



International Centre for Trade
and Sustainable Development



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Agriculture and Food Security: New Challenges and Options for International Policy

Policy Options Paper



 The **E15** Initiative

STRENGTHENING THE GLOBAL TRADE AND
INVESTMENT SYSTEM FOR SUSTAINABLE DEVELOPMENT

Acknowledgements

The E15 Expert Group on Agriculture, Trade and Food Security Challenges is co-convened with:



With the support of



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO



And ICTSD's Core and Thematic Donors:



Government of the Netherlands



Published by

International Centre for Trade and Sustainable Development (ICTSD)

7 Chemin de Balexert, 1219 Geneva, Switzerland

Tel: +41 22 917 8492 – E-mail: ictsd@ictsd.ch – Website: www.ictsd.org

Publisher and Chief Executive: Ricardo Meléndez-Ortiz

World Economic Forum

91-93 route de la Capite, 1223 Cologny/Geneva, Switzerland

Tel: +41 22 869 1212 – E-mail: contact@weforum.org –

Website: www.weforum.org

Co-Publisher and Managing Director: Richard Samans

Citation: Tangermann, Stefan. 2016. *Agriculture and Food Security: New Challenges and Options for International Policy*. E15 Expert Group on Agriculture, Trade and Food Security – Policy Options Paper. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

©ICTSD and World Economic Forum®, 2016. Readers are encouraged to quote this material for educational and non-profit purposes, provided the source is acknowledged. This work is licensed under the Creative Commons Attribution-Non-commercial-No-Derivative Works 3.0 License. To view a copy of this license, visit: <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

ISSN 2313-3805

REF 181215

Agriculture and Food Security: New Challenges and Options for International Policy

Stefan Tangermann

on behalf of the E15 Expert Group on Agriculture, Trade and Food Security Challenges

January 2016

Note

The policy options paper is the result of a collective process involving all members of the E15 Expert Group on Agriculture, Trade and Food Security Challenges. It draws on the active engagement of these eminent experts in discussions over multiple meetings as well as an overview paper and think pieces commissioned by the E15Initiative and authored by group members. Stefan Tangermann was the author of the report. While a serious attempt has been made on the part of the author to take the perspectives of all group members into account, it has not been possible to do justice to the variety of views. The policy recommendations should therefore not be considered to represent full consensus and remain the responsibility of the author. The list of group members and E15 papers are referenced.

The full volume of policy options papers covering all topics examined by the E15Initiative, jointly published by ICTSD and the World Economic Forum, is complemented with a monograph that consolidates the options into overarching recommendations for the international trade and investment system for the next decade.

The E15Initiative is managed by Marie Chamay, E15 Senior Manager at ICTSD, in collaboration with Sean Doherty, Head, International Trade & Investment at the World Economic Forum. The E15 Editor is Fabrice Lehmann.

E15Initiative

Jointly implemented by the International Centre for Trade and Sustainable Development (ICTSD) and the World Economic Forum, the E15Initiative was established to convene world-class experts and institutions to generate a credible and comprehensive set of policy options for the evolution of the global trade and investment system to 2025. In collaboration with 16 knowledge partners, the E15Initiative brought together more than 375 leading international experts in over 80 interactive dialogues grouped into 18 themes between 2012-2015. Over 130 overview papers and think pieces were commissioned and published in the process. In a fast-changing international environment in which the ability of the global trade and investment system to respond to new dynamics and emerging challenges is being tested, the E15Initiative was designed to stimulate a fresh and strategic look at the opportunities to improve the system's effectiveness and advance sustainable development. The second phase of the E15Initiative in 2016-17 will see direct engagement with policy-makers and other stakeholders to consider the implementation of E15 policy recommendations.

E15Initiative Themes

- Agriculture and Food Security
- Clean Energy Technologies
- Climate Change
- Competition Policy
- Digital Economy
- Extractive Industries*
- Finance and Development
- Fisheries and Oceans
- Functioning of the WTO
- Global Trade and Investment Architecture*
- Global Value Chains
- Industrial Policy
- Innovation
- Investment Policy
- Regional Trade Agreements
- Regulatory Coherence
- Services
- Subsidies

* Policy options to be released in late 2016

For more information on the E15Initiative:
www.e15initiative.org

Abstract

New challenges are facing the global food and agriculture trading system in the 21st century. The present paper identifies options for how policies and international trade rules can respond to this new reality. It is not specifically addressed towards the ongoing negotiations of the Doha Round at the WTO, nor is there any attempt to re-define the mandate for these negotiations. The new challenges include a change in the supply-demand balance in global food and agriculture markets; large-scale use of agricultural commodities as feedstock for biofuel production; heightened market volatility; the impacts of climate change and government response; and important changes in agricultural policy regimes in major producer countries. Against this background, the paper recommends trade policy options in two areas: adapting the WTO Agreement on Agriculture and the Agreement on the Application of

Sanitary and Phytosanitary Measures; and more general WTO rules of particular importance for food and agriculture, especially with regard to environmental measures. It also puts forward options targeted at international cooperation to improve food security and foster agricultural productivity. The changing conditions on agricultural markets over the past decade have brought to the fore the need to improve food security globally. Focusing on this priority can demonstrate what international trade, and the regime governing it, can do for developing countries. At the same time, work must continue towards strengthening competitive markets, removing trade barriers and minimizing policy-induced distortions while providing urgently needed public goods. Policy options that seek to act on these priorities are presented over an indicative short to long-term time horizon.

Contents

6	Executive Summary
8	1. Introduction: What is this Report About?
9	2. New Challenges
9	2.1 A Changing Demand-Supply Balance on Global Food Markets
10	2.2 Bioenergy
11	2.3 Market Volatility
11	2.4 Climate Change
12	2.5 Environmental Issues
12	2.6 Experiences in Implementing the Agreement on Agriculture
13	2.7 Regional Trade Agreements
13	2.8 Changes in Policy Regimes in Major Countries
15	3. Policy Options
15	3.1 Adapting the WTO Agreement on Agriculture and the SPS Agreement
19	3.2 Preparing WTO Rules for the Future
20	3.3 International Cooperation to Improve Food Security
22	3.4 Fostering Agricultural Productivity
23	4. Conclusions: Priorities and Next Steps
23	4.1 Priorities
23	4.2 Timescale
24	4.3 Process
26	References and E15 Papers
27	Annex 1: Summary Table of Main Policy Options
30	Annex 2: Members of the E15 Expert Group

List of Figures

9	Figure 1: Price of Wheat in International Trade in Real Terms
14	Figure 2: Producer Support Estimates 1995-97 and 2010-12
21	Figure 3: Share of Assistance to Agriculture, Forestry and Fisheries in Total ODA

Abbreviations	
AIS	agricultural innovation systems
AMIS	Agricultural Market Information System
AoA	Agreement on Agriculture
ASCM	Agreement on Subsidies and Countervailing Measures
CGIAR	Consultative Group on International Agricultural Research
EU	European Union
FAO	Food and Agriculture Organization
G20	Group of Twenty major economies
GATT	General Agreement on Tariffs and Trade
GSP	Generalized System of Preferences
GHG	greenhouse gas
IPC	International Food & Agricultural Trade Policy Council
LDC	least developed country
MFN	most favoured nation
NGO	non-governmental organization
NTM	non-tariff measures
ODA	official development assistance
OECD	Organisation for Economic Co-operation and Development
OTDS	overall trade distorting domestic support
PPM	process and production method
R&D	research and development
SPS	sanitary and phytosanitary
WTO	World Trade Organization

Executive Summary

Today's global food system is vastly different from what it was when the Doha Round was launched in 2001. Against this background, the E15 Initiative has tasked an Expert Group to explore the challenges facing the food and agriculture global trading system in the 21st century. The objective is to identify options pertaining to policies and international trade rules that respond to this new reality. For this purpose, the International Food & Agricultural Trade Policy Council (IPC) joined forces with ICTSD and the World Economic Forum. The resulting policy options paper, though closely related to the multilateral trade regime, is not specifically addressed towards the ongoing Doha Round at the WTO nor is there any attempt to re-define the mandate for those negotiations. The paper pays particular attention to food security concerns and issues relevant to developing countries.

New Challenges

Many developments have taken place over the past fifteen years that have transformed the landscape in which international policies for the food and agriculture sector, and in particular trade policies, must operate.

After a long period of declining prices on international markets, the world food system suffered from extremely high prices and pronounced volatility in 2007-08 and subsequent years. More recently, prices have declined but not to the low levels of the early 2000s. Market projections suggest that they will remain for some time on a notably higher level than prior to 2007. This episode of price volatility characterized by successive spikes at short intervals has been caused by factors ranging from extreme weather events and new forms of financial investment to the expansion of feedstock for biofuels and *ad hoc* export restrictions.

Climate change is creating new challenges for the future of global agriculture. It amplifies market volatility and will be marked, in terms of impact, by localized year-to-year variability and spatial differentiation. Governments are increasingly seeking ways to respond to climate change and other environmental issues. Trade policy is one of the domains where solutions are sought yet where tensions between domestic policies and international rules may arise.

Experience with implementing the WTO Agreement on Agriculture (AoA) has pointed at issues that require attention. Some relate to the definition of rules and others with the manner in which governments have chosen to deal with them. Moreover, while disciplines and commitments applicable to agriculture in the WTO have not been modified since the completion of the Uruguay Round (1986-94),

actual policies in many countries have evolved. Major developed countries have shifted toward more market-oriented approaches, with changes in the structure of support, while trade distorting measures in a number of emerging and developing countries have tended to rise.

Policy Options

The paper considers trade policy options in two areas: adapting the AoA and the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures; and more general WTO rules of particular importance for food and agriculture. It then puts forward options targeted at international cooperation to improve food security and fostering agricultural productivity.

Adapting the Agreement on Agriculture and the SPS Agreement

Progress is needed on all three pillars of the AoA (market access, domestic support and export competition). In addition, international trade rules should be symmetric for importing and exporting countries: disciplines should apply to exporting countries that discriminate in favour of domestic users; greater transparency regarding restrictions would benefit the smooth functioning of markets; a procedure should be established to identify whether an exporting country actually has reason to adopt a restriction in order "to prevent or relieve critical shortages of foodstuffs"; shipments destined to serve as food aid in an emergency should be excluded from restrictions; and export taxes should be bound in the same way as tariffs are.

Regarding biofuels, there is a clear need to create more transparency regarding the types and levels of government support. Additionally, the establishment of effective disciplines could be introduced, with commitments on biofuel support aimed at constraints on the burden that is placed on food consumers.

Notifications of Green Box measures should provide more detail on the implementation of the policies concerned so that their potential trade impact can more effectively be assessed. As far as public stockholding for food security purposes is concerned, it is doubtful whether rational policy pursuit is helped if a direct link is established between this consumer-oriented policy and support for certain producer groups. In addition, it appears sensible to distinguish in the Green Box between policies aimed at the provision of public goods and measures targeted at income support to farmers. The former should remain unconstrained while a cap could be introduced on the latter. Moreover, monitoring and surveillance of agricultural policies should be strengthened

through provisions such as those suggested in the draft Modalities of December 2008. Finally, new incentives for compliance could be created if the assumption of ineligibility for benefits (e.g. excluding Green Box measures from reduction commitments) were introduced until eligibility has been affirmed based on notifications.

The functioning of the SPS Agreement would benefit from a more effective notification system and new incentives to make more ample use of international standards. Developing countries should receive assistance through a strengthened Standards and Trade Development Facility. The relationship between private and public standards should also be clarified.

