1. The international policy and regulatory challenges of food security: an overview

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1.1 INTRODUCTION

The concept of food security is deceptively simple. Essentially, it involves ensuring that all people have access to sufficient, safe and nutritious food to meet their dietary needs and their food preferences and ensure an active, healthy life. Ensuring global food security is, however, not simple. Indeed, as Craig Pearson notes, ‘food insecurity has been a recurring problem throughout recorded history and no doubt pre-dates records’. According to the United Nations Food and Agricultural Organization (FAO), there are currently nearly one billion undernourished people in the world. With the demand for food projected to double within the next 50 years and the global population projected to increase from 7 to 9 billion, the number of undernourished people is expected to increase.

The task of achieving global food security has been on the international agenda since the latter part of the 20th century. In 1945, the FAO was established to raise levels of nutrition, improve agricultural productivity,

better the lives of rural populations and contribute to the growth of the world economy. Since its establishment it has worked to achieve global food security. During the ‘Green Revolution’ of the 1950s and 1960s, spurred on, in part, by the work of the FAO, global food production increased amidst expectations that agricultural production could feed the world. In the late 20th century, however, this progress stalled and productivity fell behind demand.

In 1996, in response to growing concern over the ability of agriculture to meet global food needs, the FAO convened the first World Food Summit. The Rome Declaration on World Food Security, adopted at the Summit, called on states to work to halve the number of chronically undernourished persons by 2015, while the World Food Summit Plan of Action set targets to be achieved at the national, regional and global levels. This theme was taken up again in 2000 when the Millennium Development Goals (MDG) set eradicating extreme poverty and hunger and halving by 2015 the proportion of people suffering from hunger as its first goal.

At the 2009 World Summit on Food Security, the international community pledged renewed commitments to eradicating hunger by ensuring sufficient production of, and access to, food for all of the world’s rapidly increasing population. States agreed to work to reverse the decline in agricultural investment, to improve governance of global food issues and to address the challenges of climate change to food security. In 2011, the G20 adopted an Action Plan on Food Price Volatility and Agriculture, which called for improved agricultural production and productivity, increased market information and transparency, mitigation of risk in price volatility,
enhanced policy coherence and coordination, and for improving the agricultural commodity derivatives markets.\textsuperscript{11} Despite these international initiatives, however, the 2010 Millennium Development Goals (MDG) assessment report concluded that progress on achieving the MDG hunger goals had stalled since 2000–2002,\textsuperscript{12} and that any progress towards reaching these goals could be endangered by crises and shocks such as the high food prices in 2007 and 2008.\textsuperscript{13}

Clearly the task of achieving global food security is a vexed and challenging one requiring multi-faceted policy and regulatory responses at both the domestic and the international level. The identification of these challenges and the international policy and regulatory frameworks for achieving food security is what this book is about.

1.2 ACCESS TO FOOD

In order to formulate appropriate policy and regulatory responses it is first necessary to understand the causes of food insecurity. According to Craig Pearson, the root cause of food insecurity is, quite simply, that food production and its distribution do not meet the needs of the world’s population.\textsuperscript{14} Underlying this apparently simple statement are, however, a plethora of causes ranging from poverty and population growth to declining agricultural production due to water shortages, crop diseases, land degradation, urbanisation, diversion of cropland to bio-energy production and climate change. Inefficient transportation and distribution systems, tainted food stocks, the globalisation of trade, futures trading of agricultural commodities, and a whole host of social, economic and political factors, all contribute to food insecurity.

One practical response to the problem of food insecurity calls for an increase in agricultural land. However, the opportunities for expanding the land available for production appear to be limited. A second response focuses on increasing production through the use of fertilisers, technology and gene technology. However, according to Pearson, when combined with

\textsuperscript{11} G20 Ministerial Declaration, Action Plan on Food Price Volatility and Agriculture, Meeting of G20 Agriculture Ministers, Paris, 22 and 23 June 2011.
\textsuperscript{12} United Nations Development Programme (UNDP), \textit{What Will It Take to Achieve the Millennium Development Goals? – An International Assessment} (UNDP, 2010).
\textsuperscript{13} Ibid.
\textsuperscript{14} See above n 2, 23.
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the first two approaches, the most efficient solution is to reduce wastage through plugging the ‘leaks’ in the global food system. He identifies thirteen points, or foci, where losses or leaks can be identified and action taken to reduce or close the leaks. These include, for example, input losses, through non-recovery of water and nutrients, and pre-retail and after-plate food wastage. Solutions include the use of fertilisers, integrated pest management, recycling food waste and energy efficiency. Importantly, he suggests that these solutions need to be tailored to the particular local or regional conditions.

