtain political favours. Notably domestic farmers in those countries therefore view food aid in non-emergency situations with considerable scepticism. A sharp definition, then, is required of what constitutes an emergency situation, or an independent agency that can authoritatively define the situation as crisis or non-crisis. The Food Aid Convention has such a definition, which however leaves its members considerable room for manoeuvre. An authoritative defining agency does not exist, however, although the World Food Programme does play a role in clear emergency situations. An illustration of international debate in this area arising out of the lack of a consensus definition is the discussion in FAO’s Committee on Commodity Problems (CCP 07/14). When the EU and others disputed the need for American shipments of wheat to Jordan in 2006 and 2007 (“no apparent humanitarian need”), the US replied that “a food gap had been identified by the usual market assessment“ to which the UK rebutted: “it may be worthwhile for the US to reflect on its methodology”.

The security chain can be helpful in understanding what went wrong in containing the global food crisis. The focus on a response and perhaps rehabilitation was clearly preceded by *preparedness* (monitoring, early warning), but much less by prevention. Likewise in the earlier food crisis in the Horn of Africa in 2005-06, which affected 11 million people, there was a lot of *early warning information*, but at first no adequate response: the emphasis was food aid with a limited range of agricultural inputs. The short-run focus of donors and excessive earmarking of contributions by UN aid organisations and other international agencies led to an inadvisable separation of strategies for the short and long run (Levine and Chastre 2004). According to these critics, there only appear to be two modalities in international aid:

- For the developed world with a robust government: public interventions aimed at sustainability.
- For the developing countries: temporary emergency interventions, soon to be replaced by development aid.

---

<sup>13</sup> [http://www.cigionline.org/sites/default/files/Conf\\_Report%20web.pdf](http://www.cigionline.org/sites/default/files/Conf_Report%20web.pdf)

<sup>14</sup> Food and Nutrition Coalition (2005), *Dumping Food Aid* ”Trade or aid? (Subsidised) Food Aid in Kind: what is in it for the WTO. [www.wto.org/english/forums\\_e/ngo\\_e/posp47\\_dumping\\_food\\_aid\\_e.pdf](http://www.wto.org/english/forums_e/ngo_e/posp47_dumping_food_aid_e.pdf)



### 3.1.2 The private sector

The agricultural sector has a broad base of small-scale producers. Produce is processed and traded by a fairly small group of large-scale companies delivering their wares to a multitude of consumers. This hourglass model emphasises the large scale of food processing and trade in nutrition products. For enterprises, this scale has clear benefits for the efficiency of their operation, the effectiveness with which they can take measures to solve or prevent hitches and also for mutual collaboration, the private governance of the system. This collaboration is expressed in the joint drafting of standards, joint lobbying in the policy arena and joint representation in public consultations and hearings. We will come back to these standards later on, when we discuss food quality.

However corporate collaboration on quantity is far less impressive. Ensuring supply continuity is mostly a concern of individual companies. And even though make elaborate deals with suppliers and buyers, there is no collective action in this area. Yet there would be perfectly sound reasons to do this. In their quest for maximising efficiency there has been increasing specialisation in the various chains connecting producers and consumers. Certain ingredients are only supplied by a handful of companies, while delivery runs only through a handful of harbours and storage facilities. Although companies may have made clear agreements on an individual basis, the sector as a whole should be worried to be exposed to the proper functioning of only one port, of a single supplier to the whole sector.

Companies turn out to be prepared for certain interruptions. Contingency plans particularly concern interruptions in input delivery and production which are pulled up and executed when apposite. Yet research by Peck (2005) in Great Britain reveals that companies are not prepared for larger interruptions, especially in *points of constriction*, e.g. when particular ports are wiped out.

UK companies have reasonably taken care of *business continuity management*, that is, drafting contingency plans to assure the continuity of the operation in case of interruption. In the US companies have moreover felt the need to take measures in case of terrorist attacks on their lines of supply. These measures have made increased the efficiency of the operations and promoted vertical integration, but this may have gone at the expense of economies of scale of horizontal integration (Wilson *et al.* 2003).

## 3.2 The food safety regime

There appear to be considerable differences between the approach to quantitative food security as formulated by the FAO in 1983 and laid down in international treaties such as the Bellagio and Cairo Declarations of 1989 and the International Conference on Nutrition in 1992 (FAO/WHO, 1992) and the regulation of *food safety*. Whereas the former has a great deal of national regulation, but little international coordination, the latter has seen much more regulation at the global level.

In case of threats to food quality, epidemics such as BSE, public agencies have the wherewithal to stem their spread, including barriers to trade (phytosanitary and veterinary conditions) legitimised under WTO rules. The international food safety standards are developed and adjusted by a small group of closely interlinked<sup>15</sup> international organisations. The WTO has the SPS agreement (signed by 150 member states). Member states are allowed to set their own specifications for food security and packaging within these principles. Its core is constituted by the public-private *Codex Alimentarius* Commission (Codex), since 1960, on a voluntary basis under the aegis of the WHO and FAO (public health); the OIE (animal safety) and IPPC (phytosanitary measures). OIE representatives have observer status in a number of Codex committees. Each national member of these organisations has a first port of call, mostly within the Agriculture Ministry. The EU itself is now a full member of the

---

<sup>15</sup> In an interview with one of the present authors an FAO official noted: “the affiliation with WTO is a curious one, they’re not a United Nations body, they have their own statutes and their own rules, whereas the work of Codex and the work of FAO, the work of WHO for the most part, is always advisory.”

Codex Commission and the IPPC. Although the Codex enjoys global acceptance, and is also seen by the WTO as the recognised as the legitimate agency setting legitimate conditions on trade, many countries find it cumbersome to internalise the Codex norms.

The market meanwhile has seen a qualitative change. Kenafal *et al.* (2005) state that the most recent revolution in the agri-food chain is about *quality* rather than about raising productivity. This helps some small producers produce desirable niche products, but mostly the consumer product is so specialised that companies prefer to buy from large specialised companies. Various authors have noted either the privatisation of standardisation, or a bifurcation between private and public risk management, which both are both compulsive, but the former is about to become hegemonic, so much that public authorities adopt the private standards.<sup>16</sup> In this context, a growing interest in process requirements instead of the products themselves is at work here. The logic underlying the idea is that only by making demands on the process (e.g. with respect to hygiene) you can make sure that products meet quality standards. The starting-point in the WTO however is that setting conditions to products is permissible, provided these conditions are scientifically grounded, and standards attained with the least possible impediments to trade, that is, without discriminating between domestic and foreign product. Process preconditions, especially where generic conditions are concerned, such as social conditions and environmental impact, are at times not very clearly related to the product at issue that it is hardly defensible within the WTO framework to ban or tax certain products. Exceptions are made for products produced in ways that violate international environmental treaties.

The increasing pressure to control the process compels producers to integrate vertically and integrated chain management in food security, although profits obviously remain the undiluted *Leitmotiv*. The number of private, often internationally operable *codes of practice* increases exponentially, particularly within large supermarket chains, the food industry and services. Self-regulation in the private sector not only takes *corporate governance* on the part of the companies themselves but also requires cooperation between countries within value chains, sectors etc. to arrive at agreements and make sure they are enforced. Private safety and quality standards are applauded, as they offer opportunities for companies to distinguish themselves / set themselves apart and meet consumer preferences. If many companies participate, as is the case for GlobalGap – these however may also be felt to be an impediment to trade in reality. They fall outside the existing institutional framework however so that they cannot be regulated. The VN can take a co-ordinating role to prevent duplication but not to issue permits and certification accreditations.

Wouters et al. (2008) feel that private standards can also be maintained by governments. In fact public authorities already do this, where they have their own services ISO-certified, or their submit forests with for FSC certification. A step in the direction of regulation of private standards may be to impose certification of the standard-setting institutions and set standards on their accountability, transparency, appeals procedures, access for small companies, etc. This places private standards under a public regime and as such they can be included in talks over, for example, trade restrictions.

|

---

<sup>16</sup> “The evolution of private standards reflects the preponderance of ‘soft law’ in the governance of economic national en international systems and the innovation of regulatory systems including move towards the use of co-regulation. As a result, it seems as though private standards are becoming the predominant drivers for agri-food systems.” (Henson 2008: 64)

## 4. Scarcity, uncertainties and complexity

In discussing the causes of the world food crisis of 2007/08 we already indicated that food prices cannot be isolated from agricultural input prices and developments in other sectors. Scarcity in other resource markets drove up food prices. It is therefore of the essence to relate aforementioned food regimes to regimes in other domains.

### 4.1. Scarce resources

These days it can be cheaper for Dutchmen to import grain from Argentina than from Hungary. But if the energy prices remain high, one may wonder if it buying food from such a remote source is a sustainable practice. What will we do when energy prices really go through the roof? Trade but also power political processes and conflicts prove to be of great influence on the availability of food and strategic resources. Apart from energy, water and phosphates are among the core inputs of food production. By way of illustration, we will explore these two factors a little more.

#### *Water*

Warnings of a global water crisis resulting in water wars were high on the agenda in the mid-1990s (for example, Bulloch and Darwish 1993). Attention waned after 9/11 but fear of climate variability pushed the issue up the political agenda once more<sup>17</sup>. Thus leading Dutch strategic studies commentator Rob de Wijk (HCSS) (pers. comm., September 2009) sees water scarcity as the principal catalyst for a global food crisis, while the World Wildlife Fund sees a world water crisis as the root cause of the world food crisis.<sup>18</sup>

This fear however is not uncontroversial. Firstly, it is not absolute scarcity in the world but local availability that makes the difference between abundance and thirst. Secondly, water has historically been a source of cooperation rather than violence. Aaron Wolf (1998) has convincingly shown that scarcity itself does not necessarily trigger conflict. Local scarcity however can escalate an existing conflict or be the focal point of underlying tensions – which may for example partly stem from self-serving resource capture by local elites, companies or warlords. At the interstate level, upstream countries can seize on water as a lever to gain power. Conversely downstreamers can use their power resources to get hold of more water (Warner 2004). Privatisation of the water sector may also be exclusionary, when governments cannot or will not to support the poor in paying the prices the market dictates. In Bolivia clumsy privatisation, incited water riots in 2000 (Cochabamba) and 2005 (El Alto, a poor suburb of the capital, La Paz).