Preparing WTO Rules for the Future

As governments design policies that lead farmers in the direction of engaging in practices that are more environmentally friendly, while also developing approaches that make agricultural production more resilient to the impacts of climate change, it is probable that there will be a tendency to underpin restrictive domestic policies with complementary measures that operate at the border. These could take the form of tax adjustments and the extension of standards. The conditions under which WTO rules permit the use of border adjustment measures need to be clarified, as they are intended to prevent cross-border trade from undermining the effectiveness of domestic policies targeted at climate change and the environment.

International Cooperation to Improve Food Security

Improved market transparency, for example through support for the new internationally co-ordinated Agricultural Market Information System, can help reduce difficulties in obtaining access to supplies. This implies a commitment to provide data, especially on public and private stockholding. In addition, international assistance for the creation of emergency reserves, and for the establishment and implementation of social safety nets, could improve the capacity of poor countries to deal with episodes of surging food prices.

The international community should further consider creating a new instrument of financial solidarity. This could come in the form of an agreement in which developed and emerging countries would provide financial support for measures aimed at improving food security and fostering agricultural development in low-income countries. Contributions would be made in proportion to the magnitude of their overall trade distorting domestic support (OTDS). This innovative approach would constitute a direct response, in the context of trade, to one of the biggest challenges to have emerged in the world's food and agriculture sector in recent years.

Fostering Higher Agricultural Productivity

Boosting productivity, specifically in least developed countries, is a promising approach to advance living conditions in rural areas and enhance food security. Investments in agricultural innovation systems should be increased and national governments should work towards the removal of barriers to the adoption of productivity enhancing technologies.

Priorities and Next Steps

Priorities for policy orientation are shaped by the most pressing challenges of the time. The international community must place a strong focus on improving food security. Doing so will demonstrate what the international trade regime can constructively do for developing countries. At the same time, work must continue towards strengthening markets, reducing trade barriers and minimizing policy-induced distortions while providing urgently needed public goods. The options discussed in this report seek to respond to these priorities.

Short-Term Options

A primary candidate for an early agreement would be a resolve to establish a new instrument of financial solidarity, whereby developed and emerging countries make financial support available in proportion to their OTDS. Other options that can be pursued in the short-term include: more transparency on export taxes and restrictions; exclusion from export restrictions of shipments destined to serve as emergency food aid; more transparency regarding support to biofuels; improved monitoring and surveillance under the AoA; and strengthened support to the Standards and Trade Development Facility.

Medium-Term Options

Options that may require more time include: binding of export taxes as a priority; clarification and amendment of Green Box rules; and improved transparency regarding SPS measures.

Longer-Term Options

Options to be considered over a longer timeframe include: new incentives for compliance with monitoring requirements under the AoA; establishment of disciplines on support for biofuels; and clarification of the conditions under which the WTO permits border adjustment measures. Outside the WTO, the international community should work towards: improved market transparency; support for emergency reserves; assistance for strengthened social safety nets; and measures that foster agricultural productivity.

Process

Consideration of some of the policy options presented in the paper could possibly be included in the work programme on the remaining Doha issues currently discussed among WTO members. Should deliberations result in agreement on any given item before the Doha Round is concluded, that item could, if appropriate, be implemented right away. Alternatively, it can be set aside for later inclusion in a Doha agreement. Elements that require more time for negotiation may reach maturity only after the Doha Round is concluded. Finding agreement on new policy options such as those suggested in this paper would send a positive signal that the international trade regime has the capacity to respond to acute challenges.

1. Introduction: What is this Report About?

Today's global food system is very different from that of 2001 when the Doha Round of trade negotiations was launched at the WTO. Food price spikes in 2007-08 and subsequent years have brought food security concerns to the forefront of the policy agenda. The linkages between price volatility and national as well as international policies have come into the spotlight. Growing concerns are arising regarding the world's capacity to feed its still rapidly growing population. Climate change may further aggravate the situation, specifically in less well-off regions of the world where food security is already a major concern. In more affluent countries, growing attention is paid to the impact of agriculture on the environment. Meanwhile, in the trade arena, multilateral progress in the Doha Round is difficult to achieve.

Against this background, the International Centre for Trade and Sustainable Development (ICTSD), in partnership with the World Economic Forum, has tasked an Expert Group, as part of the E15 initiative, to explore the many challenges facing the global food trading system in the 21st century and their implications for sustainable development. The objective is to identify options pertaining to policies and international trade rules that can respond to this new reality. For this purpose, the International Food & Agricultural Trade Policy Council (IPC) joined forces with ICTSD and the World Economic Forum.

The focus of this paper is international trade and the multilateral system underpinning it. National policies directed at shaping domestic food and agriculture sectors will also have to adapt to the changing conditions of the 21st century and may actually have to carry the largest share of the burden. However, given its focus on international trade and multilateral policies, the paper will consider national measures at best in passing. The objective is to identify policy options that can respond to issues that have become increasingly relevant in the past decade or so. While these options, and the deliberations behind them, are related to the international trade regime, they are not specifically addressed toward the ongoing negotiations of the Doha Round; nor is there any attempt to re-define the mandate of these negotiations.

Food security is an issue of primary importance for developing countries. At the same time, the untapped potential of world agriculture is particularly promising in developing countries. Mobilizing this potential requires better integration of their farmers, above all smallholders, into markets. A number of developing and emerging countries are increasingly successful food exporters. However, the rapid growth of incomes and population in many developing countries means that, as a group, they are likely to exhibit increasing food imports. For these reasons, international trade in food and agricultural products is of vital importance to developing countries, as are the multilateral rules governing it. This paper will therefore pay particular attention to issues relevant to developing countries.

The paper begins with a look at the new challenges the global food and agriculture system is facing in the 21st century (Section 2). On that basis, it then considers trade policy options for the future in two areas: adapting the WTO Agreement on Agriculture (AoA) and the Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures (Section 3.1); and more general WTO rules of particular importance for food and agriculture (Section 3.2). The report also discusses policy options targeted at international cooperation to improve food security (Section 3.3) and fostering agricultural productivity (Section 3.4). It concludes with priorities and a suggested timeframe for policy implementation (Section 4).¹

¹ References in the report have been kept to a minimum. The overview paper and think pieces produced by the E15 Expert Group, from which this paper draws freely, contain full references. Readers interested in more detail and references to the literature are encouraged to consult these supporting documents.

2. New Challenges

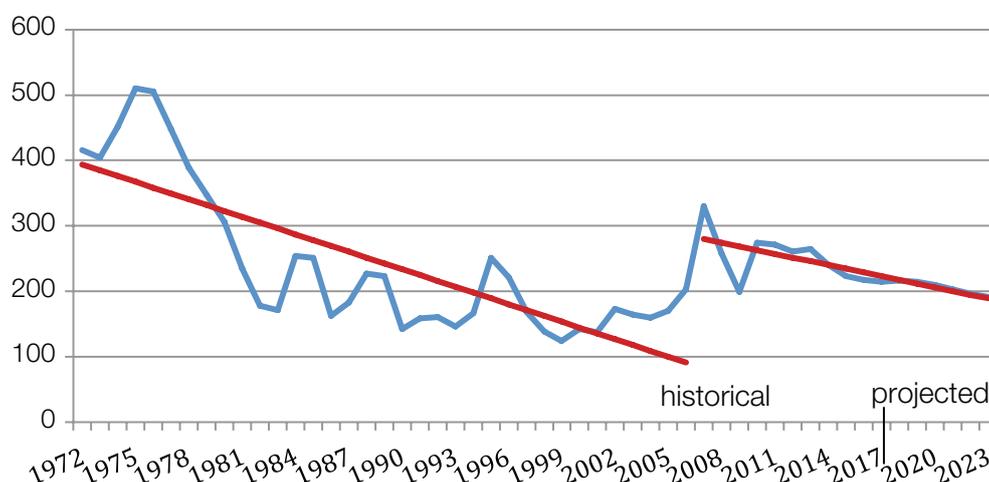
As the world changes, policy frameworks are continuously faced with new challenges. Policies for agriculture and food security are no exception. At the national level, the rhythm of policy adjustments is often dictated by parliamentary elections or specific sunset clauses. At the international level, major negotiating rounds provide opportunities for policy revisions. As far as multilateral trade negotiations are concerned, the launch of the Doha Round in 2001 provided an opportunity to set an agenda for adapting the fundamental rules of the WTO to the needs of the time. Unfortunately, 15 years of negotiations have not brought closure to the Doha Round. And while the negotiations have dragged on, the world has continued to evolve, some would argue with accelerated pace. In the area of food and agriculture, developments have taken place since the beginning of this century that have transformed the landscape in which international policies for the sector, and in particular trade policies, must operate. Some of these developments pose challenges that were of lesser relevance when the Doha Round was launched and may require policy responses at the international level. The more prominent of these “new” challenges are briefly considered in this section.

2.1. A Changing Demand-Supply Balance on Global Food Markets

In the years following 2007, global food markets were hit by a succession of extreme price peaks. While markets for agricultural products always exhibit marked volatility, the magnitude and frequency of the price spikes experienced in 2007-08 and subsequent years were such that they drew significant political attention up to the highest levels of government.

There is a growing consensus that perhaps this was not just a passing episode of turbulence, but that it coincided with a shift in the longer-term trend of global markets for agricultural products. To be sure, more recently, prices on world markets for food and agricultural products have retreated noticeably from the extremely high peaks they had reached in the years following 2007. However, they are still well above price levels in the early 2000s and there are indications that we may have experienced an upward shift in trend. Market projections generated by different institutions vary in detail, but they are largely consistent in suggesting that the world appears to have embarked on a new and somewhat higher level of prices for agricultural commodities and food. For illustration, Figure 1 sets the world market price of wheat in real terms (as projected for the coming ten years by the OECD and the Food and Agriculture Organization—FAO) against its development since 1972. It also includes trend lines for the two periods before and since the start of the recent episode of large volatility (2007), suggesting that market conditions have changed: real prices

Figure 1: Price of Wheat in International Trade in Real Terms (i.e. Adjusted for Inflation)



have increased from the lows in the 1990s, although they are clearly lower than in the 1970s and are not expected to return to those extremely high levels. As projected, prices in real terms continue to exhibit a declining trend in the future but on a higher level. This change has occasionally been described as a shift from demand-constrained to supply-constrained markets in food and agriculture. Agricultural markets will continue to exhibit significant volatility (as discussed below), and there may well be episodes of declining and low prices. However, it appears that there is a high degree of probability that the price level on international markets for food and agricultural products in the years to come will be higher than prior to 2007.

Research continues on the relative contributions of various factors that may have caused this shift in market conditions. Accelerating income growth in many developing and emerging countries, coupled with ongoing urbanization, spurs the expansion of market demand for food. It also stimulates a change in diets towards a growing weight of livestock products, adding to demand for crops as animal feed. At the same time, the world's capacity to expand agricultural production may be less than in past decades. Prices of agricultural commodities have also been driven up by a rise in the price of oil and other energy sources since the beginning of the century, raising production costs and hence the price of agricultural and food products. In addition to the direct effect of energy prices, there is also an impact on demand for agricultural commodities resulting from the production of bioenergy (discussed below). The significant decline in the price of oil since 2014 has changed that picture and may, if it lasts, be followed by a downward adjustment of food prices. At present, one can only speculate on the extent to which changed conditions in the global energy economy will affect the future development of food prices.