However, ‘plugging the leaks’ may not be the complete solution. As Olivier de Schutter, the UN Special Rapporteur on the Right to Food, has noted, ‘hunger and malnutrition are generally not the result of the lack of food availability, but rather of the inability for the poorest segments of the population to have access to food at an affordable price’.\(^{15}\) Thus, while dwindling food stocks are cause for concern, a key issue facing national and international policy makers and regulatory authorities is how to ensure that food is distributed globally in an equal and equitable way.

Anagha Joshi suggests a ‘human security’ approach to food security that focuses on the individual and promotes a holistic approach to issues that affect food security, such as development, international trade and conflict.\(^{16}\) Joshi situates her analysis within a case study of the Pact on Security, Stability and Development in the Great Lakes Region (the Great Lakes Pact)\(^{17}\) which was adopted in 2006 with the aim of resolving food security issues within a region that has been torn by armed conflict and humanitarian crises. One of the aims of the Pact is to reduce poverty and increase food security by encouraging market-driven agriculture as opposed to traditional approaches to agriculture. However, Joshi argues that effective implementation of the Pact and any positive effects on food (in)security in the Lake


\(^{16}\) Anagha Joshi, ‘Food Security in the Great Lakes Region: Reconciling Trade Liberalisation with Human Rights’, Chapter 3 in this volume.

Victoria region are constrained by the operation of World Trade Organization (WTO) law, in particular the 1994 Agreement on Agriculture,\(^{18}\) which impinges on the ability of Pact member states to adopt strategies to protect their poorest and most vulnerable people. An effective policy or regulatory framework that takes into account the goals of human security will, she suggests, better achieve food security. This approach, however, depends on the will of the WTO to recognise and implement the human security aspects of its mandate.

Elisabeth Bürgi Bonanomi, on the other hand, proposes a reading of WTO law that includes as an operative element the recognition of the right to adequate food.\(^{19}\) Examining the content of the right as articulated in Article 11 of the International Covenant on Economic Social and Cultural Rights,\(^{20}\) and applying the concept of sustainable development, Bürgi Bonanomi concludes that there is an obligation to negotiate trade agreements that do not impede, but rather promote, the realisation of the right to adequate food. To this end, integrated, informed decision-making frameworks are needed to ensure that ‘all related social, environmental, economic and both present and future concerns are equally taken into account and that the search for the optimal outcome is effectively undertaken’.\(^{21}\) She proposes a ‘seven step’ framework of ‘informed and inclusive decision-making’ to facilitate coherent negotiating outcomes and the development of regulatory frameworks that take into account all relevant objectives, including the right to food and the principle of sustainable development. Applying this proposed framework to the global system for the regulation of trade in agriculture, she provides some preliminary thoughts on a ‘potential optimal option’, discussing trade barriers in OECD countries and their effects on agricultural investments in developing countries, the need to protect vulnerable agricultural markets in these countries, and the need for sustainability standards. She concludes that incorporating respect for the right to adequate food and other fundamental social, environmental and economic objectives into the regulatory framework for trade in agriculture will not be easy but


\(^{19}\) Elisabeth Bürgi Bonanomi, ‘Right to Food, Sustainable Development and Trade: All Faces of the Same Cube?’, Chapter 4 in this volume.


\(^{21}\) Bonanomi, above n 19, 100.
that it is ‘essential if the multilateral process of agricultural trade regulation is to advance and contribute to the overall goal of sustainable development’.22

1.3 SUSTAINABILITY AND FOOD SECURITY

A necessary corollary of access to adequate food is the supply of sufficient and sufficiently nutritious food. With the ‘Green Revolution’ of the 1950s and 1960s, global food productivity increased, food prices started to trend downwards, diets improved and fear of famine receded. However, by the end of the 20th century, this progress had stalled and investment in agricultural research and productivity started to fall behind global population growth and food needs. At the same time, the concept of sustainability emerged as a concern for legislators and policy makers. In this context the question has become how to increase food production without causing environmental degradation?