Local water problems can be tackled with better distribution deals. Although billions of euros are invested in canals and pipelines to carry water from wet to dry areas, for example in Spain, India and China, Allan (2001) also shows that water transport does not have to be material in nature. Hidden from view a redistribution mechanism, ‘virtual water’ can ensure that local scarcity does not irrevocably translate into food scarcity. Each year Egypt, a food exporter until 35 years ago, imports as much ‘virtual water’ as flows down the Nile into Egyptian territory Thanks to the success of its industrialisation programme, Small and water-starved Singapore has enough foreign exchange at its disposal not to worry about food security. This requires a blossoming economy, or wealthy friends (either magnates or states) making those funds available.

The water foot print (Hoekstra and Chapagain 2007) shows the locations whether goods can be produced most water-efficiently. Pursuing this analysis would lead to more imports of water intensive products into water scarce areas and less exports out of them, ensuring more sustainable local food

---

<sup>17</sup> In 2006, then U.K. Minister of Defense John Read warned against warned against climate change induced water wars. Water Wars: Climate change may spark conflict, The Independent, 28 February 2006.

<http://www.independent.co.uk/environment/water-wars-climate-change-may-spark-conflict-467957.html>

<sup>18</sup> <http://www.ens-newswire.com/ens/aug2008/2008-08-18-01.asp>

production. A conscious *virtual-water*-strategy however would also mean greater dependence on the capricious food market and/or geopolitics, especially for large food consumers like India (Roth and Warner 2008).

Local decisions leading to the depletion of local resources may indirectly affect World food trade, while conversely, local decision space is limited by the national and international context. Rens de Man, currently researching food security in India, shows that the governance regime for ground water is highly fragmented, leading to the continued depletion of aquifers in India. While tubewells are a highly local phenomenon, many small pumps add up to one large user, if the national government could be incited to regulate ground water regime and streamline more prudent water use that would likely constitute a greater contribution to food security in India more than food aid or tariffs. The changing governance situation at global level, especially the willingness to intervene more rather than liberalise, could offer opportunities for this. While the institutional setup is not changed, donor support for a better agricultural structure, now a favourite agenda item, still means lending support to an exploitative system.

De Wijk (pers. comm., 4 September 2009) does have a point showing that in areas where many raw materials, energy, food and so on come from, water tends to be scarce. Countries that are non-democratic and/or unstable (*failed states*) also often come in clusters, problems in one country spread through the whole region.

#### *Minerals*

De Wijk's chart indicates three potentially scarce factors - water, energy and minerals - influencing a fourth, agriculture. In this triad minerals take a special position as they are less easy than the others to recycle, and have no substitutes. Keyzer et al. (2009) in this context point out that zinc will probably become scarce even before phosphates. In a separate publication, the Technology Assessment Steering Group (Udo de Haes *et al.* 2009) has called attention to the foreseeable scarcity of phosphate, a raw material essential to life on earth. While phosphate mostly finds application in agriculture other minerals are also used outside that sector so that agrarian uses compete with non-agrarian uses. This begs the question if the market can meet this challenge. Will minerals on the one hand gradually become so expensive that efficient use leads to considerably greater longevity of the mineral stock? On the other hand, can agriculture compete with other phosphate uses?

The answer to either question tends to be negative rather than affirmative. Externalities of the continued depletion of resources are not taken into account by private parties in their everyday actions. As for competition, farm operations' economic demand for fertilizer is a clumsy proxy for human demand for phosphates.

Public intervention would, then, stand to reason: regulations or levies to reduce to use of certain minerals for non-agricultural ends, rationing the supply of minerals, and policies promoting the recycling of these raw materials from waste flows. Notably recycling of incinerator ash, and, in due course, retrofitting toilets and sewers can make a considerable difference (Smit *et al.* 2009; Vaccari 2009). The availability of higher prices of raw materials can be expected to make these technologies rewarding and that the market can realise their concretisation. Start-up subsidies may be needed. Allocative policies between agricultural and non-agricultural uses are less compatible with market forces. They do require co-ordination with other states, and therefore European and global pacting.

## **4.2. Food security and securitisation: *security governance***

Is there a way to break through the complex interweaving of actors in different resource regimes and manipulate a few central controls? One possible answer may take a cue from Security Studies. To achieve regulation, as many actors as possible need to be aligned, necessitating an issue-area to land on the security agenda. 'Securitisation' (a term introduced by Buzan, Waever and De Wilde, 1998) is

to say that a topic is declared to be subject to security policy, legitimising extraordinary measures being taken and resources harnessed.

In recent history, illicit drugs and terrorism have been securitised - and then largely desecuritised again by President Obama who declared the war on drugs and war on terror over. A natural hazard or a deep crisis may legitimise the shoring up of normal rules and rights and the deployment of the military and the use of force. But a problem remains (especially for bureaucracies): Who is the boss? Security governance these days is a web of international agencies, national authorities and even private companies (Kirchner 2006, Krahnmann 2003).

In Europe the boundaries are blurring between external security, traditionally the domain of the military and diplomatic service, and internal security, the citizens' domain. For 'high politics' issues the military will be on standby to create order, while 'low politics' is a matter of civic initiative. Robert Keohane and Joseph Nye however noted back in 1977 that non-military issues (oil, the economy, the environment) can be elevated to high-politics status. That also means the roles of civic and military organisations are less clearly defined. While civil authorities have become more involved in security issues, military actors have entered the domain of civil protection. Socio-economic institutions have more powers at their disposal than 30 years ago (rules, incentives, communication tools) to safeguard civil security, and although NATO has lost some of its effectiveness since the Cold War, military organisations are deployed more to address civil crises and protect the population. Both the co-ordination between these institutions and the transparency of such public-private partnerships however is limited.

Food supply has always been a strategic policy tool. Many agricultural policies have been and still are defended invoking the importance of national autarky. Bij militaire planning wordt uiteraard ook acht geslagen op voedselvoorziening. NATO has a Food and Agriculture Planning Committee (FAPC) monitoring national crisis planning on food and agriculture and the Senior Civil Emergency Planning Committee (SCEPC) advising the treaty organisation on co-ordination, co-operation and joint action in the framework of the NATO treaty.<sup>19</sup>

Although food crises are considered civil crises, and as such are outside the NATO's remit, famines turn out to be important drivers for revolutions, most famously the French Revolution. After the famine in the Sahel of 1968-1974, governments were overthrown in all hunger-stricken areas except Senegal. Migration and urbanisation can be the first signs of political instability. Fragile states are also prone to famine (Natsios and Doley 2009). An important driver for the World Food Summit of 2007 was therefore the food riots in thirty countries that generally less than democratic rule<sup>20</sup>. Food riots, forced, for example, the Haitian Prime Minister to step down. Food supply, and therefore agriculture, became a national security issue.

### **4.3. European policy on food security**

Interestingly there has not been a successful 'securitisation' of food security in the international arena. Historically, food security has been a public concern since the European food crisis of 1816/1817, when the aftermath of the Napoleonic Wars wreaked havoc on the agricultural sector, compounded by a volcanic eruption in Indonesia launching so much ash into the air that Europe missed out on an entire Summer. States intervened to prevent chaos. Another turning point was the potato crisis of 1845, necessitating international food aid being sent to Ireland. From the 19th century on, the issue was not so much whether to give aid, but to whom, e.g. groups who are food-short even in 'normal' times (Webb and Rogers 2003). Since the surpluses of the 1980s food security has ceased to be a pillar of

---

<sup>19</sup> <http://www.nato.int/docu/logi-en/1997/lo-1107.htm>;

<sup>20</sup> Among others: Bangladesh, Burkina Faso, Cameroon, Haiti, India, Indonesia, Ivory Coast, Mexico, Mozambique, Myanmar, Pakistan, the Philippines, Russia, Senegal, Somalia, Tajikistan, Yemen (Source: Wikipedia, last consulted 1 November 2010).

agricultural policy and therefore is no longer subject to (institutionalised) emergency policy on home turf – although, as we shall see, it continues to be elsewhere.

Although it is true that the 'Scanning the future' report by the Dutch Central Planning Agency (*Centraal Planbureau*) in 1992 had sketched four scenarios showing Europe to be highly vulnerable to the greenhouse effect and the depletion of agricultural land, that report hasn't really been followed up since. Signs of water scarcity in Southern Europe and its consequences for agricultural production (Trostle 2008) have not set alarm bells ringing. The food price shock facing Europe in 2008 and 2009 was a first since the Second World War<sup>21</sup>. The sharp fall in the price of milk after the price shock sparked, among other consequences, a strike in the German dairy sector and French farmer protests. France advocated protectionist measures, a proposal however the European Commission declined.<sup>22</sup> A High Level Group is now poring over adjustments in European dairy policy. Meanwhile France has decided to support its farmers with a EUR650 million injection, but this is about making up for shortfalls in demand due to the financial crisis, rather than any reaction to the earlier price hikes. These higher prices, it should be noted, are hardly visible in consumer prices - and neither are lower prices.

Both European water and agricultural policies are based on the belief that there will always be cheap food aplenty on the world market. A recent British report<sup>23</sup> reflects this optimism. Although production is now more prone to world market price shocks, their effects on farm incomes are softened by extensive income supports (van Eickhout *et al.* 2007). Earlier, in a 2003 report, a European group of agricultural economists wrote:

**Food security** is no longer a prime objective of European food and agricultural policy. There is no credible threat to the availability of the basic ingredients of human nutrition from domestic and foreign sources. If there is a food security threat it is the possible disruption of supplies by natural disasters or catastrophic terrorist action. The main response necessary for such possibilities is the appropriate contingency planning and co-ordination between the Commission and Member States (Anania *et al.* 2003).