As far as global food security is concerned, to be on the safe side it is probably advisable to be prepared for a situation in which international market prices for food remain not only rather volatile but also higher than pre-2007 levels. This has implications for the relative position of producers and consumers. In the past, low prices on international markets exerted adjustment pressure on farmers in rich countries and reduced incentives for agricultural development in less well-off economies. They also somewhat diminished the burden on poor food consumers. The traditional priority in agricultural negotiations under the GATT and the WTO—i.e. to work towards limiting protection and support provided to farmers—must be seen in this light. While the Doha Round is still facing a considerable amount of unfinished business of this nature, the higher price level to which markets may have shifted now means that equal weight should be given to considering approaches that can be used to protect food consumers against price peaks.

In that context, it is also relevant to consider the growing role of developing countries in agricultural trade. The share of non-least developed country (LDC) developing countries (defined on the basis of economic criteria) in world imports of agricultural products rose from 26% in 2000 to 41% in 2011, and is now close to 60% for cereals. In global agricultural exports, the share of non-LDC developing

countries increased from 34% to 45%. Even for meat and fish products, where non-LDC developing countries accounted for only 16% of world imports in 2000, this share reached 34% in 2011. These trends mean that developing country markets can no longer be considered peripheral, as they represent a significant share of international trade and an overwhelming contribution to growth.

2.2. Bioenergy

A sizeable percentage of crop production in some parts of the world is currently used as feedstock for the production of biofuels. About 65% of vegetable oil output in the European Union, 50% of sugarcane in Brazil, and 40% of maize in the United States are used for that purpose. Use of crops for biofuel production is predicted to grow further. Market projections issued by the OECD-FAO (2014) expect that in 2023 no less than 12% of global coarse grain production and 28% of global sugarcane production may be used to produce ethanol, and that 14% of global vegetable oil output will be converted into biodiesel. In addition, other crops are used as feedstocks while alternative forms of renewable energy (e.g. biogas) are also produced from agricultural products. The mass use of agricultural commodities, including those that could be used as food, to generate energy is a relatively new phenomenon—virtually non-existent when this century began. The only exception is Brazil where conversion of sugarcane into ethanol began in the 1970s.

To a very large extent, the production of bioenergy depends heavily on government support provided in various forms, including subsidies, tax credits, and quantitative mandates. Brazil is, again, an exception as ethanol production from Brazilian sugarcane is commercially viable unless the price of sugar is very high or the price of crude oil is low. There is little doubt that the large-scale introduction of bio-based fuels into energy markets in North America and Europe (and some other countries) would not have taken place in the absence of government support, estimated to be in the order of US\$20 billion per year globally. At the low crude oil prices that prevail in 2015, even less of the world's biofuel production is commercially viable.

The rapid expansion in the use of agricultural commodities as feedstock for the production of bioenergy has been blamed by several authors as one of the major contributing factors behind the peaks in food prices experienced in recent years (see, for example, de Gorter, Drabik and Just (2015) and the literature referenced there). The jury is still out on the magnitude of the impact. However, there can be little doubt that the international market prices of agricultural commodities that are primarily used as feedstock would be lower in the absence of biofuels support, although estimates of the precise extent vary. The limited response of biofuel production to changes in the price of agricultural feedstocks, in particular where biofuel use is determined by quantitative mandates, also tends to add to the large price volatility on global markets of the agricultural commodities concerned. The closer correlation between prices for fossil energy and food that has been observed in recent years is a novel phenomenon that poses new challenges for global food security—challenges that could become more acute if energy prices were to rise again.

2.3. Market Volatility

Markets for agricultural commodities have always exhibited volatility. On international markets, this phenomenon is even more pronounced. Global markets for many agricultural products tend to be “thin,” with international trade sometimes amounting to no more than single-digit percentages of global output. The “thinness” of global markets for agricultural and food products is further aggravated by a tendency on the part of governments to insulate domestic markets from international price swings. Potentially marked changes in global output from year to year must therefore, to the extent that it is not compensated by stock changes, be buffered by a world market that is small relative to the overall volume of global output—with the consequence that price swings can become rather large.

While a significant degree of variability has thus always characterized markets for food and agricultural products, experience shows that once in a while there is a bout of extreme volatility on international markets. Typically, this extreme volatility is asymmetric in nature, with upward price spikes much larger than downward price declines. This tendency is closely related to the storability of many agricultural commodities. When prices fall, agents tend to put commodities into storage. But when prices rise, a point can be reached where stocks are virtually depleted and no additional supplies can come on the market. In recent decades, the world has seen one such episode of extreme upward price explosions in the 1970s and a second in the period since 2007.

The most recent episode of extreme volatility differs in part from the experience in the early 1970s in the sense that it has been characterized by a number of successive price spikes following each other at short intervals. A number of factors have been identified that may have contributed to each individual event of repeated volatility in recent years. These include: extreme weather events; developments in markets for other commodities (especially energy); new forms of financial investment in commodity exchanges; currency developments; rapid expansion of feedstock use for biofuels; and *ad hoc* export restrictions. Some of these factors have resulted in low stock-to-use ratios for several key commodities, which reduced the buffering capacity of markets and hence amplified price explosions.

Whether all or most of these factors will continue to impact markets for food and agricultural products in the years to come is difficult to predict. It does, though, appear that extreme weather events have become more likely as a consequence of climate change. That factor alone may mean that markets will continue to exhibit a marked degree of volatility in the future—larger than the “traditional” volatility that has always plagued agricultural markets. Recent price peaks have served to attract new attention to this phenomenon of food market volatility and to demonstrate the importance of developing appropriate and effective responses to a situation that can have dire social consequences.

2.4. Climate Change

The challenges posed by climate change are not new but the main implications for agriculture have become considerably clearer in the last ten years or so. Compared to other sectors, agriculture is unusual in that it can contribute to both increasing and decreasing the concentration of atmospheric greenhouse gases (GHGs). Agricultural production is a major source of GHG emissions, directly accounting for an estimated 10-12% of the global total. If the clearance of uncultivated land for agriculture is taken into account, the contribution is substantially higher. Moreover, the food and agricultural industry is a major user of energy in the production of inputs, the processing of commodities, and the use of transportation, all of which also generate significant GHG emissions. On the other hand, agriculture (and forestry) can also recycle or remove carbon from the atmosphere for significant periods of time through sequestration. It can also produce commodities that potentially help to reduce overall GHG emissions by substituting for fossil fuels. For all of these reasons, adjustments in agronomic practices and in agriculture’s product mix can make a major contribution to mitigating climate change, and global agriculture is likely to be called upon to do so increasingly in the future.

At the same time, agriculture and food production are particularly susceptible to the impact of climate change due to their dependence on natural conditions. How agricultural production will precisely be affected by climate change is still a matter of debate, and will probably remain so for quite some time given the complexities of forecasting climate change and understanding the impact of climatic conditions on agricultural production. However, there appears to be growing consensus on two major implications. First, extreme weather events such as droughts, floods and storms are projected to become more frequent. As a result, year-to-year variability of agricultural output at any particular location (though not necessarily at the global level) is expected to increase. Second, the impact of climate change on agricultural production is likely to exhibit marked spatial differentiation. While growing conditions in temperate zones are expected to improve (higher temperatures, longer growing seasons), output potential in tropical territories is likely to be negatively affected (more heat, more drought, shorter growing seasons), although there may also be marked localized variations in impact. As the majority of developing countries are located where agricultural output is projected to suffer most from climate change, the trend for developing countries in aggregate to become increasingly dependent on food imports (in particular cereal) from richer countries is likely to be further enhanced. In addition to overall changes in the volume of agricultural output, production patterns in terms of product composition are also likely to change. While there may be a political temptation in many countries to resist such modifications in agricultural production in response to climate change, it should be clear that they will reflect evolving patterns of comparative advantage and that attempts at resisting them could come at potentially high costs.

The challenges posed by climate change for the trading system are at least fourfold. First, trade is a powerful means of bridging spatial differences, both in the short-run (resulting from extreme weather events) and in the longer-run (caused by differential impacts on output potential). The more freely trade can flow, the more it can fulfil this balancing function. Second, as governments seek to support both the mitigation potential and the adaptation capacity of their domestic farming industries, there may be a tendency to resort to policies that have the potential of interfering with trade. Third, the apparent need for policy responses to the implications of climate change (and the complexity of the matter) can easily be used as pretexts for protectionist measures. Fourth, it is obvious that international agreements are urgently needed to address these global challenges—yet it has also become increasingly clear how difficult they may be to reach.

2.5. Environmental Issues

The relationship between agriculture and the environment poses challenges that are somewhat similar to those resulting from climate change. Agriculture can both cause environmental damage and contribute to improving environmental conditions. In both regards, mounting attention has been paid in recent years to this relationship.

Growing intensification of agricultural production in large parts of the world has amplified pressure on the environment, biodiversity, and other natural resources, including water. In some countries and regions, farmers, governments and non-governmental organizations (NGOs) have progressively expressed concerns regarding the resulting damage, and a number of negative impacts have begun to be redressed. At the same time, it is increasingly recognized, in particular in the more affluent parts of the world, that agriculture has genuinely contributed to shaping valued features of the countryside and that farming activities can, if properly practiced, help preserve the environment. Environmental policies in agriculture have therefore gained traction.

Some of the policy measures used to address the environmental implications of agricultural production have the potential to interfere with international trade. For example, where governments support certain agricultural practices that are assumed to be beneficial for biodiversity, the disposal of the agricultural output produced may be deemed to cause difficulties for producers in third countries. Also, when a government imposes more demanding animal welfare standards on domestic producers, there is a temptation to ensure that imports originating from countries with less demanding standards do not outcompete the “well-behaved” domestic farmers. For such reasons, environmental issues in agriculture have the potential to cause growing tensions in the international trading system. It will be important to examine solutions that allow for a fair balance between environmental sustainability and non-discriminatory trade rules.

2.6. Experiences in Implementing the Agreement on Agriculture

Although the Agreement on Agriculture concluded during the Uruguay Round (1986-94) has fundamentally changed the rules of the game, quantified constraints are not very demanding and have left considerable room for continuing “old” policies. Squeezing water out of these quantitative constraints under the AoA, and making further headway towards allowing market forces rather than government interference to determine trade flows in agriculture, is a major aim of the Doha Round.

Experience in implementing the AoA has also pointed at a number of issues and loopholes that require attention. Some have to do with the definition of rules in the agreement and others with the way governments have chosen to deal with them.

An example of the former category is the AoA definition of market price support, based on fixed external reference prices, some of which are by now way out of line with actual market conditions. In the same context, the definition of the “eligible quantity” of production has left too much room for interpretation. Another example is the definition of domestic support measures exempt from reduction commitments (Green Box subsidies). Subsidies notified under the Green Box have increased significantly since the AoA was concluded, both in absolute terms and as a percentage of overall domestic support. Movement in the direction of less trade distorting policies, as signalled by the growing share of support placed in the Green Box, is a desirable trend—as long as support overall does not expand. However, the increasing weight of the Green Box makes it increasingly important to look at concerns that have been raised regarding both the general requirement for such measures (“that they have no, or at most minimal, trade distorting effects or effects on production”) and the specific criteria for individual categories of Green Box policies. In addition, new measures that were not yet known when the Green Box was created have been introduced and notified under the Green Box. One concrete example of the relevance and political sensitivity of these issues surrounding the interpretation and implementation of AoA rules is the debate on public stockholding programmes for food security purposes, which played an important role at the WTO Bali Ministerial and continues to be a prominent issue in the ongoing negotiations.