There are many factors that affect the global supply of food, ranging from crop failure, to soil and nutrient depletion, to water shortages. Fresh water, for example, is increasingly becoming a scarce resource in many countries. Particularly in developing countries, water scarcity impacts on the subsistence needs of the population, although water plays an important role for the overall environment and, besides farmers, there are many other users. Plant borne diseases can also significantly reduce the production of food. Lowered resistance due to ‘in-breeding’ or cultivation in inappropriate sites, particularly when exacerbated by the use of limited plant varieties, may even result in the complete removal of food sources. The impacts of crop disease epidemics are, like water shortages, felt most in developing countries where people depend on relatively few staple crops.

Ensuring adequate food supplies requires the implementation of biosecurity measures, including surveillance and response protocols, to reduce the risk of disease epidemics. According to Rebecca Ford ‘there is a considerable need for governments to acknowledge pathological threats to sustainable food production and to allocate adequate resources to facilitate protection from exotic and endemic pathogens’.23 She suggests that ‘[m]anagement should be aimed at reducing the risk of disease epidemics’ and

22 Ibid. 116.
23 Rebecca Ford, ‘Crop Disease, Management and Food Security’, Chapter 5 in this volume, 121.
should include ‘diagnostic systems capable of rapid identification, *a priori* knowledge of how a disease would progress through modelling of disease severity and incidence, and the application of pre-emptive and post-emergent control measures’.\(^{24}\) She notes that effective biosecurity infrastructure requires the adoption of policy and regulatory frameworks ‘that scientifically analyse and manage the biological, social, political and environmental risks associated with the introduction and spread of diseases within cropping regions’.\(^{25}\) Sustainable agriculture depends on measures, such as quarantine, to prevent disease epidemics. However, such measures are largely absent in developed countries and may, in any event, be open to challenge under the international trade regime. Nevertheless, Ford concludes that biosecurity, eradication programmes and integrated disease management are crucial to the long term viability of global agricultural production.

Plant breeding, too, can provide crucial opportunities for increasing global food supply. Plant genetic resources, in particular, provide a vital contribution to crop improvement. However, according to Bert Visser and Niels Louwaars, ‘available genetic diversity is underutilised due to technical and informational shortcomings, limited attention to pre-breeding, poor management of essential collections and regulatory constraints affecting access to and benefit sharing from the effective utilisation of such genetic resources’.\(^{26}\) They note the need for increased spending on agricultural research and development and the promise of genetic modification to ensure the development of new, robust and diverse agricultural varieties. However, they conclude that new and more favourable macroeconomic and trade policies are needed to secure free access to gene modification technologies and the plant varieties developed with those technologies. They point to the constraints of national access laws that restrict free access and exchange of crop genetic resources and suggest that a multilateral non-market-oriented approach is needed to overcome these constraints and ensure the maintenance of the agricultural biodiversity upon which food security depends.

Even assuming the maintenance of plant genetic diversity, Colin Chartres tells us that ‘water and food security are inextricably linked’ and that ‘water scarcity is likely to be the largest single constraint on increasing food

\(^{24}\) Ibid.

\(^{25}\) Ibid. 136.

\(^{26}\) Bert Visser and Niels Louwaars, ‘Using Plane Genetic Resources to Ensure Food Security’, Chapter 6 in this volume, 142.
production in the future’. With climate change posing additional challenges for future water supply, the sustainable use of water for agriculture will need to take into account the various other uses of water resources, including its environmental uses and the maintenance of the ecosystem services it supplies. Chartres discusses the drivers of water scarcity and the effects of agriculture on water scarcity, the environment and society, and highlights the difficulties inherent in the allocation of available water, particularly in cross-border situations. He observes that current policy and regulatory frameworks in many countries are either non-existent or are mostly inadequate to ensure the equitable allocation of water for agricultural and other uses, resulting in chronic overuse of scarce water resources. He discusses the necessity for reforms in water governance to take into account projected increases in water use, and concludes that resolution of these issues requires concerted efforts at the highest policy levels to resolve questions of water rights and allocation and to ensure that there are basic systems in place to measure and monitor the availability and the use of water.

1.4 FOOD, TRADE AND INVESTMENT

The 1994 Agreement on Agriculture (AoA), adopted under the auspices of the WTO, is the predominant multilateral legal framework governing agricultural trade. The objective of the AoA is to liberalize trade in agriculture through reductions in tariffs, domestic support and export subsidies. The AoA has not, however, ‘levelled the playing field’ and has not resulted in the equitable distribution of food, particularly for developing countries. Indeed, in 2011 de Schutter concluded that the WTO rules, including amendments proposed during the stalled Doha Development Round of negotiations that began in 2001, actually conflict with the pursuit of food security and ‘fall short of offering a favourable policy framework for the realisation of the right to food’.28