Europe, it appears, feels rather sure of itself, and does not worry about a potential food crisis. We are also not aware of any special measures on standby. Nevertheless a fledgling European internal security has been called into being that can be deployed should (food) crises strike. The Maastricht Treaty (1992) created a quasi-decision-making platform to respond to transboundary threats. Since 9/11 the definition of what constitutes a threat has been broadened and the protection capacity reinforced. In the Solidarity Declaration of 2003 member states promised to stand by each other in the event of a terrorist attack, natural disaster or human-made calamity (the European Security Strategy of 2003). Experimental forms of cooperation are tried that leave member-state sovereignty intact, such as pooling of resources. The EU co-operates in the area of health and food safety but its mechanisms remain decentralised by dint of the principle of subsidiarity. The silo mentality between the European directorates is also unhelpful, leading to Babylonian confusion. Thus, in the context of forest fires and floods the Environment DG refers to 'civil protection'. The European Security and Defence Policy (ESDP) of 2006, which is hoped to build a bridge between internal and external security policy, on the other hand refers to 'crisis management', while the 'security' concept mainly pertains to pandemics (Rhinard *et al.* 2008: 512, Boin *et al.* 2008: 406).

#### 4.3.1 Securitisation of EU-ACP-relations

The Lomé convention mainly governed governing European Union's trade relations with its former colonies in the ACP countries (Africa, the Caribbean and the Pacific Ocean). The latter gained trade benefits and export price stabilisation in preference to other developing countries. In 1996 the US

---

<sup>21</sup> [http://www.bioveg.auf.org/IMG/pdf/A1\\_Chalmin.pdf](http://www.bioveg.auf.org/IMG/pdf/A1_Chalmin.pdf)

<sup>22</sup> 'France's answer to global food crisis is EU protectionism', The Times Online, April 15, 2008; Stefan Nicola, 'Analysis: Food crisis reaches Europe'.

<sup>23</sup> House of Commons Environment, Food and Rural Affairs Committee. Securing food supplies up to 2050: the challenges faced by the UK, 4<sup>th</sup> Report of Session 2008–09, Volume I.

successfully challenged this treaty as an impediment to global free trade. The EU then concluded the Treaty of Cotonou in 2000, in which trade benefits for the ACP countries have been considerably curtailed and aid is strictly circumscribed. European involvement in poor countries has not so much lessened, but evolved along with the European food security policy, established in 1996 and expanded to include the Millennium Goals. It regulates aid given to vulnerable countries to promote global food security and the Millennium Goal of halving world hunger by 2015. To achieve this, the EU enters into partnership with the UN as well as national and local authorities in the relevant areas<sup>24</sup>.

Mark Duffield (2001) sees a blurring of boundaries between development and security. After the fall of the Berlin Wall the strategic importance of the EU's relationship with the ACP has lost importance. Not the survival of the Western world but the stability of the regions themselves is now subject to securitisation (humanitarian securitisation). Security is considered a precondition for development; unsafe countries can be a breeding ground for terrorists targeting the West.

#### **4.4. Global governance regimes in other issue-areas**

Once an issue has been successfully 'securitised', special resources and powers are made available. While this does not obtain for food, it does for terror, threats to public health, and more recently, climate change. It turns out that the regime itself governing an issue-area changes as a result of a crisis, which induces stricter measures.

##### **4.4.1 Health**

Examples of successful securitisation are the HIV/AIDS and bird flu pandemics. This theme made it to the UN Security Council – pharmaceutical producers were morally leaned on to provide medicine at low cost. Richard Holbrooke kicked this off by calling AIDS not merely a humanitarian issue but a security issue. The Security Council's Resolution was the 'first occasion a health issue was debated at the high table of Realpolitics' (Hough, 2004: 170). A rationale for this was that health issues could lead to 'failed states' and as a consequence, UN intervention. Kenya used this argument to call for an intervention in Zimbabwe to contain cholera but nothing of the sort has happened so far: But the US has intervened historically in Cuba, Panama and Puerto Rico to contain yellow fever. Theodore Hough (2008: 17) however characterises such interventions as 'clumsy': the military carries out assignments that are better left to civic staff 'Microbes do not respect borders protected by guns!'

After the Mexican flu broke out in 2003, Malaysia requested the WHO to stop all outbound traffic from Mexico and Japan refused Mexican citizens their visas (Youde 2007). The US National Strategy for Pandemic Influenza, Response and Containment includes, among other things:

us[ing] government authorities to limit non-essential movement of people, goods, and services into and out of an area where an outbreak occurs (...) determine the spectrum of infrastructure-sustainment activities that the US military and other government entities may be able to support during a pandemic. (...) The United States pandemic influenza program specifically carves out a special role for the military in providing medical services, enforcing quarantines, and taking on assorted other responsibilities. Some critics of this program have argued that it essentially allows for the declaration of martial law. (National Security Council, 2006)

The basis for securitising AIDS, both by the Security Council and the American federal authorities, was the threat to the continued functioning of the armed forces and that of the state (Fidler 2004, Elbe 2008).

In public health the 'constitution' has been thoroughly scaled up after terrorist actions in 2001 and 2003 to what Fidler (2004) calls a 'new world order in public health'. To deal with health crises, the

---

<sup>24</sup> <http://register.consilium.eu.int/pdf/nl/06/st05/st05837.nl06.pdf>.

American federal model has been transferred to the global scale: national security; regulation of international trade; support for strengthening preparedness and response with respect to epidemics.

In 2005 the WHO rules (International Health Regulations) were tightened again, and WHO called for partnership with the military sector, in so doing extending its authority across national borders to legitimise military intervention.

In past times the WHO's 'soft power' has strongly contributed to banning global plagues. Fidler (2004) however notes that the new instrumental framework to respond to a global pandemic does not reflect an awareness that we're 'all in the same boat'. At the top of the hierarchy of attention sits a disease that rarely affects human beings – avian flu has claimed nearly as many (that is, as few) victims as has Von Creutzfeldt-Jacob, i.e. BSE (Mad Cow Disease). The world community spends billions on tackling a potential pandemic rather than investing more into the global health care structure.

The World Health Organisation has its global headquarters in Geneva and six regional centres with which national public health agencies are affiliated. The World Trade Organisation (WTO) lacks this regional co-ordination, although proposals have been mooted to better integrate monetary alliances such as the European Monetary Union into the system of global governance (Ahearne *et al.* 2006).

#### **4.4.2 Climate**

Food security may however make the European agenda indirectly, through the climate issue – not as problem owner but as problem solver. Climate change will put Agricultural production in the temperate zones even more in the spotlight.

The world climate agreement (FCCC) was signed in 1992 during the UNCED World Summit. NGOs and academics played a key role in its genesis and (in temporary alliances with the insurance sector) agenda-setting (Raustiala and Bridgman 2007).

After lengthy resistance the US and China have recently converted to the climate regime. A setback is that the developing countries are not part of it yet. This may change in 2012 when the Kyoto protocol of 1997 ends. In late 2009 non-binding agreements were made in Copenhagen. The European Union, a leader in establishing this regime, has declared climate change to be a cornerstone of its security policy with a view to floods, droughts and heatwaves. As a consequence, co-ordinated policy is prepared, with white papers<sup>25</sup> and additional means.

The approach is different, non-military and aimed at *preparedness*, setting standards and peer review. The climate treaty in this sense is more 'European' than the 'American' health regime. The climate change regime however leaves muddy areas, and refuses to take a clear stand on who is responsible for climate change. The reduction of emissions is left to the signatories. There are some agreements on the size of the Copenhagen Development Fund to pay for climate initiatives in poor countries (30 billion per year for the 2010-2012 period).

---

<sup>25</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0147:FIN:NL:PDF>



## 5. Potential instruments to tackle the next food crisis

Next, let us consider a number of entry points and situate them in the context of the security chain. For this, we will not only tackle the toolbox (which instrument to deploy in which link in the chain?) but also the governance issue: who does what? What should be the goal of that action: resilience (bouncing back), or transformation (a new order)? Resilience returns the system to the old, or an alternative but similar equilibrium. This bouncing back however also reproduces pre-crisis structural iniquities and system faults. A crisis however is a 'window of opportunity' to do things very differently, that is, to transform the system.

### *Intervention in points of constriction?*

A system usually has bottlenecks (points of constriction) characterised by dependence on one or two suppliers or clients. Examples: Dutch soy is mainly imported from Brazil; most Dutch dairy farmers supply the same cooperative, FrieslandCampina; most goods enter the country through the same port. That makes the system vulnerable to heavy impairment due to the shutdown or boycott of certain obligatory passage points in the system – so-called '*system(ic) companies*'. One would expect there to be a need for more 'slack' in the system so that streams can move along more needs if one important passage-point (node) breaks down. This makes the slim part of the hourglass less slim. West Africa for example now has some 'hubs': ports that can help out as alternative commodity ports. The private sector has indicated it thinks broad sourcing important, yet welcome EU initiatives that lead to larger resource supplies (Meuwissen *et al.* 2010).

Cainglet (2008) sees bottlenecks as an apt metaphor to describe the agri-food system for the recent past: many small producers, only a few players in the processing industry (bottleneck); and only few retailers in relation to a multitude of consumers. Incidentally the role of the primary production side of the food chain is of decreasing importance in the agri-food complex as a whole (Friedmann 1982) as a result of the industrialisation of the production and other non-farm links in the chain. The current agri-food system, according to Cainglet, is moving from a bottleneck model to an hourglass model in which only a few extremely dominant retailers control both supply and demand. Back in the FAO already warned that expanding supermarket chains were creating a dichotomy between farmers in Africa. While some benefit, others, especially smaller operations, do not. In a bear market, the public sector may be politically forced (hijacked) to come to the rescue of companies in the slim of the hourglass for the benefit of the many suppliers and buyers. Just like the banks, such an enterprise is salvaged because so many companies depend on it. But this intervention normally has a moral hazard effect – weakening the prevention or preparedness links in the crisis chain.