When it comes to government dealings with AoA rules, a number of deficiencies in the notification process stand out. To be sure, notification requirements introduced under the AoA have greatly enhanced the transparency of agricultural policies. However, several *desiderata* remain. The value of notifications is seriously compromised by frequently late submissions. And a pressing issue in the Green Box notification process is the fact that countries are not required to justify the allocation of reported measures to the twelve individual categories of Green Box policies based on the specific details of the respective measures.

2.7. Regional Trade Agreements

The multiplication of preferential trade regimes has become a defining feature of international trade. From 123 regional trade agreements (RTAs) notified to the WTO in 1995, the figure had risen to 612 by April 2015 (counting goods, services and accessions separately) of which 406 were in force. While until the early 2000s RTAs tended to be geographically regional, this is no longer the case as agreements between partners on different continents have become more frequent.

A significant share of total world trade is now conducted between members of preferential arrangements. In agriculture and food the share is approaching 40%—larger than in manufactures. Tariff concessions are often significant under RTAs. In a study of a sample of 74 RTAs, Bureau and Jean (2013) found that when tariff concessions are fully phased in, the preferential margin is close to ten percentage points. Over the agreements considered in the study, and other things being equal, RTAs were estimated to increase agricultural and food exports between signatories by 32 to 48%. On average, trade impacts are larger for agreements between developing countries and, generally speaking, for agreements granting higher preferential margins, in particular when the partner's initial market share is low. Such impacts are sizeable enough to exert a profound influence on trade patterns.

In addition to RTAs, there have been some significant changes in non-reciprocal preferential regimes, with potentially significant consequences for WTO negotiations—especially in relation to Special and Differential Treatment. In some cases, non-reciprocal concessions have been amended so as to make them compatible with WTO rules. Developed countries have also reformed their Generalized System of Preferences (GSP) regimes in different ways. Countries that are signatories to an RTA have generally been removed from the list of GSP beneficiaries. Others have either been “graduated” or excluded from preferences because they were considered to have reached a level of development that no longer justified tariff concessions or because they had become aggressive competitors to local producers.

2.8. Changes in Policy Regimes in Major Countries

In agriculture, disciplines and commitments applicable in the WTO have not been modified since the completion of the Uruguay Round. Actual policies, however, have evolved in many countries, sometimes significantly.

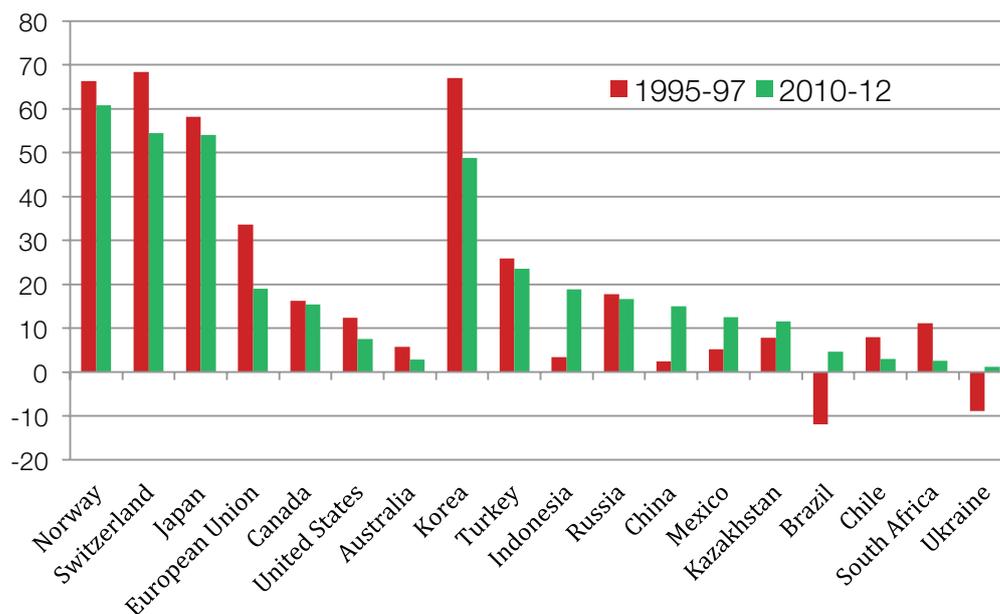
As far as border protection is concerned, bound tariffs have not changed substantially since the end of the AoA implementation period (end-2000 for developed countries, end-2004 for developing countries) except for new WTO members. In contrast, applied protection has steadily declined. Globally, applied most-favoured-nation (MFN) duties for agricultural products were cut from an average 24.6% in 2001 to 18.7% in 2010, and applied duties (including preferential tariffs) from 15.8% to 13.8% (Bureau and Jean 2013). The cut in MFN applied duties was especially steep for countries classified as developing in the WTO, from an average 31.1% to 23.2%. This is barely more than a third of their average bound duties (61.3%) and applied tariffs are yet lower (19.8% in 2010). This means that any realistic cut in developing country bound tariffs is unlikely to alter significantly the applied tariff protection.²

Another consequence is that a considerable increase in agricultural protection is technically possible without infringing current WTO rules: MFN applied duties can be raised up to the level of bound duties and contingent protection can be used in a variety of ways. While the average applied tariff worldwide in agriculture stands at around 14%, if all WTO members were to raise their applied tariffs to the maximum (bound tariffs except where an RTA applies), average protection would double to 28%.

In parallel with declining border protection, measured gaps between domestic and international market prices have decreased in many countries since the mid-1990s. In most developed countries, domestic support as reflected in notifications to the WTO has also declined, at least relative to the value of agricultural production. More significantly, in a number of developed countries the structure of support has undergone marked change, with a growing share of support notified under the Green Box and a declining share of support outside of the Green Box. The same cannot be said for developing and emerging economies, where overall support levels in certain countries have grown, with no significant shift in the structure of support towards less trade distorting forms such as those covered under the Green Box. Concurrently, use of export subsidies by developed countries has declined significantly. Export subsidies granted by the EU, which accounted for around 90% of global expenditure on formal agricultural export subsidies in the early 2000s, have virtually disappeared. Over the recent period marked by high agricultural prices, it could be argued that export restrictions have had a greater influence on market conditions than export subsidies provided by entities such as the EU.

² India epitomizes this situation with an average MFN applied rate for agricultural products equivalent to less than a third of the bound rate (39.4% vs. 136.1%). But the issue is similar in nature for Mercosur where it equally (and more importantly) concerns non-agricultural products.

Figure 2: Producer Support Estimates 1995-97 and 2010-12
(Percent of Gross Farm Receipts)



Source: OECD 2013

Domestic support notified to the WTO is based on legal concepts and does not necessarily reflect developments in actual support levels as defined in economic terms. This is especially the case for market price support, where the WTO definition uses administered domestic prices and fixed external reference prices rather than actual domestic and international market prices. Yet a look at actual support rates as estimated by the OECD, which expresses the joint effect of border protection and domestic support, confirms the overall trend of a decline in support rates among major developed countries while they have tended to rise in major emerging countries (Figure 2). Depending on future policy trends and the outcome of WTO negotiations, it is conceivable that the centre of gravity in agricultural policy support may increasingly shift to developing and emerging economies.³

³ Brink (2011), for example, found that application of the parameters suggested in the Doha draft Modalities of December 2008 could mean that allowances (after reduction commitments) for overall trade distorting support, including in particular de minimis allowances, might be such that all developing countries taken together could provide 73% of agricultural support in the world

3. Policy Options

Based on the developments outlined above, this section considers trade policy options for the future in two areas: adapting the WTO Agreement on Agriculture and the SPS Agreement; and more general WTO rules of particular importance for food and agriculture, specifically with regards climate change and the environment. It then puts forward policy options targeted at international cooperation to improve food security and fostering agricultural productivity.

3.1. Adapting the WTO Agreement on Agriculture and the SPS Agreement

The WTO provisions with the most direct bearing on food and agriculture are those established by the Agreement on Agriculture and the SPS Agreement. These provisions—in particular those of the AoA—have been in the spotlight in the course of the Doha negotiations and adapting any of them is a politically sensitive matter.

3.1.1. Traditional items on the negotiating table of the Doha Round

The challenging developments in the world's agriculture and food economy since the beginning of the century have made it vital that agricultural trade effectively perform its crucial function of building bridges between deficit and surplus countries, and that international markets for food and agricultural products operate efficiently so as to ensure that the world's increasingly scarce resources are used in an optimal way to provide adequate food supplies to a growing and more demanding population. Further progress is needed on all three existing pillars of the AoA—i.e. market access, domestic support and export subsidies.

As far as market access is concerned, a further reduction in tariffs will facilitate the integration of domestic markets with international trade and the transmission of price signals. It will thereby contribute to dampening the volatility of international markets that has caused so much concern in recent years. Given that in many countries there is a significant gap between bound and applied tariffs for agricultural products, cuts in tariff bindings will also improve the transparency and reliability of trading conditions. There is general recognition of the need to provide scope for protecting fragile domestic markets against sudden upsurges in imports, although the specific parameters for safeguards remain controversial.

Tighter disciplines for domestic support will help to guard against unfair competition and inefficient use of productive resources. At the same time, they are needed to ensure that subsidies are not used to negate the intended benefits of

tariff cuts. Agreement on further reductions of both tariffs and domestic support should be facilitated by the changes in market conditions that have occurred in the recent past: with higher prices expected to prevail on international markets for food and agricultural products, the political objections to reducing high tariffs and subsidies should be less pronounced than in the past.

Subsidies distorting export competition have always drawn harsh criticism. They constitute a particularly unfair form of competition, setting governments against each other instead of enabling the most cost-effective producers to prosper. The significant decline in export subsidies over the last decade should make it relatively easy to push for an end to this harmful practice. There is an opportunity to approximate rules for agriculture with manufacturing, where export subsidies have been prohibited for decades. Moreover, many governments have come to understand that state-trading enterprises can create more problems than they solve.

The Doha negotiations on all three of these pillars have already made much progress, as evidenced by the substantial amount of agreed matter embodied in the draft Modalities of December 2008. It is worth a concerted effort on the part of all WTO members to bring these negotiations to a successful conclusion in the near future.

Coming to terms with the items already on the negotiating table is even more important as the challenges that have arisen since the Doha Round began also require attention. Policy options that can be considered in that context are discussed in the remainder of this paper.

3.1.2. Rules for export taxes and restrictions

During the long period when global markets in food and agriculture were demand-constrained, the need to protect food consumers against policy-driven market fluctuations was not considered a priority issue. In trade negotiations, attention focused on disciplining import barriers and subsidies. Export barriers did figure in the GATT/WTO, but disciplines were relatively weak and not necessarily taken seriously in the practice of trade policy-making. As the world appears to have embarked on a higher level of food prices on international markets, much more attention is now justifiably being paid to export barriers. When markets exhibited increased volatility in recent years, a number of major food exporters implemented various forms of export taxes, restrictions and bans. Most observers agree that these export barriers, often introduced rashly and in an *ad hoc* manner, contributed significantly to driving international

market prices to extreme peaks. In response, calls for the introduction of more stringent disciplines on export barriers have been voiced in various fora, including the WTO.

Much can be said for the argument that international trade rules should be symmetric. Discipline should be imposed not only on importing countries and exporters who subsidize (so as to protect competing producers in other parts of the world against depressed prices and shrinking markets), but it should also apply to exporting countries that discriminate in favour of domestic users by withholding supplies from those in the rest of the world. From this perspective, it is encouraging that the Doha negotiations have already looked at rules regarding prohibitions and restrictions on food exports. Establishing symmetry between rules for importing and exporting countries should help move the negotiations forward. Disciplines on export restrictions should also be of interest to exporting countries in view of the fact that an agreement on this issue would provide assurances to importers who may otherwise be tempted to self-insure against potential trade disruptions through increased domestic protection and subsidies.