Christian Häberli agrees with de Schutter’s conclusion but not with his proposed solutions for making the international trade regime compatible

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with the goal of food security. In his chapter, Häberli first reviews and then critiques de Schutter’s proposals, arguing that support for small farmers, as proposed by de Schutter, does not ensure food security for the poor. He notes that food security ‘has no simple solutions such as ‘free trade is good for you’, and that proposals for reform which come in the guise of agricultural policy instruments generally fail to account for consumer and other interests. According to Häberli, ‘neither tariff reductions and subsidy disciplines, nor safeguards and other measures of producer protection can automatically increase food security. … Rather, what is needed is the full and proper implementation of a number of commitments which the international community has already entered into in various human rights treaties, but which even the envisaged results of the now failed Doha Round negotiations could not ensure without revisiting relevant multilateral trade and investment rules’.

It is not just international trade rules that pose a challenge for food security. The financialization of agriculture, in particular of agricultural commodity futures trading, and market volatility also pose challenges both for food security and for market regulators. Nicola Colbran argues that the 2006–08 food crisis, which led to civil unrest in at least 40 countries and drastic increases in the number of food insecure people, was caused, at least in part, by the financialisation of agricultural commodity futures trading. Speculation by futures traders led first to sharp price declines and then to rapid price rises, radically increasing the cost of food imports and fuelling inflation, particularly in emerging market and low-income economies. To avoid a recurrence, Colbran argues in favour of improving the functioning of futures exchanges and collaboration among regulatory agencies at the global level. She discusses reforms that have been proposed in the United States and in the European Union but queries whether these reforms will be sufficient to bring about lasting changes in the financial markets.

Margaret Young discusses the problem of subsidies in the fisheries sector. She notes that while WTO members are currently negotiating to limit such payments, resolution of the subsidies issue requires consideration

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29 Christian Häberli, ‘The WTO and Food Security: What’s Wrong with the Rules?’, Chapter 8 in this volume, 192.
30 Ibid. 193.
31 Ibid. 194.
33 Margaret Young, ‘Food Security, Sustainability and Trade Distortions: Fisheries Subsidies and the WTO’, Chapter 10 in this volume.
of a broad range of international instruments beyond the WTO regime that pertains to fisheries. As Young demonstrates, this fragmented approach to international regulation poses significant challenges for international lawyers and policy makers seeking to interact with each other and address fisheries subsidy and food security concerns. As Young puts it, ‘[h]ow can the WTO, a trade body with specific economic epistemic capacity, hope to incorporate ecological, development and food-security perspectives?’

Young examines the interaction between the various regimes and assesses the possibility of integrating the perspectives of other regimes, in particular those governing international fisheries, into the WTO regime. She concludes that resolving the perverse economic incentives of the fisheries industry and the largely inefficient international fisheries management regimes may be beyond the WTO and that stronger rights-based claims may be needed to ensure both that all voices are heard and that global fisheries, a major source of protein and nutrition, are sustainably managed for a food secure future.

Related to the theme of investment, is the discussion by Lorenzo Cotula of legal frameworks for the regulation of ‘land grabs’, or the large-scale acquisition of farmland in developing countries as agricultural investment by food insecure states or by private entities. As Cotula notes, these purchases have the potential to impact negatively on ‘food security, environment, rights, sovereignty, livelihoods and development at the local, national and international levels’ and, whilst welcomed by some, they are hotly contested by others, who fear the marginalisation of family farming and other detrimental impacts. The legal frameworks governing these investments are both national and international, the former governing land ownership and property rights and the latter protecting foreign investment and basic human rights. Cotula reviews these frameworks with particular focus on Africa and concludes that existing legal frameworks are inadequate to protect the rights of local landholders from the impact of these land acquisitions. He suggests that a radical rethink is necessary, particularly at the international level, to ensure a balance between protection of foreign investment, on the one hand, and protection of the rights that may be affected by such investment flows, on the other.

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34 Ibid. 261.
36 Ibid. 273.
1.5 FOOD GOVERNANCE

The ability of international law to rise to the challenge of ensuring enhanced policy coherence and coordination in the pursuit of food security is investigated in the final chapters in this book. At the international level, policies that influence food security emanate from many different organisations, each having its own mandate. This has led to fragmentation and, particularly where promotion of food security is not a core part of the organisational mandate, to dysfunctionality. Further complicating the picture, in addition to public governance, private food governance has evolved as an alternative to public standards, or as a means of supplementing public standards, in areas as diverse as good agricultural practices and energy efficiency initiatives.