If there are too few nodes or 'points of constriction', you cannot turn the controls to regulate risks. This is less damaging if the actors themselves turn their own controls and arrive at a regime where national governments fail to get their act together, as is the case in the food safety regime. This however does not obtain for the food security regime.

In this context we should also turn to the physical and legal infrastructure facilitating the route the food chain takes to arrive from producer to consumer via the processing industry.

**Trade facilities** play a key role in mitigating the effects of a food crisis. The speed at which food arrives on the market of food importing countries is crucial here, especially in land-locked countries. The longer it takes to move deliveries, the higher the price the end consumer pays (higher administrative, stocking and transportation costs). The signs are that negotiations over trade facilities are so broad and large-scale that they will probably lead to the harmonisation of measures, regulations and improved *custom practices* speeding up the transit of goods from and to ports and domestic borders. Additionally much has been achieved in building or improving the physical and institutional infrastructure needed to accelerate the delivery of food and other imports. Sharma and Konandreas (2008) state that prioritising the reinforcement the trade infrastructure could strongly offset the negative effects of the next food crisis. The WTO could enshrine these norms to prevent impediments

to transport of food aid. Next to this, a lot could be done to strengthen the sector’s self-help capacity through adequate legislation and control/monitoring.

***An enhanced role for the military approach?***

Should the need arise, bottlenecks can be created. The threat of terror or war can legitimise drastic extension of controls on trade. Upon closer inspection, the increased world health regime also reveals that exceptional powers, such as deployment of the military, are not necessarily apt for tackling civic problems. The regime concentrates on expected calamities, and less on the structural improvement of health infrastructure: a strong focus on the relatively mild Mexican influenza, which nonetheless spread around the globe, compared to the lack of co-ordination in combating serious illnesses such as food-related diarrhoea which causes 1.5 million deaths each year. *Mutatis mutandis* this also holds true for food security, but a positive marker is that the shift from incidental to structural aid and market interventions to enabling market access has been going on for some time.

***Benevolent EU hegemony?***

A hegemonic power in the global system not only has material dominance (*hard power*) as a big player, but also moral authority (*soft power*). Next to imposing sanctions it can also play off or buy off opposition (Keohane 1982). A hegemon (from the Greek: leader, guide) can tyrannise a region or allow itself to be guided by self-interest, but also fulfil a respected leadership role in regulating an issue-area (Zeitoun and Warner 2006). The EU, a unique example of regional integration, has found innovative collective solutions that could find resonance on a world-wide scale. European production safety guidelines are also adopted outside the EU by other players, such as the US, who lacked a strong regulatory tradition themselves. Nonetheless the EU struggles to find coherence in its policies and often is not all that faithful to its own principles. For example, Europe is a frontrunner in the climate domain, but is not very hard-hitting when it comes to enforcing compliance (Ahearne *et al.* 2006).

The EU has bad experiences with resorting to hard power, but excels at ‘soft power’ – the Union is the champion of norms, rules and laws. While the EU’s vote admittedly carries disproportional weight in the UN Security Council, the World Bank and the IMF and uses it to wield influence, Europe plays a subdued role in the economic domain (Ahearne *et al.* 2006). The developments in the EU constitute an interesting mix of security, crisis and non-security instruments, which may also inspire actors outside the EU.

The bridge between military and civil, between internal and external security in the European security literature is known as the ‘intermestic sphere’ (Sundelius 2003, see also Fig. 2 below). It constitutes a remarkable coupling of so-called Pillar I measures (domestic-internal, including agriculture and health), intended to prevent the loss of critical infrastructure (pipelines and transport), and Pillar II (external-international):

<b>Domain:</b>	<b>Domestic</b>	<b>‘Intermestic’</b>	<b>International</b>
<b>Objective</b>			
State security	Law & order	Counterterrorism	National defense
Functional security	Crisis management capacity	Solidarity Clause	International crisis management capacity
Human safety	Search and rescue services	Civil protection	International disaster assistance

**Fig. 2: Domains of security (after Sundelius 2003)**

Application at a global scale may present an alternative to the ‘securitised’ American federal model.

***NL, US or EU as Food Buffer?***

In the 1980s the idea was occasionally mooted that Canada and the United States would be the world’s food buffer. According to Keohane these states however neither have neither the motivation nor the

capacity for doing this. How about the European Union? Although agricultural policy has become a European responsibility, citizens in EU member states still call their own government to account for risks (witness the French support package of 2009). Governments are expected to show foresight so that they see risks coming, eliminate them or prepare for them. Especially in politics, how risks are perceived is as important as the objective risk assessment provided by risk experts. Subjective risks foster a particular social arrangement, strongly privileging some risks over others. External dependencies should not be allowed to become too great. One could conceive of setting aside a large sum as a buffer for times of low-incidence, high-consequence crises, as the Dutch have now done for their coastal defence (the Delta fund). This can trigger the decision to keep stocks and/or production capacity at an acceptable level. A moral consideration for this may be the need to prevent an affluent country like the Netherlands plundering a strained world market on the strength of its purchasing power. Another question is if the Netherlands (or another large producer) also has a moral obligation to keep up its food production capacity to relieve a world crisis. Wageningen food specialist Rudy Rabbinge however contends that the Netherlands is not a bulk producer, but specialises in high-quality products.

*Supply management* is the manipulation of market supply through subvention, buffer stocks, import restrictions, intervention price measures and income guarantees. To keep the system afloat, non-perishable food products used to be hoarded on a large scale. This carried a hefty price tag and gave the Common Agricultural Policy (CAP) a bad name. The MacSharry reforms of the European Common Agricultural Policy in 1992 compensated farmers for taking land out of production (set-aside). During the 2006 heat wave however the European Union allowed its farmers to graze their fallow land. In 2007 the obligatory fallow was wholly abolished. Intervention buffers had dramatically fallen from 4 million tonnes of maize at the turn of the century in the 2006/2007 season to 2.5 million tonnes in summer 2007 which is predominantly stocked in Hungary.<sup>26</sup> The idea was to ease the tension in the tight European and world food market, but in so doing reduced the EU's own buffer capacity. We only found the return of the EU as the food buffer in the world only advocated by the French politician Michel Barnier.

### ***Banking and insurance***

The lack of capital to finance imports was a bottleneck during the food crisis of 2007/8. Global institutions could furnish more liquidity in times of crisis to prevent the system grinding to a halt. True, the World Bank has opened a credit facility, but rather late in the day. After the food crisis of 2007/8 the World Bank, in coordination with the United Nations' High-Level Task Force (HLTF) created an emergency facility, the Global Food Crisis Response Programme (GFRP), which several countries avidly took up/made use of. Without accompanying measures however this measure will fail to reap further constructive effects.

Major global players in the global reinsurance market, such as Munich Re (Münchener Rück) and Swiss Re, with whom countries have taken out reinsurance policies, have shown their market power by pressurising countries (sometimes in concert with green NGOs) to take measures against floods (Huber 2004). Couldn't they do the same against food crises?

One possible example is Munich Re's SystemAgro, a set of guidelines for public-private partnership including insurance and 'active risk management'. Such risk management can bring necessary incentives (such as lower fees/rates) to invest more in prevention, but it is almost impossible to set the conditions for this. The ability of insurance to reduce the financial burden (by spreading risk) remains important, but this alone does not safeguard the level of service. That requires meeting organisational, social and political conditions that are not realised in most countries.

---

<sup>26</sup> 'Cereals: Proposal to set at zero the set-aside rate for Autumn 2007 and Spring 2008 sowings'. Press statement from RAPID, July 2007  
<http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1101&type=HTML&aged=0&language=EN&guiLanguage=en>

See Annex 1 for further details on insurance (which, incidentally, was also highlighted in the World Development Report 2010).

### ***Institutional reform of the regime?***

The focus of the Agreement on Agriculture rules, and their sequel under the Doha Round negotiations started in 2001, is on tackling the problems of an 'era of cheap food'. This cheap food era has concentrated on preventing structural surpluses and circumnavigating measures to lose these surpluses. Its opposite is a situation of scarcity requiring efforts to sufficiently encourage food production and come to the aid of countries and sections of the population in need. Some critics believe that the era of cheap food is over and the future will hold a tighter food market (due to growth in population and prosperity, production cuts, biofuels, energy, water and mineral scarcity, etc.). In a tight food market scenario not only food prices and food import bills will be steep but price peaks will occur more frequently. It is doubtful that the WTO rules, developed for a time of cheap food, are suitable to address the opposite problem: pricey food and food crises. Where under the current system imports are not allowed to be curbed (too much), in such cases it is exports that should be sufficiently enabled. The *Producer Subsidy Equivalent* (PSE)<sup>27</sup> which is now the OECD's yardstick for agricultural support, loses much of its power if it is a country's consumers that are privileged over that country's producers.

### ***Crisis as opportunity***

In addition, the proposed reform seems ill-equipped to *reactively* tackle the dysfunctionality of the world food system. A crisis offers many opportunities for opportunistic profiteering, such as food speculation. In this context Naomi Klein (2007) has noted that crises are *windows of opportunity* to push through institutional changes towards further liberalisation and privatisation. Her perspective however is rather one-sided: changes may also take a different direction. As the Chinese character for 'crisis' indicates, a crisis is not only a threat, but also an opportunity for change. But is this really possible? Globalisation has led to ever larger enterprises that seemingly aren't amenable to any steering, while the large trade blocs cannot seem to come to an agreement in the WTO.

In *The rise and fall of the Soviet threat*, Alan Wolfe (1979) showed that antagonistic images such as the so-called Missile Gap and other icons of the Red Threat have consciously been called into being in the US for domestic political purposes. Politicians and military authorities benefited from the dramatic representation of a threat, quite apart from its concrete manifestation. Invoking the fear of the Soviet threat stepped up the demand for security in the United States - to which the US government made sure it had appropriate response capacity. Demand for security from disasters also has its political 'seasonality': sometimes the political sector looks for a Teflon coating or claims a form of diplomatic immunity (Hood, 2002); at other times politicians, but also private security providers, civil engineers, insurers, mayors and humanitarian organisations present themselves as heroes to command greater attention.