More up-to-date information on export restrictions would benefit the smooth functioning of markets for food and agricultural products. This improved transparency will be particularly helpful if it is combined with better information on stock levels, such as that which may emerge through the Agricultural Market Information System (AMIS) in which the main producing, importing and exporting countries cooperate with assistance from a secretariat formed by the FAO and other international organizations. An option would be to require notification of any new export constraints, including changes in export taxes, to the Rapid Response Forum established under AMIS.

Another option would be to establish a procedure that could serve to identify whether an exporting country is actually in a situation where it has reason to adopt an export restriction in order “to prevent or relieve critical shortages of foodstuffs” as stipulated in GATT Article XI. As this option would not necessarily require modification to either the GATT or the AoA it could also be considered independently of an overall conclusion of the Doha negotiations.

A step requiring the adoption of new legal language would be to move in the direction of the commitment undertaken by the G20 Agriculture Ministerial in Paris in 2011 — i.e. to exclude from any restrictions shipments destined to serve as food aid to countries in an emergency. In spite of the G20 commitment to bring this option to the WTO the mandate has stalled. If multilateral consensus cannot be found to adopt a provision along these lines, it could become the basis for a plurilateral agreement of the “willing” open to future accession by other countries.

A more demanding option would be to include export taxes explicitly in any new rules on barriers to food exports. Although it can be argued that export taxes are, under certain conditions, covered by GATT and AoA provisions on export restrictions, specific rules could help to ensure that taxes are not used to circumvent disciplines on restrictions. A possibility to be considered would be to bind rates of

export taxes on food (and possibly other products) in much the same way as tariffs are bound. This option could also include the introduction of export tax rate quotas that would mirror the tariff rate quotas frequently used in agriculture. Quotas could be based on past exports (either a fixed average using a base period or, preferably, a moving average). The in-quota tax could be the average export tax applied in recent years, at no more than an agreed maximum rate. To avoid lengthy negotiations, the above-quota rate of export tax could be constrained to twice the in-quota rate.

An approach like this, if combined with effective disciplines on quantitative export restrictions, could greatly enhance the transparency and predictability of international food trade in times of scarcity.

3.1.3. Provisions for support to bioenergy

As in the case of barriers to food exports, government support for the production and use of biofuels was not considered an important issue for international trade relations as long as international market prices for agricultural products were depressed. After all, when a number of countries began to channel agricultural products into the production of energy, this was considered to ease competitive pressure on farmers in the rest of the world. However, when global food prices began to rise, thereby placing a growing burden on consumers, support to biofuels appeared in a new light. Not surprisingly, it turned out that international trade rules, developed at a time when biofuels were virtually non-existent, were not designed to impose effective disciplines on the harm that biofuel support could inflict on food consumers. Hence there are good reasons to consider options for dealing with biofuel support in the WTO.

A first and rather fundamental option would be to create more transparency regarding the types and levels of government support to biofuels. In the WTO, some subsidies to biofuels are notified either under the Agreement on Subsidies and Countervailing Measures (ASCM) or under the AoA, or in both contexts. However, notifications are far from comprehensive and where they occur they do not provide sufficient detail to allow an analysis of their trade implications. Transparency would be greatly improved if clear rules were developed as to how and where support to biofuels has to be notified and which forms of support are to be covered. For purposes of transparency it should not matter too much whether notifications come under the heading of the ASCM or the AoA.

Considerably more demanding would be an option that aims at establishing effective and comprehensive disciplines on the magnitude and use of support to biofuels. Without doubt, this would require some innovation in legal approaches, for example regarding the definition of what constitutes an agricultural product covered by the AoA and also the treatment of measures such as use mandates as a form of subsidy. Given the close relationship between biofuels and the food and agriculture sector, it might make sense to consider the option of adapting existing rules such that biofuel support falls under the realm of the AoA.

Introducing disciplines for support to biofuels under the AoA would be in line with the suggestion to establish constraints on product-specific support as foreseen in the 2008 draft Modalities.

However, if the intention were to place effective constraints on the extent to which biofuels support can distort markets, with a particular view on the implications for food consumers, then a wholly new approach would have to be developed. Including support to biofuels under AoA commitments on trade distorting domestic support would not only require the definition of new base commitments, it would also not be aligned with the nature of existing AoA commitments, as in many cases support to biofuels benefits not only domestic farmers but also producers in the rest of the world. One option that could be considered would be to introduce a fully new category of commitments, specifically covering biofuel support, aimed at constraints on the burden placed on food consumers rather than the benefits to farmers.

3.1.4. Green Box rules

The core of the Green Box, and the justification for exempting respective policies from reduction commitments, is “the fundamental requirement that they have no, or at most minimal, trade distorting effects or effects on production” and the criterion that “the support in question should not have the effect of providing price support to producers.” An option is to reconsider the relationship between the fundamental requirement and the policy-specific criteria to be met by the individual categories of measures included in the Green Box, with a view to shifting the burden of effective definition towards sharpened policy-specific criteria.

The draft Modalities of 2008 contain a number of suggested refinements to policy-specific criteria, typically derived from experiences in implementing the Green Box since the Uruguay Round. One of the suggested changes that would appear to be quite important is that the basis of certain payments should be a “fixed and unchanging historical base period.” An option that could be considered would be to seek early agreement on such modifications, most of which would do no more than clarify the criteria for future policy pursuit without requiring changes in existing programmes.

Other elements suggested in the draft Modalities would provide somewhat broader scope for measures that are particularly relevant for certain groups of countries. An example is the proposed implementation of public stockholding for food security purposes in developing countries such that the acquisition of stocks provides support to low-income or resource-poor farmers. The holding of food stocks, if targeted at emergency situations and poor consumers, is certainly an important option for food security policies in developing countries, which is the reason why this element was included in the Green Box. Whether it is helpful for the rational pursuit of an overall set of well-designed policies to establish a direct link between this consumer-oriented policy and support for certain groups of producers is a different matter. The Decision on public stockholding programmes for food security purposes

taken at the WTO Bali Ministerial requires the design of appropriate rules for these policies.

At a different level, it would appear sensible to improve transparency, and help monitor policy development, by requiring that notifications provide more detail on the implementation of measures to be covered by the Green Box so that their potential trade impact can be more effectively assessed and their Green Box status can be challenged if necessary.

A more fundamental question is whether the Green Box criteria should be amended such that governments are more effectively guided in the direction of policies that can be genuinely considered to provide public goods and strengthen sustainable development. Views differ on whether incentives for “good policies” are well placed in rules for international trade, or whether the sole purpose of the multilateral trade regime is to minimize interference with the interests of other countries. It would appear highly desirable to clarify this fundamental issue and hence whether the primary aim of updating the Green Box rules should remain to clarify and sharpen the policy-specific criteria such that trade impacts are avoided as much as possible, or whether a broader approach should be developed that supports policies which aim to encourage sustainable development, environmental progress and responses to climate change. It will remain a challenge to find an acceptable balance between legitimate interests in pursuing policies that provide desirable public goods on the one hand, and the avoidance of trade impacts on the other.

Finally, it may actually be time to consider one significant departure from a fundamental element of the underlying philosophy behind the Green Box. The Green Box was created to leave space for certain benign policies, without quantitative constraints. The economic logic was that there are policies whose trade impact is so small that there is no need to be concerned about potential negative implications for trading partners. Two reasons may justify a reconsideration of that philosophy. First, research has shown that even the most apparently “decoupled” policies still tend to have some trade impact. Second, given the large sums that are spent on Green Box policies in some parts of the world, even a small trade impact per dollar may no longer be small if multiplied by a large number of dollars. With these two considerations in mind, the question is increasingly being asked as to whether constraints on the overall amount of support spent under the Green Box should be introduced in order to guard against excessive use of the policy space provided by the Green Box.

In considering that question, it would appear sensible to make a distinction between two rather different broad categories of policies covered by the Green Box. On the one hand, there are measures aimed at providing public goods, such as environmental improvement, mitigation of climate change, infrastructure upgrade or training and extension services. On the other hand, there are measures primarily aimed at providing income support to farmers. The rationale for including the provision of public goods in the Green Box, and hence for not constraining expenditure on such measures, is that governments need to have the opportunity

to do their job. Even though it cannot be completely excluded that some limited production and trade impacts may result from these policies, as discussed above, there would appear to be good reason to continue to exempt such measures from international expenditure discipline as long as they respect the relevant policy-specific criteria.

Farm income support, however, is a different matter. It may have a role to play as an ingredient of policy reform, where the impacts on income of cuts in other, more market and trade distorting measures are compensated through more decoupled forms of support. Ideally, such compensation should be time-limited, providing farmers with breathing space to adjust to a changed policy environment. It is hard to argue that specific farm income support (as opposed to general social protection regimes) should be provided on a permanent basis. Hence it may be useful to consider whether, at some point, a constraint should be introduced on that type of Green Box support.

It would not appear sensible to make any such constraint subject to demanding reduction commitments because that would eliminate the whole rationale underlying the Green Box. Indeed, it may be sufficient to make sure that spending on the programmes concerned cannot increase without limit. Some form of constraint on Green Box subsidies targeting farm income support may both allay concerns about further “box shifting” and improve the balance between countries that have either good or limited access to fiscal revenues.

3.1.5. Transparency provisions

The need to improve transparency in the area of agricultural trade policy has been widely recognized. The opportunity to make some constructive changes has led to the negotiation of revised provisions in the AoA as part of the Doha Round. As the eventual fate of the round is still in doubt, there is a case for taking up some of these issues as part of an early agreement.

The most immediate improvement to transparency would follow from the adoption of the proposals in Annex M of the Doha draft Modalities. Although negotiated as part of a package, there is no reason why it should not become a stand-alone agreement. The proposal does not involve changes in national regulations and would not seem to favour any country over others. It would merely replace the somewhat vague provisions in the current AoA with requirements that are more detailed. As foreseen in the draft Modalities, resources could be made available for developing countries that face difficulties in preparing notifications, with a potential side-benefit to those countries of having to describe policy measures in an agreed format.

A similar option that would require little in the way of formal negotiations would be to expand somewhat the amount of information included in the Trade Policy Reviews. This would appear preferable to initiating a separate review for agricultural policy as suggested by the G20 in 2007.

More radical would be the introduction of new incentives

for compliance with monitoring requirements and respect of deadlines. These could take the form of assumptions of ineligibility for benefits (such as excluding Green Box and Development Programmes from the aggregate measure of support) until eligibility has been affirmed. This would require more than a simple monitoring decision and it would change the legal interpretation of the obligations to notify. In effect, it would reverse the current assumption of “compliant unless successfully challenged.” It would also introduce the potentially useful concept that a specific “benefit” claimed by a member has to be backed up with evidence of eligibility.

3.1.6. Sanitary and phytosanitary matters

As tariffs applied in agricultural trade have declined in recent decades (see Section 2), non-tariff measures (NTMs) have gained in importance. In trade in agricultural and food products, sanitary and phytosanitary measures are the most prominent NTM. Their use is regulated through the SPS Agreement. The Doha mandate does not foresee negotiations to modify the SPS Agreement but requests work on implementation issues. There are indeed a number of such issues, including some that go beyond those considered explicitly in the Doha context, which could, if dealt with successfully, improve the functioning of the agreement.