The international institutional framework for achieving food security is examined and assessed by Matias Margulis who characterises its development as one of ‘continuous transformation’. He examines the increasing density of international institutions involved in food security issues, their various institutional forms and the effects that the growing awareness of the causes and effects of food (in)security have had on their development. He focuses, in particular, on the post-2008 food crisis developments in the FAO’s Committee for World Food Security, the Comprehensive Framework of Action adopted by the United Nations High Level Task Forces on Global Food Security and the G8/20 as critical institutional developments in global food security governance. Although the membership, mandate, sources of authority and legitimacy of each differs, ‘[e]ach of these institutions claims a central position in global food security governance’. However, as Margulis demonstrates, the lack of coordination and ongoing contestation among these institutions over the future direction of global food security governance pose significant challenges. On the one hand, the greater pluralism encouraged by these institutions may offer a voice to non-state actors and vulnerable populations, thereby enhancing the legitimacy of global food security governance. On the other hand, it may simply amplify existing tensions and conflicts. While there is a general consensus that cooperation among these entities must be improved, such cooperation has yet to materialise. Margulis concludes that ‘global food security governance

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38 Ibid. 334.
remains in a state of flux and reminds us of the fact that governance is a dynamic and iterative process’.\(^{39}\) In other words, there is still a long way to go before the global institutional architecture is sufficiently robust and well formed to achieve its stated goal of ensuring global food security.

The efficacy of the global institutional architecture relies, in large part, on implementation of international norms at the regional level and within domestic legal systems. Regional initiatives can play an important role in encouraging governments to implement fair, transparent and effective policies to improve food security and in coordinating regional responses to market variation and volatility. Mohammed Saidul Islam and Iris Carla de Jesus examine regional and national initiatives in Southeast Asian countries.\(^{40}\) Chief amongst these is the ASEAN Integrated Food Security Framework, established in response to the 2008 food crisis, which aims to provide programmatic guidance for improving cooperation on food security issues among ASEAN member states. Regional aspects of international initiatives including the FAO’s Special Programme for Food Security and the UN’s International Fund for Agricultural Development are also examined as are country specific policies and programmes in Thailand, the Philippines, Vietnam, Indonesia and Cambodia. Islam and de Jesus note the problems of lack of coherence and fragmentation caused by an overabundance of disconnected and disaggregated regional programmes and the knock on effect of increased, rather than decreased, transaction costs. Given this duplication and overlap, they suggest the need for the ‘establishment of a centre for the coordination of food security activities in Asia’.\(^{41}\) They call for regional food security frameworks to take greater cognisance of the environmental dimensions of food security and to ensure that governance arrangements dealing with trade, markets and investments are made more transparent and accountable.

Public governance is not, however, the whole answer to the food security problem. As Doris Fuchs et al. note, in recent decades ‘governance capacities and functions in global agrifood governance have shifted, with private actors, specifically retail food corporations, becoming key players in this field’.\(^{42}\) Thus, ‘retail food corporations are in a position to design and

\(^{39}\) Ibid. 335.

\(^{40}\) Mohammed Saidul Islam and Iris Carla de Jesus, ‘Regional Initiatives on Food Security’, Chapter 13 in this volume.

\(^{41}\) Ibid. 362.

implement private governance institutions’ such as ‘mandatory private standards, “own-brand” products, and … farm-to-shelf control’. Fuchs et al. examine the impacts of these schemes on the livelihoods of small farmers and demonstrate their potential negative effects on food security. Rather than a replacement for public governance these private schemes may require public regulation to ensure their standards work to the benefit of small farmers, as opposed to their detriment. They note, however, that there is a need for more research to determine the precise impact of this emerging phenomenon of retail governance on food security in order to determine the optimal public governance approaches to it.

1.6 CONCLUSION

As the chapters in this book make clear, the policy and regulatory challenges of ensuring global food security are manifold, complex, diverse and challenging. Indeed, if anything, the chapters in this book raise more questions than they answer. Interestingly, a singular feature of each of the chapters, written by experts across a wide range of disciplines, is the articulation of a need for more equitable, transparent and coherent policy and regulatory approaches to the myriad of issues that make up the food security challenge. Clearly much work remains to be done. The chapters in this book provide significant guidance to lawyers, legislators, policy makers, and negotiators on where to go from here to ensure appropriate policy and regulatory frameworks are in place to meet the challenge of food security and give all people in the world a food secure future.

43 Ibid. 364, 365.