Crises are *focusing events* (Lowry 2006) with the potential to upset the status quo. According to the Punctuated-Equilibrium Theory (PET), a crisis disturbs a taken-for-granted equilibrium. A fresh problem definition may indeed push open a window of opportunity allowing entrance to a new policy coalition to take over and implement radical changes, a positive feedback loop eventually resulting in the 'punctuation' of the equilibrium (Baumgartner and Jones 1991).

There is a certain inevitability to this: the more you keep repressing risk and tension, the bigger the crisis will be when it finally happens – you have only displaced the risk from 'high incidence, low consequence' to 'low incidence, high consequence' events (Bak 1996 calls this 'organised criticality').

Pelling and Dill (2006) on the other hand show that a disaster can also reinforce the political order, legitimise draconic measures and repress spontaneous social action. Where Klein (2007) emphasises

---

<sup>27</sup> The PSE measures the total value of payments to producers of Agricultural goods as a consequence of agricultural policies, including price and income support, on a year-on-year basis.

the dangers of (neoliberal) opportunism, a disaster may also create space for a different (e.g. social-democratic or protectionist) political programme. The current interventionist climate seems to support this latter point.

### ***WTO reform?***

In response to the food crisis, many countries have taken measures. This interventionism does not always contravene WTO rules. Neither the *Agreement on Agriculture* nor other WTO rules prevent countries imposing trade restrictions when prices are high<sup>28</sup> (Sharma and Konandrias 2008, Mellke 2008). Some measures harming importers who are already in trouble are admissible, including export bans and tariffs which in practice function like export bans (Mellke 2008). Despite many countries having proposed stricter regulation in this issue-area prior to the Doha Round, chances are slim that this will actually happen.

The so-called *Marrakesh Decision* was supposed to facilitate easier financing normal levels of commercial imports of basic foodstuffs in short-term crises. Its implementation however has proved ineffective. The approval of existing financing facilities<sup>29</sup> ran into major problems. Had the financing facility for food imports (FIFF) designed by UNCTAD and FAO been adopted, this could have provided some relief to affected countries during the food price crisis.<sup>30</sup>

New measures are in the making (*Modalities on Agriculture*) that will be helpful both in times of scarcity and of abundance, but the Doha round appears to bring little in the way of change.

### ***Other proposals***

Below we will discuss two alternative directions for new checks and balances in the world food governance system found in the literature we consulted:

- *Reforming the Food Aid Convention to arrive at a Global Food Aid Compact (GFAC):*

To begin with, membership should be extended: in addition to donor countries, recipient country authorities and operational actors should be involved. Moreover, more donor requirements (funds and tonnage) and a code of conduct should be agreed on. Because the WTO is ill-equipped to safeguard the monitoring, GFAC should be run by a Global Food Aid Council, an interagency agency that can call on existing technical capacity.

The WTO Committee on Agriculture (CoA), passes judgment on supposed breaches of the compact that affect global food trade. The OECD's Development Assistance Committee can pass judgment on the question whether the aid supplied is 'tied'. The FAO, WFP and operational NGOs (and where relevant donors and recipient states) co-operate in defining and assessing the need for emergency food aid.

The FAO CDDS's Register of Transactions has a unique *ex-ante* notification requirement for all emergency food aid transports that may be adapted to this, inspired by the WFP's International Food Aid Information System, currently the most authoritative and comprehensive database. Thus combined the GFAC can monitor international food aid agreements and arrive at code of conduct and modalities of enforcing them.

- *IFPRI's reform proposal:*

---

<sup>28</sup> Article XI (2a) of GATT's 1994 General Elimination of Quantitative Restrictions stipulates: 'the Member instituting the export prohibition or restriction shall give due consideration to the effects of such prohibition or restriction on importing Members' food security', but this does not obtain for developing countries (Mellke 2008).

<sup>29</sup> The most relevant among these is the IMF's Contingent Financing Facility (CFF). This facility extends loans to countries to cushion sudden shocks in the balance of payments. They are often granted under the conditionality of policy change.

<sup>30</sup> [www.fao.org/docrep/meeting/009/J4455e.htm#P45\\_18905](http://www.fao.org/docrep/meeting/009/J4455e.htm#P45_18905)

IFPRI attributes the food price crisis to the surfeit of private venture capital flowing into the futures markets (Braun & Torero, 2009). To prevent price peaks and make sure the world can cope with sudden food emergencies, IFPRI proposes a three-pronged collective action plan.

1. Keeping a small independent physical emergency food reserve to enable rapid alleviation of short-term food shortages.
2. Keeping a new internationally co-ordinated global food reserve.
3. Building an innovative virtual reserve to forestall market price peaks and to make sure that prices gravitate more towards a stable long-term equilibrium.

These proposals do not envisage price stabilisation but to prevent damaging price peaks. Benefits will outweigh costs: forestalling economic hardship, improved market efficiency, stimulating long-term investment in agriculture and preventing political instability.

This plan encompasses the creation of:

- an Independent Emergency Food Reserve, supplied by the largest cereal producing nations and financed by a group of countries that belong to this 'club'. These decentralised reserves will be held at strategic locations near or in major regions of the developing world. The reserves, exclusively earmarked for meeting emergency food needs and humanitarian aid, is managed by the WFP, which has access to the grain stocks at pre-crisis prices so as to meet short-term needs or reduce the need for *ad-hoc* fund raising. To cover the cost of topping the reserve up to the original level (the difference between post-crisis and pre-crisis prices times the quantity of reserves depleted by the WFP) an emergency fund will need to be instated that is kept full by participating countries, along with a financing measure WFP can use in case of increasing transport costs. This arrangement may form part of the reconstituted Food Aid Convention.

- a New Institutional Coordinated Global Food Reserve. The cereals crisis has undermined trust in the international cereals market, so that many countries now seek self-sufficiency and build their own public reserves. This leads to an inefficient global production system, an enormous total global reserve stock and a very meagre global cereals market. Moreover, in the event of a price shock that cannot be buffered by public reserves, attempts to buy on the tight world market lead to world market price explosions.

An agreement will therefore be needed, under UN auspices, obliging each member state of the 'club', to keep a specific amount of public grain reserves.

- a Virtual Reserve This reserve is a co-ordinated obligation on members of the 'club'. Each country commits itself to financing, where needed, interventions in the options market by a technical committee. The fund will normally not consist of real budget expenditure but of promissory or virtual financing, by members. The virtual reserve sends an important message to the market, including speculators operating in it. Its very existence will stop speculators from entering into these markets.

The three proposed solutions also require a new institutional order.

1. *The Club*: eligible member states of this club would be G8+5 member states and some other large wheat exporters.
2. *The Global Intelligence Unit*: This unit is appointed permanently by the Club and is mandated to:
  - Predict price developments in the medium and long run.
  - Establish the optimum size of public stocks held by each country for the internationally co-ordinated global food reserve.
  - Design and maintain a *dynamic price band system* based on the prediction model.
3. Triggering interventions with the virtual reserve: The unit alerts the technical commission if prices are outside the established bandwidth. The technical commission then decides whether to sell on the futures market or to place physical stocks on the spot market until the speculative attacks have largely died down.

4. The High Technical Commission: Permanently appointed as independent authority by the Club. This commission takes official decisions to intervene in the futures market if the intelligence unit indicates this. The commission has fully autonomous powers of decision.

The proposed system will be helpful in preventing trade interventions made at the political level (which were both cause and consequences of the price crisis), such as export bans, high export tariffs and high import subsidies.

The proposal, especially intervention in the futures market, is criticised for its assumption that a commission will have a more acute understanding in market developments than private traders do.

## 6. Conclusions and recommendations

This study has made the following observations.

- There is hardly question of governance of the global quantitative food system as a whole.
- States and regional blocs implement a lot of policy, but primarily for the benefit of their own farmers and consumers.
- There are large global players, however, who practice private governance.
- Food is channelled from farm to consumer via an ever narrower small (‘waistline’) of an hourglass model. This narrowing renders the system more vulnerable but also offers entry-points for regulation.
- There is international governance with respect to food safety, both public and – increasingly – private.
- There are relevant international policies for the inner links of the security (disaster risk reduction) chain, Preparedness and Response, but hardly for the preceding and subsequent stages of Prevention and Reconstruction respectively.
- Whatever international governance there is in place now, such as the Food Aid Convention, the FAO Global Information and Early Warning System, en de International Grains Convention, scores an ‘insufficient’ mark on transparency, stakeholder participation, completeness, effectiveness.
- Peak food prices in 2008 incited many countries to pursue restrictive trade policies, reinforcing the price rises.
- The world market proved an unreliable factor buttressing strategies aimed at food security, while self-reliance was given higher priority.
- Urban food riots in some countries for a moment raised the profile of food supply on the global governance agenda (*securitisation*).
- Large sections of the world’s population, including millions among the rural poor, are not directly affected by changes in world market prices. They however suffer the consequences of a structural lack of market access – rural areas are structurally impoverished.

Whatever can be achieved in terms of *global governance* first and foremost requires an answer to the question what the problem is. Large price fluctuations such as those of 2007/2008 are undesirable, disturbances of the system may be caused by extreme weather events, volcano outbursts, shocks that affect companies in the small of the hourglass, or by rampant plant or animal diseases. Much of that shock is reinforced by the herd mentality of smaller speculators, which can cause great shifts. The present level of *global governance* is characterised by some facilitating institutions such as FAO, but only few regulatory institutions; too few to take speedy and adequate action in cases of emergency – in this context on quantitative food security.

Some considerations about the kind of governance needed:

- Entering into a common regime may not necessarily be effective, but it adds to the predictability of actor behaviour.
- There is generally no dearth of rules, rather, there is a lack of rule compliance.
- Market forces will not solve things on their own; but we won’t solve things without market forces.
- The global food regime lacks a clear global hegemonic power who can take the others by the hand
- Regional co-operative agreements and attendant systems of governance help cushion smaller risks.
- The EU has a history of soft power to bring about cooperation, which can serve as an example.
- As a global community we have a special responsibility towards regions and individuals whose food supply is endangered on a structural basis.
- Governance is not limited to production and trade, but impacts on the use of important factors of production such as land, water, energy, minerals, pesticides and (wo)manpower.
- The less clear the risks, the broader the range of stakeholders that need to be involved in tackling them and the more social aspects we need to tackle in addition to technological ones.