Among these issues is a more effective notification system that would improve transparency through the provision of more detailed information on the measures notified. Also, when an import approval request is refused on SPS grounds, more timely and substantive responses to the request would help to find ways of overcoming difficulties.

One of the key aims of the SPS Agreement is greater harmonization of health and safety standards. A major improvement in this regard would be more ample use of international standards in national SPS regimes, as advocated by the SPS Agreement. So far, use of international standards is fairly limited, with substantial variations across countries, products and regulatory objectives. Developed countries have tended to use international standards less than developing countries. More comprehensive and accurate information on the extent to which individual countries have adopted international standards (and publication of that information) might pave the way towards greater use of international standards. This objective might also be served if countries, in their notifications of SPS measures to the WTO, would have to explain conclusively why they do not apply international standards when such is the case. More and better information on the relationship between standards applied by individual countries and existing international standards would facilitate the efforts of exporting countries, in particular developing countries, to meet SPS standards and thus gain access to markets in importing countries. More analysis of the extent to which the application of international standards affects trade flows would also be useful. Where international standards do not exist, as is the case for many products and SPS issues, the development of standards by respective international organizations is highly desirable. Because of capacity constraints, most developing

countries face particular difficulties in establishing effective SPS regimes. Assistance to build the capacity to implement international SPS standards, guidelines and recommendations is urgently needed—not only for trade-related issues, but also to improve the quality of domestically produced food in developing countries and to protect their productive capacity from pests and diseases. It would be desirable to support and strengthen the Standards and Trade Development Facility—a partnership that includes the FAO, the World Organisation for Animal Health, the World Bank, the World Health Organization and the WTO.

It would also be useful to clarify the relationship between private standards and public standards. In the WTO, the legal status of private standards remains vague and should be better defined. For national governments, there are issues regarding the priority to be given to public versus private standards, depending on the products and regulatory objectives involved.

3.2. Preparing WTO Rules for the Future

All general provisions of the WTO also apply to agricultural and food products (except where the AoA overrides them). This dichotomy is likely to continue for some time, as it will take a while to progress from the GATT's relatively loose treatment of agriculture to a full inclusion of agricultural and food products into the provisions for all other goods. The particular importance of agricultural products for livelihoods in developing countries, and of food as a basic necessity for all, mean that there will probably always be some specific provisions for food and agriculture in the WTO framework—even if eventually a separate AoA may no longer be needed.

At the same time, some of the general rules that apply with equal force to agriculture are of particular significance to the sector and may require specific attention when preparing for the new challenges. In that context, this paper will consider one set of issues: matters relating to climate change and the environment.⁴

3.2.1. The WTO and policies addressing climate change and the environment

Growing concerns about climate change and the environment have led many governments to design policies that lead farmers, and sometimes also consumers, in the direction of engaging in practices that are more environmentally friendly while also developing approaches that make agricultural production more resilient to the impacts of climate change. Where subsidies are involved, they are governed by the respective rules in the AoA, in particular those in the Green Box (as discussed above). Where these policies come in the form of domestic taxes and regulations, they are, as such, unlikely to cause tensions in the trading system since they do not impose a burden on foreign producers. However, it is probable that there will be

a growing tendency to underpin restrictive domestic policies (e.g. taxes, regulations) through measures that operate at the border. As far as climate-related policies are concerned, the inclination to complement restrictive domestic measures by trade-related instruments is primarily motivated by fears of “carbon leakage” (i.e. production shifts to countries where GHG emission standards are less demanding). In policies addressing the environment or animal welfare, equivalent concerns occur. Where policies operating at the border come into play, general WTO rules are relevant.

Political pressure to complement restrictive domestic measures by border policies tend to be particularly pronounced in the agricultural sector, above all in developed countries. Through a long history of protective agricultural policies, farmers are often used to being supported. Once restrictive measures are imposed on them, such as taxes or requirements to engage in practices that are friendly to the environment or animals, they complain about the negative impact on their international competitiveness. Pointing to the “carbon leakage” phenomenon is an argument readily used to argue for keeping non-complying products out of the domestic market—and the argument carries some weight as it is fundamentally to the point.

Two categories of policy measures applied at the border are particularly relevant in this context. Border tax adjustments can be considered to offset a cost disadvantage of domestic production resulting from measures relating to climate change or the environment. Alternatively, standards imposed on domestic producers for such purposes could be extended to imported products. In both cases, current WTO rules (and their interpretation in dispute cases) leave sufficient ambiguity to make it difficult to design appropriate policy measures that are safe from legal challenge. Border tax adjustments are consistent with WTO rules. But their implementation can cause problems and could be challenged on the basis of a violation of the non-discrimination principle of the GATT—both relative to domestic producers and regarding equal treatment of foreign suppliers. In both instances, the legal issue of “like” products can cause headaches. When it comes to climate and environmental policies, the object of relevance is typically not the characteristic of the traded product but the nature of emissions during its production. This raises the issue of whether differential treatment based on processes and production methods (PPMs) is permitted, and, if so, under what conditions. Difficult empirical matters may also be involved in estimating cost differences. Moreover, where the domestic measure is a regulation rather than a tax, it is not necessarily clear whether provisions for border tax adjustment are applicable at all.

The application of domestic standards related to

⁴ The E15 Expert Group on Measures to Address Climate Change and the Trade System has discussed these issues in detail and their policy options paper can be referred to. This paper offers a few brief observations from the specific perspective of food and agriculture.

environmental protection and climate change raises similar issues. It also brings into play the exceptions of GATT Article XX, which may allow the application of otherwise not permissible border measures under certain conditions. The article has been cited in a number of disputes on environmental policies. This GATT provision could potentially also underpin the introduction of border tax adjustments. Yet another issue results if cap-and-trade regimes were to be applied broadly in agriculture. Is the free allocation of emission permits to domestic producers a subsidy? Does it depend on the generosity of the allocation?

In short, the growing importance attributed to agricultural policies related to climate change and environmental protection makes it desirable to clarify the conditions under which the WTO permits the use of border measures designed to prevent trade from undermining the effectiveness (and political acceptability) of domestic policies in this domain—i.e. to avoid “carbon leakage” and equivalent impacts.

3.3. International Cooperation to Improve Food Security

Trade is a powerful engine to improve food security. In a direct way, it serves to supply deficit countries with their food requirements. As developing countries on aggregate exhibit growing demand for food imports, they will have a strong interest in making sure that food trade can flow freely to them. Trade can also improve food security in an indirect way by promoting economic growth, job creation and rising incomes to reduce poverty. However, in addition to fostering a well functioning and fair trade regime, the international community can engage in other activities that can improve food security. Some are considered in this section.

3.3.1. Creating more market transparency

Global food security is under serious strain when the tide of market developments suddenly turns, prices explode, and importing countries face unexpected difficulties obtaining access to supplies. Market transparency, by allowing governments and private agents to prepare for changing market conditions, can greatly help to avoid such situations. Following the experience with recent food price spikes, the international community is engaged in efforts to improve information on market developments. As initiated by the G20 Agricultural Ministerial in 2011, a new international AMIS for major food crops has been created. Housed in the FAO headquarters in Rome, it is supported by a number of international organizations. This is a highly welcome development that deserves full support.

The effective functioning of AMIS depends critically on the willingness and capacity of all nations to supply the system with comprehensive, timely and accurate data. Of particular importance are data on stockholding, both public and private. Statistics on stockholding are notoriously deficient in many countries or are not made available publicly. Governments must get their act together and provide this crucial data, including information on stock levels on farms and in commercial enterprises. The private sector needs

to understand that it has a serious responsibility to provide adequate data. A firm commitment by as many countries as possible to cooperate closely with AMIS and provide full access to data could make an important contribution to strengthening global food security through improved transparency. The Rapid Response Forum, consisting of senior officials from countries participating in AMIS, provides the opportunity to exchange information on critical market developments and discuss appropriate policy responses.

3.3.2. Support for emergency reserves

Attempts at taming volatility on global food markets through internationally agreed buffer stocks or similar arrangements have failed miserably in the past. Large-scale national stock policies are equally ineffective in dampening price fluctuations on domestic markets and their cost-benefit ratio is highly questionable. Targeted humanitarian emergency stocks of food, however, are a different matter. Their purpose—implicit in the term “emergency”—is not to achieve greater price stability on markets but to guard against a breakdown of physical supplies and the resulting serious threat to food security. Supplies can break down physically for a number of reasons, including warfare, natural catastrophes, interruption of transport channels, or export bans imposed by traditional suppliers. In situations of this sort, economic hedges such as futures contracts do not help. The only effective remedy to guard against a breakdown of physical supplies is stockholding, preferably not too distant from where the food is needed.

The size of these emergency stocks can be limited as alternative sources of supply can typically be mustered after a while. In addition, not all of the population in the region concerned has to be catered for, as some pipeline supplies will normally still be available—although they will tend to enter the market only at rapidly surging prices. It is the poor who greatly suffer in such a situation and they should be the target population for emergency reserves. Depending on conditions in the territory concerned, emergency stocks may be most effective either at the national or regional level.

Designing, setting up and maintaining emergency reserves is costly. Also, systems must be created and implemented to distribute food from the reserve promptly, efficiently, and in a fair manner. None of this is cheap. The international community can help improve food security in times of crisis by supporting the establishment of emergency humanitarian food reserves.

3.3.3. International support for social safety nets

Risk management has always been an important issue for farmers, particularly in times when agricultural commodities are in ample supply and prices are depressed. As food markets show perceptible signs of scarcity, risk management for consumers must be given more attention. For high-income families this is not a grave issue as food expenditure is only a fraction of their overall budget. However, the livelihood of poor families, who can spend 70% or more of their income on food, is seriously threatened when food prices suddenly explode. Managing that risk should be considered one of the most important elements of any strategy to improve global food security.

Social safety nets are an effective approach to managing risks for vulnerable people, including the risk of rocketing food prices. They serve to make purchasing power available to those in need. Several variants in design have been applied or tested and overall experiences are positive. It is a difficult, yet manageable, task to develop an appropriate mechanism that achieves careful targeting of the needy, avoids distortions in incentives, and secures effective implementation. The practical experiences gained in various parts of the world provide useful guidance. Where the focus is on managing the risks of food insecurity, several alternative approaches can be considered. A system of global food stamps is a policy worthy of particular attention.

Establishing and financing social safety nets, including the institutional and physical infrastructure required for their successful operation, is a demanding task for developing country governments. Moreover, funding the operation of a safety net over a potentially extended period during which protection against exploding food prices is needed may well be beyond a government's capacity. International assistance in both the design and funding of social safety nets can make a helpful contribution to improving food security.