- Governance directed at adequate crisis response, such as the WHO, stresses *preparedness* and *response*, but is less suitable for the wider, more proactive problem-solving approach aimed at prevention and – subsequent to a calamity – reconstruction.

Some suggestions for steps to be taken

*For (international) public actors:*

- Strengthen the Food Aid Compact as Food Aid Convention 2.0 through the wider participation of recipient countries and bestow more enforceable powers on it.
- Help trade by cutting trade barriers and enforcing trade rules better.
- Recognise that there will be domestic political pressures in times of crisis and design a framework for permissible public measures appropriate for those times.
- Support international agreements on stockholding, especially in areas characterised by structural shortages, with transparent management and use, under international supervision.
- Design a model for private-sector participation in global food governance, including trade rules. In due course this should also include NGO participation.
- Strengthen the cohesion between food policy, overseas development aid and disaster risk reduction, in the spirit of the 2005 Hyogo Framework for Action.
- Reduce the financial burden of emergency facilities by (better) utilising (re)insurance programmes.
- Develop fair trade rules for coping with times of high food prices.
- Take steps towards a world authority on scarce minerals.
- Seize the window of opportunity for change opened by the food shock.

*For the private sector*

- Explore in joint studies the *bottlenecks*, *points of constriction* and the small of the hourglass - brief, the critical passage points (countries, locations, companies, ingredients) in the food supply chain.
- Increase transparency in utilising these critical nodes.
- Design a system of measures that promote maintaining a buffer capacity and procedural diversity

*For civil society*

- Increase the drive for Hyogo platforms to break taboos on crisis preparedness and implement crisis preparedness strategies
- Increase awareness on imminent mineral scarcities.
- Promote a type of trade that makes balanced use of natural resources and stabilises prices.

## References

- Action Against Hunger (Red) (2000-2001) *The Geopolitics of Hunger. Hunger and Power*. Boulder: Lynne Rienner Publishers.
- Abbott, P. (2009) Development Dimensions of High Food Prices. <http://www.oecd.org/dataoecd/19/41/42972908.pdf>
- Agribusiness Accountability Initiative Conference to Address Corporate Power in the Global Food System (2005) *AAI Global Conference on Corporate Power in de Food System*, June 27-30, 2005 Online: <http://www.agribusinessaccountability.org/pdfs//AAI%20Conference%20Summary%20report.pdf>
- Ahearne, A., Pisani-Ferry, J., Sapir, A. and Véron, N. (2006) The EU and the governance of globalization, Finland EU Presidency programme paper, <http://www.unescochair.ns.ac.yu/sr/docs/ahearne2006Globalisation.pdf>
- Anderson, M.B. and Woodrow, P.J. (1998) *Rising from the ashes, development strategies in times of disasters*. Lynne Rienner Publishers
- Anania, G., Blom, J., Buckwell, F. Colson, A., García, T., Rabinowicz, E., Saraceno, E., Sumpsi, J., von Urff, W. and Wilkin, J. (2003) Policy Vision for Sustainable Rural Economies in an Enlarged Europe. Akademie für Raumforschung und Landesplanung.
- Andriessse, W. *et al.* (2009) *The Role of Agriculture in Meeting MDG 1*, Wageningen University.
- Bak, P. (1996) *How Nature Works. The Science of self-organized criticality*. New York: Copernicus Press.
- Barnier, M. (2008) How Europe should tackle the global food crisis. Online: <http://www.europesworld.org/EWSettings/Article/tabid/191/ArticleType/articleview/ArticleID/21209/Default.aspx>
- Barrett, C.B. and D.G. Maxwell. (2006) Towards a global food aid compact. In: *Food Policy* **31**: 105-118.
- Baumgartner, F.R. and Jones, B.D. (1991) Agenda Dynamics and Policy Subsystems. *The Journal of Politics*, 53(4): 1044-1074.
- Bello, W. (2008) How to Manufacture a Global Food Crisis. *Development* 51(4): 450-455.
- Bielza, M., Stroblmair, J. and Gallego, J. (2007) *Agricultural Risk Management in Europe*. Agrifish Unit, JRC Ispra.
- Bindraban, P.S., C.P.J. Burger, P.M.F. Quist-Wessel and C.R. Werger (2008). *Resilience of the European food system to calamities*. Report for the Steering Committee Technology Assessment of the Ministry of Agriculture, Nature and Food Quality, Report 211, Wageningen UR, Wageningen.
- Boin, A. and Lagadec, P. (2005) *Building Crisis Management Capacity in Europe: A manifest for action*, 21 March 2005.
- Boin, A. and Rhinard, M. (2008) The Management of Transboundary Crises: What Role for the European Union? *International Studies Review* 10(1): 1-26
- Braun, J. von, Lin, J. and Torero, M. (2009) Eliminating Drastic Food Price Spikes – a three pronged approach for reserves. Online: <http://www.ifpri.org/pubs/reservenote20090302.asp>
- Braun, J. von, and Torero, M. (2008) Physical and Virtual Global Food Reserves to Protect the Poor and Prevent Market Failure. *IFPRI Policy Brief 4*, June 2008.
- Braun, J. von, and Torero, M. (2009) Implementing Physical and Virtual Reserves to Protect the Poor and Prevent Market Failure. *IFPRI Policy Brief 10*, February 2009.
- Bromley, W. (1991) *Environment and economy: Property rights and public policy*. Blackwell.
- Bulloch, John and Darwish, Adel (1993), *Water wars: coming conflicts in the Middle East*. London. Gollancz.
- Buzan, B., Waever, O. and J. de Wilde (1991) *Security, a new framework for analysis*. Lynne Rienner Publishers.
- Cafiero, C., Capitano, F., Cioffi, A. and Coppola (2007) Risk and Crisis Management in the Reformed European Agricultural Policy. In: *Canadian Journal of Agricultural Economics* 55: 419-441.

- Cainglet, J. (2008) *From Bottleneck to Hourglass: Issues and Concerns on the Market Concentration of Giant Agrifood Retailers in Commodity Chains and Competition Policies*. Heinrich Böll Stiftung. Online: <http://www.boell.de/oekologie/klima/klima-energie-1968.html>.
- Carney, D. (1998) *Sustainable rural livelihoods: what contribution can we make?* London: UK Department for International Development (DFID).
- Charnovitz, S. (n.d.) The WTO's Problematic "Last Resort" Against Non-compliance. Online: <http://www.worldtradelaw.net/articles/charnovitzlastresort.pdf>
- Collier, P. (2007) *The Bottom Billion. Why the poorest countries are failing and what can be done about it*. Oxford University Press.
- Cutter, S. (1996) Vulnerability to Environmental Hazards, *Progress in Human Geography* 20(4): 529-539.
- DFID (1999) *The DFID Approach to Sustainable Livelihoods. National Strategies for Sustainable Development*. Department for International Development, London. <http://www.nssd.net/references/SustLiveli/DFIDapproach.htm>
- Dilley, Maxx and Tanya E. Boudreau (2001) Coming to terms with vulnerability: a critique of the food security definition, *Food Policy* 26: 229-247.
- Duffield, M. (2001) *Global governance and the new wars*. Zed Books
- European Union (2003) *A Secure Europe in a Better World European Security Strategy*. Online: <http://www.consilium.europa.eu/uedocs/cmsUpload/78367.pdf>
- Eickhout, B. van, Meijl, H. van, Tabeau, A. and Rheenen, T. van (2007) Economic and ecological consequences of four European land use scenarios. In: *Land Use Policy* 24: 562-575.
- Elbe, S. (2008) 'Risking Lives: AIDS, Security and Three Concepts of Risk', *Security Dialogue* 39 (2-3): 177-198.
- FAO-ESA (2006) *Policy Brief Food Security*, Food and Agriculture Organisation, June 2006, Issue 2.
- Fidler, David P. (2004) Constitutional outlines of health's "New World Order". *Temple Law Review*, 247.
- Friedmann, H. (1982) The political economy of food: the rise and fall of the postwar international food order. *American Journal of Sociology* 88S: 248-86.
- Fritzon, A., Ljungkvist, K., Boin, A. and Rhinard, M. (2007) Protecting Europe's Critical Infrastructures: Problems and Prospects. In: *Journal of Contingencies and Crisis Management*. 15(1). March 2007. Online: [http://www.esc.umn.edu/docs/protecting\\_Reid.pdf](http://www.esc.umn.edu/docs/protecting_Reid.pdf)
- Gilbert, C. (2009) *Commodity Speculation and Commodity Investment*. Journal of Commodity Markets and Risk Management.
- Gleick, Peter H. (Ed.).(1993) *Water in crisis*. Oxford University Press.
- Hasenclever, A., Rittberger, V. and Mayer, (1998) Fair Burden-Sharing and the Robustness of International Regimes: The Case of Food Aid. Tübinger Arbeitspapiere zur Internationalen Politik und Friedensforschung Nr. 31, University of Tübingen. Online: <http://tobias-lib.uni-tuebingen.de/volltexte/2000/151/pdf/tap31.pdf>
- Heady, D. and S. Fan (2008) *Anatomy of a Crisis. The Causes and Consequences of Surging Food Prices*. IFPRI Discussion paper 831. Washington: IFPRI.
- Henning, C. Randall (2006) 'Regional Arrangements and the International Monetary Fund' in Truman, Edwin (Ed.) *Reforming the IMF for the 21<sup>st</sup> Century*. Special Report 19. Peterson Institute for International Economics.
- Henson, S. (2008) 'The Role of Public and Private Standards in Regulating International Food Markets' *Journal of International Agricultural Trade and Development* 4(1), pp. 63-81.
- Hewitt, Kenneth, (1997) *Regions of Risk. Hazards, Vulnerability and Disasters*. Pearson-Longman, London.
- Hoddinott, J., Cohen, M.J. and Barrett, C.B. (2008) *Renegotiating the Food Aid Convention: background, context, and issues*, *Global Governance*, 14: 283-304.
- Hoekstra, A.Y., Chapagain, A.K. (2007) 'Water footprints of nations: water use by people as a function of their consumption pattern', *Water Resources Management* 21(1): 35-48.
- Hood, C. (2002) The Risk Game and the Blame Game *Government and Opposition* 37(1): 15-37.
- Hough, Pet (2004) *Understanding Global Security*. Routledge.
- Hough, Th. (2008) *Elements of Hygiene and Sanitation*. BiblioBazaar.