3.3.4. Financial solidarity

In response to the traumatic experiences of recent years, the international community has resolved to intensify efforts to improve food security in poor countries. Several avenues for progress in this direction are being explored and some are already in the process of being implemented, including elements discussed in this paper. A number of countries have pledged to make financial contributions to underpin these measures. Indeed, implementing projects such as emergency reserves or social safety nets requires substantial

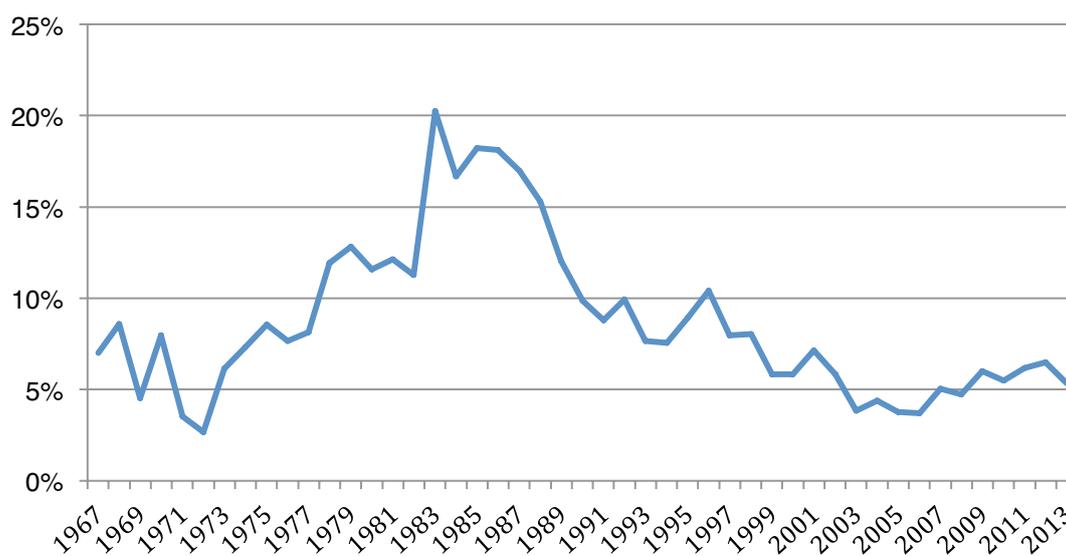
financial investments, as does support to overcome rural poverty through strengthened agricultural development, in particular among smallholders. Mitigation and adaptation to climate change requires additional resources that many developing countries will find difficult to muster. What is now needed is a framework that sustainability secures these efforts.

Past experiences—when a somewhat similar situation of high food prices on international markets in the early 1970s caused grave concerns regarding world food security—must not be repeated (see Figure 1). At that time, all manner of initiatives were launched and large funds for development assistance targeted at agriculture were made available.

The share of agriculture (and forestry and fisheries) in total official development assistance (ODA), which hitherto had been in the order of magnitude of 7%, reached a peak of around 20% in the early 1980s. However, when the situation in world food markets subsequently calmed down, the international community moved on to other issues and the share of agriculture in ODA declined to less than 5% in the early 2000s and only marginally above 5% more recently (see Figure 3). It would be a tragedy if the current resolve to do more for agriculture and food security in poor countries were again to fade away.

It is also advisable to ensure that funds made available in response to recent experiences are additional to development assistance already planned. There is a tendency to engage in multiple earmarking for a given financial flow. Thus it would be desirable to create a new financial instrument that is clearly separate from other forms of development assistance and that is related to the trade issues discussed in this paper.

Figure 3: Share of Assistance to Agriculture, Forestry and Fisheries in Total ODA



Source: OECD-(2015)

One option that could possibly achieve this goal might be the creation of an instrument that would be an expression of financial solidarity; establishing a relationship between what governments in rich countries do for their farmers and assistance to agriculture and food security in poor countries. This instrument would come in the form of an agreement in which all developed and emerging countries provide a given amount of financial support for measures aimed at improving food security and fostering agricultural development in low-income countries in particular need of support. The agreement would have three major elements: (i) allocation of the financial contributions to donor countries; (ii) definition of the group of recipient countries; and (iii) choice of a mechanism through which funds are disbursed.

(i) In order to express solidarity with what is done for farmers in the donor countries, financial contributions would be allocated in proportion to the magnitude of their domestic support to agriculture. An appropriate indicator would be the level of overall trade distorting domestic support (OTDS) currently provided.⁵

The percentage of OTDS to be contributed to the new instrument would have to be agreed in negotiations. At present, total ODA to agriculture is in the order of magnitude of US\$10 billion. OTDS currently provided to agriculture in all developed and emerging countries is probably in the order of magnitude of US\$200 billion. Contributions of 1% of OTDS in each donor country could thus provide new funds for support to agriculture and food security in target countries that would enable an expansion of ODA to agriculture by around one-fifth.

(ii) Recipients in particular need are countries with low levels of income that have difficulties with providing their poverty-stricken population with sufficient food, and hence where food insecurity is prevalent. A list of such countries would have to be established in the course of the negotiations based on agreed quantifiable criteria.

(iii) As the WTO is not geared to implement development projects, a different institution would have to be chosen to disburse the funds under this solidarity instrument based on relevant experience and track record. Projects to be financed could be identified in accordance with a set of guidelines to be agreed in the context of establishing this new instrument. Measures that contribute to improving food security should receive priority attention.

This type of instrument of financial solidarity with countries in need of improving issues related to food security would be an innovative approach to the problem. It would constitute a direct response to one of the biggest challenges to have emerged in the world's food and agricultural sector in recent years.

3.4. Fostering Agricultural Productivity

Fostering higher agricultural productivity, specifically in least developed countries, is a particularly promising approach to advance living conditions in rural areas, reduce poverty and improve food security. At the same time, it is the most adequate response to the shift from demand- to supply-constrained circumstances in global agriculture as well as concerns regarding the world's capacity to feed a growing population. If truly focused on strengthening productivity (rather than artificially supporting output expansion) it is also a way to improve global food security without generating trade distortions. A top priority for the international community should thus be to increase investment in agricultural innovation systems (AIS), with a particular focus on developing countries and especially smallholder agriculture in least developed countries.

More can and should be done to strengthen international, regional and national systems of research and development (R&D) in agriculture as well as extension services, farmer education and training activities. Greater emphasis should be placed on developing technologies well-adapted to local conditions, including so-called orphan crops that have received insufficient attention in both public and private R&D. Governments in developed and developing countries should encourage private investment in research and technology development, including through targeted financial incentives, well designed public-private partnerships, and innovative financing mechanisms for venture capital.

Developed and developing country governments as well as international organizations should be encouraged to provide reliable financial support to research and innovation, in particular where the private sector is not sufficiently active. Cross-border technology transfer can be enhanced to address transnational issues, which include trans-boundary diseases, climate change and water scarcity. The system of the Consultative Group on International Agricultural Research (CGIAR), with its manifold research centres, has examined and revised its approach recently. It has great potential to engage in R&D in partnership with national and regional research systems.

Well-functioning input markets, including for yield-enhancing inputs such as fertilizers, are an important requirement for farmers to gain access to improved production technologies. Subsidies for such inputs may, as a temporary measure, facilitate the adoption of farming systems that boost productivity. However, if used on a longer-term basis they are likely to lead to distortions and over-intensification with negative environmental implications. It is therefore important to place the focus on the removal of barriers to the adoption of productivity-enhancing technologies, rather than on the use of input subsidies by developing countries. Secure rights over key production resources, in particular land and water, are a prerequisite for effective incentives to engage in productivity improvement.

⁵ In the Doha negotiations on agriculture, use of the concept of OTDS is being considered as an element of domestic support commitments, as reflected in the Draft Modalities of December 2008. OTDS would comprise all domestic support outside the Green Box (and exempt support for agricultural and rural development in developing countries as defined in AoA Art. 6.2). OTDS commitments would become applicable only once the Doha negotiations are concluded but there is no reason for the concept not to be used as a statistical yardstick before the end of the Doha Round.

4. Conclusions: Priorities and Next Steps

The present document has originated from discussions among members of an expert group brought together under the E15 Initiative. The main purpose of the work programme was to suggest policy options that respond to new challenges in the area of food and agriculture that were not yet prominent in the minds of negotiators when the Doha Round was launched in 2001. The intention is neither to interfere with the ongoing negotiations nor to suggest modifications of the Doha mandate. The idea is rather to consider options that may be helpful in responding to new challenges that have become increasingly relevant in the past decade, with an emphasis on policies targeting trade as well as equitable and sustainable development.

4.1. Priorities

Priorities for policy orientation are shaped by the most pressing challenges of the time. The changing conditions in agricultural markets since the turn of the century have brought to the fore the need to focus more on food security. Hunger and malnutrition are by no means a new phenomenon and have long been a top priority for the international community. Yet the specific food security problems resulting from conditions on international markets for agricultural products have come sharply into focus as a result of the dramatic price peaks experienced in recent years. The international community is now paying renewed attention to the issues surrounding food security—rightly so given the overwhelming importance of mitigating the human suffering caused by a lack of sufficient and reliable access to food. Against this background, placing a priority focus on food security is a must for the international community. At the same time, it can demonstrate what international trade, and the regime governing it, can constructively do for developing countries.

Closely related to that top priority is the emphasis that must be placed on agricultural development in developing and emerging countries. Fostering agricultural development on a sustainable basis, with a particular focus on smallholders in least developed countries, has the double benefit of helping to reduce poverty (with its core prevalence in rural areas) while at the same time contributing to raising global food supplies.

While focusing on these priorities, there is no need to downplay the importance of improving efficiency through making the best and most sustainable use of the planet's resources. A strategy of working towards well-functioning markets, reducing trade barriers and minimizing policy-induced distortions, as well as those resulting from non-competitive behaviour by private operators, can contribute

to improving food security and fostering agricultural development. Functioning international markets help to make food available at the lowest conceivable cost and point towards the most effective use of comparative advantages in each country's agriculture. This is not to say that government policies do not have an important role to play. Markets and trade can only perform their decisive roles if framework conditions are set appropriately and if urgently needed public goods are made available.

4.2. Timescale

The policy options discussed in this document have been formulated with these priorities in mind. They are presented here in three sets along a timeline—i.e. short-term, medium-term and long-term. Allocation of the policy options to these three time horizons is based on two criteria: the urgency of the subject matter; and the anticipated time needed to consider and find agreement on the respective policy options.

4.2.1. Options for the short term

Primary candidates for an early agreement are provisions that fill the following criteria: governments consider them to be urgent; they have already been identified as helpful steps forward in international fora; they do not affect the balance of rights and obligations across WTO members; and they do not prejudge important elements of the final package of the Doha Round arrangements. Reaching consensus on what to include in an early agreement should be easier the less any modification of existing policies is required. On that basis, some of the options suggested in this document qualify for agreement in the short term.

A direct response to the challenge of improving world food security would be a resolve to establish a new instrument of financial solidarity that establishes a relationship between support to agriculture in developed and emerging countries and assistance to developing countries in urgent need of enhancing food security. Early agreement to work towards an approach of this nature would help to create an atmosphere that facilitates talks on other elements of the global regime for food and agriculture. Serious efforts to find agreement on the desirability of designing such an approach should therefore be considered a top priority.

The urgent aim of improving food security in times of higher and volatile prices on international markets for agricultural products would be served if greater transparency regarding export taxes and restrictions (as well as other trade measures that contributed to the price spike) could

be achieved. The suggestions contained in the draft Modalities of December 2008, calling, among others, for notification within 90 days of the application of an export restriction, including the reasons for such measures and periodic reporting to the Committee on Agriculture of the status of the restrictions, should become an element of an early agreement. This recommendation would not impose changes in existing policies but would help importing countries prepare for a situation of tightening markets. The same can be said for establishing a procedure that would serve to identify whether an exporting country is actually in a situation where it has reason to adopt an export restriction in order “to prevent or relieve critical shortages of foodstuffs” (GATT Art. XI).

Somewhat more demanding would be an agreement to exclude from any restrictions shipments destined to serve as food aid to countries in an emergency. However, the importance of such an agreement for improved food security is so overwhelmingly obvious that it is worth an attempt at finding agreement in the short term. If multilateral agreement on that option cannot be found, it could become an option for a plurilateral arrangement of the “willing” open to future accession by other countries.