- House of Commons Environment, Food and Rural Affairs Committee (2008-09) Securing food supplies up to 2050: the challenges faced by the UK Fourth Report of Session 2008–09, Volume I. Online: <http://www.worldbank.org/html/extdr/foodprices/>
- Huber, M. (2004) *Reforming the UK Flood Insurance Regime. The Breakdown of a Gentleman's Agreement*, ESRC/LSE, Discussion paper no. 18, [www.lse.ac.uk/collections/CARR/pdf/Disspaper18.pdf](http://www.lse.ac.uk/collections/CARR/pdf/Disspaper18.pdf)
- Ingram, A. (2009) Swine flu calls into question the meaning of global health security, *E-IR.info*, <http://www.e-ir.info/?p=1016> (30 April 2009).
- Ibarra, H. and Skees, J. (2007) Innovation in risk transfer for natural hazards impacting agriculture. In: *Environmental Hazards 7*: 62-69. Elsevier Ltd.
- Jackson, R. (2000) Developing Codes of Conduct for Food Aid: Experience from the Sahel, in E.J. Clay and O.S. Stokke (eds.), *Food aid and human security*, Frank Cass, pp. 289 ff
- Kasperson, R.E., Renn, O., Slovic, P., Brown, H.S., Emel, J., Goble, R., Kasperson, J.X. and Ratick, S. (2006) The Social Amplification of Risk: A Conceptual Framework. *Risk Analysis* 8 (2): 177-187.
- Kay, M.A. (2008) Securitisation Before Recognition: International Organisations' Entrenchment of Food Security Within the Developing World, Premature or Predictive? Dalhousie University Graduate Society for Political Science, Third Annual graduate Student Symposium, 2008.
- Keohane, R.O. (1982) The Demand for International Regimes. *International Organization*, Vol. 36, No. 2, *International Regimes*, pp. 325-355.
- Keohane, R.O. and Nye, J.S. (2000) Globalization: What's New? What's Not? (And So What?) *Foreign Policy* 118: 104-119.
- Klein, N. (2007) *The Shock Doctrine. The Rise of Disaster Capitalism*. Metropolitan Books.
- Krahmann, E. (2003), Conceptualizing Security Governance, *Cooperation and Conflict* 38 (1): 5-26.
- Kratochwil, F.V. (1989) Rules, norms, and decisions: on the conditions of practical and legal reasoning in international affairs and domestic affairs. University of Cambridge Press.
- Kuhlgatz, C., Abdulai, A., and Barrett, C. (2009) Food Aid Allocation Policies: Donor Coordination and Responsiveness to the Needs of Recipient Countries. Beijing, IAAE Conference.
- Keyzer, M., Veen, W. van, Voortman, R., Huang, J., Qiu, H., Fischer, G. and Ermolieva, T. (2009) Nutrient shortages and agricultural recycling options worldwide, with special reference to China. Contributed paper EAERE Conference, Amsterdam
- Levine, S. & Chastre, C. (2004). Missing the point. An analysis of food security interventions in the Great Lakes. HPN Network Paper No. 47. London, ODI.
- Levy, M., Young, O. and Zürn, M. (1995) The study of international regimes. *European Journal of International Relations* 1: 267-330.
- Lowry, W. (2006) Potential Focusing Projects and Policy Change, *Policy Studies Journal* 34 (3): 313-335.
- Maxwell, S. (1996) Food security: a post-modern Perspective, *Food Policy* 21 (2): 155-170,;
- McCullough, E.B., Pingali, P.L. and Stamoulis, K.G. (Eds.) (2008) *The Transformation of Agri-Food Systems. Globalization, Supply Chains and Smallholder Farmers*. Food and Agriculture Organization (FAO) and Earthscan Press, London.
- McMichael, Ph. (2009) The Food Crisis in Historical Perspective, *Monthly Review*, July-August Online: <http://www.globalresearch.ca/index.php?context=va&aid=14378>
- Meuwissen, M., Huirne, R. and Skees, J. (2003), Income Insurance in European agriculture, *EuroChoices* 2: 12-16.
- Meuwissen, M., Burger, K. and Oude Lansink, A. (2010) Resilience of food companies: perceptions from the Netherlands. Report for Technology Assessment Steering Group.
- Meilke, M. (2008) Did the WTO play a role in the food crisis? CATPRN Commissioned Paper CP 2008-03, June 2008. Online: [http://www.uoguelph.ca/~catprn/PDF/Commissioned\\_Paper\\_%202008-3\\_Meilke.pdf](http://www.uoguelph.ca/~catprn/PDF/Commissioned_Paper_%202008-3_Meilke.pdf)
- Mitchell, D. (2008) A Note on Rising Food Prices. WB Policy Research Working Paper 4682
- Natsios, A.S. and Doley, K.W. (2009) The Coming Food Coups, *The Washington Quarterly*, January 2009.
- Nederlands Dagblad* (2008) Akkers van goud, 4 April. Online: <http://www.nd.nl/artikelen/2008/april/04/akkers-van-goud>.

- O'Brien, K., Eriksen, S., Schjolden, A. and Nygaard, L. (2004) What's in a word? Conflicting interpretations of vulnerability in climate change research. CICERO working paper no. 4, University of Oslo, Norway.
- OECD (2003), *Emerging Risks in the 21st Century. An Agenda for Action*.
- Olsson, S. and Larsson, P. (2009) *The Future of Crisis Management within the European Union*, Springer.
- Paavola, J. and Adger, W.N. (2006). Fair adaptation to climate change. *Ecological Economics* 56(4). 594-609.
- Pelling, M. and Dill, K. (2006) *'Natural' Disasters as Catalysts of Political Action*. Chatham House. ISP/NSC Briefing Paper 06/01, Royal Institute of International Affairs, London.
- Peck, H. (2005) Resilience in the Food Chain: A Study of Business Continuity Management in the Food and Drink Industry. Final Report to the Department for Environment, Food and Rural Affairs, UK.
- Pereira, R. (2008) Processes of Securitization of Infectious Diseases and Western Hegemonic Power: A Historical-Political Analysis. WISC conference, Ljubljana, Online: [wiscnetwork.org/ljubljana2008/papers/WISC\\_2008-85.doc](http://wiscnetwork.org/ljubljana2008/papers/WISC_2008-85.doc). [ghgj.org/Pereira\\_%20processes%20of%20securitization.doc](http://ghgj.org/Pereira_%20processes%20of%20securitization.doc)
- Pingali, P., Alinovi, L. and Sutton, J. (2005) Food security in complex emergencies: enhancing food system resilience, *Disasters* 29(s1): 5-24.
- Prakash, A. (2005) The dark zone: groundwater irrigation, politics and social power in North Gujarat, PhD dissertation, Irrigation and Water Engineering group, Wageningen University.
- Raustiala, K. and Bridgeman, N.L. (2007) Nonstate actors in the global climate change regime. UCLA School of Law, Public Law & Legal Theory Research Paper Series Research Paper No. 07.
- Renn, O. (2008) Risk Governance. Coping with uncertainty in a complex world. Earthscan.
- Renn, O. and Klinke, A. (2004) Systemic risks: a new challenge for risk management *EMBO reports* 5, S1, S41–S46. *European Molecular Biology*.
- Roth, D. and Warner, J. (2008) Virtual water: Virtuous impact? The unsteady state of virtual water, *Agriculture and Human Values* 25: 257–270.
- Sharma, R. and Konandreas, P. (2008) WTO provisions in the context of responding to soaring food prices. *FAO Commodity and Trade Policy Research Working Paper No. 25*. August 2008. <http://www.fao.org/es/esc/common/ecg/555/en/ESC-WP25.pdf>
- Sheppard, E. and Barnes, T.J. (2002) *A companion to economic geography*. Wiley.
- Strange, S. (1984) *Paths to International Political Economy*. Allen & Unwin.
- Sundelius, B. (2003) Disruptions: Functional security for the EU in Miseroli, A. (ed.) *Disasters, Diseases, Disruptions, a new D-drive for the EU?* Chaillot paper No 83, Institute for Security Studies.
- Thankappan, S. and Marsden, T. (2006). *Private Standards Driving the Agri-Food Supply Chains: What role do Global Organisations play?* Working Paper Series No. 40, BRASS Centre.
- Trostle, R. (2008) Global agricultural supply and demand: factors contributing to the recent increase in food commodity prices. A report from the USDA Economic Research Service, July 2008.
- Tilly, Louise A. (1983) Food Entitlement, Famine, and Conflict *Journal of Interdisciplinary History*, 14(2), pp. 333-349.
- Udo de Haas, H.A., Jansen, J.L.A., Weijden, W.J. van der and Smit, A.L. (2009), *Fosfaat - van te veel naar tekort*. Report of the Technology Assessment Steering group, September 2009. Online: [http://www.nrc.nl/multimedia/archive/00254/fosfaatnotitie\\_254680a.pdf](http://www.nrc.nl/multimedia/archive/00254/fosfaatnotitie_254680a.pdf)
- Warner, J. (2004) Plugging the GAP. Working with Buzan, The Ilisu Dam as a security issue. SOAS Occasional paper No. 67, School of Oriental and Asian Studies, University College London.
- Webb, P. and Rogers, B. (2003) Addressing the 'in' in Food Insecurity, USAID Occasional Paper No. 1, [http://pdf.usaid.gov/pdf\\_docs/PNACS926.pdf](http://pdf.usaid.gov/pdf_docs/PNACS926.pdf)
- Wilson, W., Carlson, D. and Dahl, B. (2004) Logistics and Supply Chain Strategies in Grain Exporting. *Agribusiness* 20 (4) 449–464.
- Wisner, B., Blaikie, P., Cannon, T. and Davis I. (1994) *At Risk*. London: Routledge.
- Wolf, A. T. (1998) "Conflict and co-operation along international waterways." *Water Policy* 1: 251-265.
- Wolfe, A. (1984) *The Rise and Fall of the Soviet Threat. Domestic Sources of the Cold War*. Southend Press, Boston, Mass.

- World Bank (2010) World Development report 2010: Development and Climate Change. Washington, DC.
- Wouters, J., Marx,, A. and Hachez, N. (2008) 'Private Standards, Global Governance and Transatlantic Cooperation - The Case of Global Food Safety Governance'. Leuven Centre of Global Governance.
- Youde, J. (2007) Who's Afraid of a Chicken? Global Responses to Securitizing Avian Flu. Prepared for the 2007 International Studies Association Conference, Chicago, IL, 28 February-3 March 2007. Online:  
[http://www.allacademic.com//meta/p\\_mla\\_apa\\_research\\_citation/1/7/8/5/6/pages178565/-p178565-1.php](http://www.allacademic.com//meta/p_mla_apa_research_citation/1/7/8/5/6/pages178565/-p178565-1.php)
- Young, O. (1997) *Global Governance. Drawing Insights from the Environmental Experience*. MIT Press.
- Yu, E., Tokgoz, S., Wailes, E. and Chaves, E. (2009) A Quantitative Analysis of Trade Policy Responses to High Agricultural Commodity Prices. Beijing, IAAE Conference 2009.
- Zeitoun, M. and Warner, J, (2008) 'Hydro-Hegemonic Theory. A Framework for Analysis of Water-Related Conflicts', *Water Policy* 8 (5): 435-460.

## ANNEX 1

### **The Crop Insurance Market**

In European agriculture Crisis Risk Management and Insurance has so far received scant attention. One reason is that European agriculture is already subsidised by the CAP and that several *ad-hoc*-measures have been established compensating farmers suffering major losses. Besides, farming nowadays constitutes only a minor sector within the European economy (Meuwissen, Asseldonk and Huirne 2006).

In past times farmers have often been compensated by public authorities for losses (caused by floods or livestock epidemics) but these days we see increasing pressure to find private-sector solutions (Meuwissen, Huirne and Skees, 2003). The US and Canada on the other hand have developed various agrarian insurance products and instruments to stabilise incomes.

Producers and insurers are faced with low-incidence, high-consequence events. Therefore insurance are hard pressed to draw up actuarial tables. The low risk awareness suppresses demand for insurance and other risk management tools so that the incentive is lacking for commercial insurers to develop innovative products (the public sector could invest in breaking this cycle).

Two key factors can limit insurability: Asymmetrical information (*adverse selection* and *moral hazard*) and the combination of risk among insured parties (caused by 'systemic risk'). The costs of obtaining precise loss-risk information and monitoring farmer behaviour (to counter asymmetrical information) are so prohibitive that premiums of such insurance policies would be too high (Miranda and Glauber 1997).

Miranda and Glauber believe that *systemic risk* rather than 'asymmetric information problems' is the limiting factor for an independent insurance industry to manage crop damage risk. *Systemic risk* in this context means extreme weather events (drought, extreme temperatures) one cannot influence, affects a large section of the population of an area at the same time. Geographic spread of *systemic risk* causes a correlation between individual (poor) harvest among farm operations. If the area to be insured is large, so will be the risk. The insurance should cover simultaneously occurring losses (a big risk to insurance companies). (Miranda and Glauber 1997 and Miranda and Vedenov 2001). Experiences gained in the US suggest that crop Insurance markets could not exist without public subsidies, for example for pilot projects in which the public sector acts as guarantor. Without appropriate *reinsurance* facilities, crop insurers have to charge the costs of the additional risk to farmers so that individual crop insurance becomes prohibitively expensive. (Miranda and Glauber 1997). Reinsurance companies themselves however may find that the high costs that come with making sufficient reserves to cover the enormous losses that a large drought can dramatically drive up the cost of crop reinsurance. Absent affordable crop reinsurance a public authority can decide to instate a reinsurance programme itself. This however won't exclude *moral hazard* and *adverse selection* (between government and insurer) (Miranda and Glauber 1997).

Interestingly Karlijn Morsink of the Centre for Clean Technology and Environmental Policy (CSMR) at Twente University (pers. comm., 2009) notes that the better way ahead may be to insure the means of production rather than the crop.

- **Area-Yield Reinsurance Contracts** (*marketed and established private options and future exchanges*): Drawn up for a specific region, crop or harvest guarantee. The farmer gets indemnity based on shortfalls within the regional harvest and the crop insurer is insured against catastrophic losses owing to a massive natural disaster (solution for problems of systemic risk!).
  - Area-yield reinsurance may be offered by the public sector at low cost. Sufficient data needs to be available on area yield within the region concerned. Area yields cannot be manipulated by crop insurers (reducing that moral hazard and adverse selection between public sector and insurer).

- **Area-Yield Options Contracts:** these policies differ from area-yield reinsurance policies in the entity issuing them and how premiums are determined. The options are issued by 'profit-driven futures markets participants' and premiums are determined through an open-market process. This is extremely useful for covering price risk in agrarian merchandise (due to a perfect risk correlation) (Miranda and Glauber 1997).

An important benefit of area-yield options is that participation a public Insurance programme is not limited to farmers only. Area-yield options can be accessible to anyone whose income varies due to changeable agricultural production ( food processing, rural banks, shipping etc.)

*Neither the insurance market nor the options market only are capable of providing adequate protection against the risk of crop loss absent public support. The two are well advised to cooperate!*

**Risk Securitization:** Insurance and financial markets (investors) are brought together as a remedy for high insurance premiums due to systemic risk and moral hazard (Miranda and Vedenov 2001).

**Index based Weather Insurance:** The approach that reduces the moral hazard is the drafting of contracts based on an objectively measured variable or *index*. *Index-based weather insurance and financial derivatives* (options or futures) *carry very low credit risk*. The transparency of the variable makes it appealing to investors (Miranda and Vedenov 2001).

Nevertheless the most widely used instruments to manage climate risks in Europe is traditional insurance of crops and calamity funds. Only in Austria in 2007 an *index insurance* against drought risks was commercialised - a first. Primary risk-sharing instruments for risk management in European agriculture (Bielza, Stroblmair and Gallego, 2007).

- Calamity funds: regulated by the public sector (funded from public or private sources)
- Regional Mutual Schemes (mutual insurance funds): ownership by participants and organised at the (regional) level.
- Crop Insurance: The most prevalent (most EU countries have a form of crop insurance) is the hail insurance (single-risk insurance). Some insurance policies also cover ice accretion (combined risk Insurance)

In stock breeding direct losses due to mortality or illness (such as the value of destroyed animals) is generally paid for by the public authorities of EU member states or European agencies. In stock breeding however losses may also be incurred due to accidents or natural disaster such as floods. The weather can also influence on the availability of animal feed (meadowland) and as a consequence on the economic sustainability of a farm operation. Some countries have Insurance programmes for this (Bielza, Stroblmair and Gallego, 2007).

The level of support from the various EU member states to subsidise Insurance fees varies with individual countries' policies. Some countries have adopted this form of state support as a key instrument of agrarian policy to stabilise farmers' incomes. The sum total of premiums for agricultural insurance within the EU amounts to 1.5 billion euros. Annual EU support to agricultural insurance is about 500 million euros (32% of premiums). The average level of *ad-hoc* support given in the EU amounts to about 900 million euros (excluding cattle farming support) and the average amount of damages paid out is about 1.1 billion euros.

In most EU member states insurance companies offer reinsurance. Portugal, and to a lesser extent Spain and Italy however are exceptions, as here the public sector partially or totally runs the *reinsurance programme*.

An important issue for the development of agrarian insurance in Europe is whether the law tolerates emergency measures or calamity funds to pay out damages *that could have been insured against*.

A comprehensive European agrarian Insurance system appears impossible due to the major differences in agrarian risks and legal, social and economic settings of the various member states.



Alternative options for the EU to support national systems would be (Bielza, Stroblmair and Gallego, 2007):

- Facilitation or subvention of compiling harvest/income data bases.
- Reinsurance: Public EU participation in reinsurance (budgetary uncertainty is a limitation)
- The European policy and regulatory framework for aid and damage or loss due to adverse weather has to be clarified.
- Partial subvention of national systems working within this framework. This should incentivise member states to expand instruments for risk management while the individual needs of each country remain a priority.

A clear role for the European agencies is establishing a regulatory framework including technical criteria. It is still a major question whether agrarian subvention should be funded from the CAP (Bielza, Stroblmair and Gallego, 2007).

### **References in this Annex**

- Bielza, M., Stroblmair J. and Gallego, J. (2007) *Agricultural Risk Management in Europe*. Agrifish Unit, JRC Ispra, Italy.
- Cafiero, C., Capitanio, F., Cioffi, A. and Coppola, A. (2007) Risk and Crisis Management in the Reformed European Agricultural Policy. In: *Canadian Journal of Agricultural Economics* 55: 419-441.
- Meuwissen, M. van Asseldonk, M. and Huirne, R. (2006) Coping with crisis in European agriculture. *Eurochoices, The Agricultural Economics Society and The European Association of Agricultural Economists* 5(3): 34-39.
- Miranda, M.J. and Glauber, J.W. (1997) Systemic Risk, Reinsurance, and the Failure of Crop Insurance Markets, *American Journal of Agricultural Economics* 79 (1): 206-215.
- Miranda, M.J. and Vedenov, V. (2001) Innovations in Agricultural and Natural Disaster Insurance, *American Journal of Agricultural Economics* 83 (3): 650-655.