Given the close relationship between food security and the use of agricultural commodities for the production of biofuels, it would also be desirable to create as soon as possible more transparency regarding the types and levels of government support to biofuels. Notification to the WTO, either under the ASCM or the AoA, would again not require any changes in existing policies but help gain a better understanding of their nature and of their potential impact on food markets. Agreement on effective notification procedures is another candidate for an early agreement.

More generally, improving the transparency of existing policies is a benign approach that helps governments respond constructively to current developments without any need to alter existing policies and without changing the balance of rights and obligations across countries. Another candidate for early agreement is thus the adoption of the suggestions for improved monitoring and surveillance contained in Annex M of the draft Modalities of December 2008 (proposing revisions of Article 18 of the AoA). In that context, and as foreseen in Annex M, it could be agreed to make additional resources available for those developing countries that have difficulties preparing the required notifications. In the same context, it could be agreed to expand somewhat the information on agricultural policies in the Trade Policy Reviews.

Overall, providing more resources to assist developing countries in implementing provisions of existing arrangements would be a positive element of an early agreement. Another concrete measure along those lines is to help developing countries overcome any capacity constraints they face in establishing effective SPS regimes. In particular, assistance to build the capacity to implement international SPS standards, guidelines, and recommendations is a desirable route towards better market integration, here again without interfering with the existing balance of rights and obligations. Resolve to increase

support to the Standards and Trade Development Facility is a conceivable element of an early agreement.

4.2.2. Options for the medium term

In the medium-term, policy options can be considered that require more preparation in both conceptual and negotiating terms. That does not mean that discussion on these options cannot begin right away. However, as these options do not fill all the criteria outlined above to become part of an early agreement, it may be the case that developing these options may require more time.

Policy options of that nature include the binding of export taxes as a high priority; clarification and amendment of Green Box rules (including those relating to smallholders in least developed countries); and improved transparency regarding SPS measures.

4.2.3. Options for the long term

While the Doha negotiations continue, thought can already be given to issues that have become increasingly relevant for trade rules under the WTO since the original mandate for the Doha negotiations was agreed. These policy options could become subjects of a new work programme and have been allocated here to a longer time horizon.

Among the options discussed in section 3, this work programme should consider introducing new incentives for compliance with monitoring requirements and respect of deadlines such as ineligibility for benefits (e.g. exclusion of Green Box and Development Programmes from constraints on domestic support) until eligibility has been affirmed; introduction, with high priority, of disciplines on support for biofuels; and clarification of the conditions under which the WTO permits border measures designed to prevent carbon leakage and equivalent impacts.

Some of the options considered in this document go beyond trade matters as traditionally dealt with in the WTO and they might be better dealt with in other international fora. This is particularly the case for a number of measures aiming at greater food security such as: improved market transparency; support for emergency reserves; and assistance for strengthened social safety nets. It also applies to the various measures that can foster agricultural productivity. The agricultural component of the G20 is working on these and related issues supported by the relevant international organizations, including the WTO. It is important that consensus found in the G20 framework feed directly into these international organizations, which, based on their mandate and operational capacities, can transform desirable policy options into concrete action.

4.3. Process

In response to the extraordinary developments in the world's food and agriculture economy over the last ten years or so, the international community has begun to pay more attention to food security and agricultural issues in developing countries. Action is being considered, and to some extent already implemented, in various fora. However,

in the international trade arena immediate response has been complicated by the ongoing negotiations under the Doha agenda. In the interest of a thriving trade regime and of well-functioning markets for food and agricultural products, these negotiations should continue and reach a fruitful conclusion as soon as possible. Placing an explicit focus on food security can help to demonstrate that the international trade regime is sensitive to the needs and interests of the poorest countries. It is therefore desirable to reflect on ways in which policy options such as those suggested in this report can be considered without retarding in any way the Doha negotiations.

In line with the Bali Ministerial Declaration and subsequent decisions of the WTO General Council, WTO members are currently seeking agreement on a work programme on the remaining Doha Development Agenda issues. That programme could possibly include work on policy options such as those discussed in this paper, including work towards a new instrument of financial solidarity. Should deliberations under a work programme of this nature result in agreement on any given item before the Doha Round is concluded, that item should, if appropriate, be implemented right away. Alternatively, it could be put on the shelf for later inclusion in a Doha agreement. Some elements suggested in this report will require more time to design and negotiate and may reach maturity only after the Doha round is concluded. This could especially be the case for items earmarked as policy options for the long-term.

Finding agreement on a work programme of this nature would send a positive signal. It would indicate that the international trade regime has the capacity to respond to acute challenges without diminishing efforts to come to grips with ongoing negotiations. The new developments in food security and agriculture that have occurred since the beginning of the 21st century are worth a serious attempt to move beyond business as usual.

References and E15 Papers

Brink, Lars. 2011. "The WTO Disciplines on Domestic Support." In *WTO Disciplines on Agricultural Support – Seeking a Fair Basis for Trade*, edited by David Orden, David Blandford and Timothy Josling. Cambridge: Cambridge University Press.

de Gorter, Harry, Dusan Drabik, and David R. Just. 2015. *The Economics of Biofuel Policies: Impacts on Price Volatility on Grain and Oilseeds Markets*. New York: Palgrave Macmillan.

OECD. 2013. *PSE/CSE Database*. Paris: OECD.

OECD. 2015. *OECD StatExtracts*. <http://stats.oecd.org/Index.aspx?DataSetCode=TABLE5>

OECD-FAO. 2014. *Agricultural Outlook 2014-2023*. Paris: OECD.

Overview Paper and Think Pieces E15 Expert Group on Agriculture, Trade and Food Security Challenges

Blandford, David. 2013. *International Trade Disciplines and Policy Measures to Address Climate Change Mitigation and Adaptation in Agriculture*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Bureau, Jean-Christophe, and Sébastien Jean. 2013. *Do Yesterday's Disciplines Fit Today's Farm Trade? Challenges and Policy Options for the Bali Ministerial Conference*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Chatterjee, Bipul, and Sophia Murphy. 2013. *Trade and Food Security*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Diaz Bonilla, Eugenio. 2013. *Agricultural Trade and Food Security: Summary of Issues*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Haeberli, Christian. 2013. *Three "Bali Deliverables" from the Food Security Tool Box*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Josling, Timothy. 2013. *Transparency, Monitoring and Surveillance: Policy Options for the Multilateral Trade System*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

Meyer, Seth, and Josef Schmidhuber. 2014. *Has the Treadmill Changed Direction? WTO Negotiations in the Light of a New Global Agricultural Market Environment*. E15Initiative. Geneva: International Centre for Trade and Sustainable Development (ICTSD) and World Economic Forum.

The papers commissioned for the E15 Expert Group on Agriculture, Trade and Food Security can be accessed at <http://e15initiative.org/publications/>.

Annex 1: Summary Table of Main Policy Options

Policy Option	Timescale	Current Status	Gap	Steps	Parties involved
Adapting the WTO Agreement on Agriculture and the SPS Agreement					
1. Transparency regarding export taxes and restrictions.	Short Term	AoA Art12. calls for consultation and advance notice (only developed countries and developing exporters)	Export taxes and restrictions often not notified or notifications delayed, no prior notice or consultations	Build trust among WTO members and raise awareness of mutual advantages to be gained through increased transparency	WTO members
2. Procedure to identify whether an export restriction is needed for domestic food security reasons.	Short Term	GATT Art XI:2(a) allows export prohibitions or restrictions "to prevent or relieve critical shortages of foodstuffs"	No such procedure established, requirement not enforced in practice	Build trust among WTO members and raise awareness of mutual advantages to be gained through increased transparency	WTO members
3. Exclude from export restrictions shipments destined to serve as food aid in an emergency	Short Term	G20 leaders agreed declaration 2011	Not adopted at WTO	Revisit issue, building on current broader interest in trade and food security at WTO	WTO members
4. Binding of export taxes.	Medium Term	Not bound	Many exporting countries want to see market access barriers addressed first	First adopt short-term policy options such as improved transparency on export taxes + restrictions; address as broader discussion on balance of commitments undertaken by exporters, importers	WTO members
5. Transparency regarding government support to biofuels.	Short Term	Ethanol and biodiesel support notified separately at WTO (or not at all)	Detailed information on biofuels support unavailable	Build on current concerns about improving data and transparency on farm support at WTO	WTO members
6. Disciplines on support for biofuels.	Long Term	Support for biofuels is subject in principle to AoA and ASCM requirements	No biofuels-specific domestic support commitments	Negotiate specific disciplines limiting the extent to which biofuels can benefit from trade-distorting support	WTO members

Policy Option	Timescale	Current Status	Gap	Steps	Parties involved
7. Clarification and amendment of Green Box rules.	Medium Term	Payments for “public goods” currently treated the same as other types of Green Box subsidies	Different treatment for “public goods” payments such as general services payments and environmental payments, relative to e.g. income support payments	Address as part of broader negotiation over reformed farm subsidy disciplines, possibly as part of future “built-in agenda”	WTO members
8. Adoption of suggestions for improved monitoring and surveillance in Annex M of the draft Modalities.	Short Term	Annex M tabled 2008 in Rev.4	Members currently disagree over status of Rev.4	Seek agreement on “early harvest” of Annex M / incorporation into eventual deal	WTO members
9. Incentives for compliance with monitoring requirements and respect of deadlines.	Long Term	AoA Art.18 sets out requirements for the review process, including notifications	No or minimal sanctions or incentives for timely compliance with monitoring and reporting requirements	Members could explore this policy option as part of a broader discussion on transparency and monitoring at the WTO	WTO members, WTO Committee on Agriculture, WTO Secretariat
10. Increase support to the Standards and Trade Development Facility.	Short Term	Developing countries face constraints in establishing effective SPS regimes	Ensuring developing countries can build capacity to implement SPS standards + guidelines could help producers integrate effectively into regional and global markets	Governments agree to increase support to the Standards and Trade Development Facility as an “early harvest” on trade	WTO members

Preparing WTO Rules for the Future

11. Clarification regarding border measures to prevent carbon leakage.	Long Term	No clarity at present over how such measures would be treated under WTO law	Risk that dispute settlement process substitutes for agreed solution in absence of informed debate, negotiation	Build trust and awareness of mutual benefits of agreed solution through debate in margins of Committee on Trade and Environment	WTO members, WTO CTE, UNFCCC
---	-----------	---	---	---	------------------------------

International Cooperation to Improve Food Security

12. Improved market transparency.	Long Term	Agricultural Market Information System (AMIS) aims to promote increased market transparency among G20 countries	More and better data needed for AMIS to function properly	Build trust among G20 countries, raise awareness of mutual advantages to be gained through increased transparency	G20, AMIS, private farms and commercial enterprises
--	-----------	---	---	---	---

Policy Option	Timescale	Current Status	Gap	Steps	Parties involved
13.Support for emergency reserves.	Long Term	Existence and effectiveness of emergency reserves varies across countries and regions	World Food Programme supported development of pilot project in West Africa; also ASEAN collaboration on rice reserves	G20 action to build on experience with pilot projects etc. since 07-11 food price spikes	WFP, G20
14.Assistance for strengthened social safety nets.	Long Term	Existence and effectiveness of social safety nets varies across countries and regions	ILO work on social protection floor, but no global framework to support strengthened social safety nets exists	A "global food stamp scheme" could support purchasing power of poor consumers and establish a framework to support strengthened social safety nets without distorting trade	ILO, World Bank, WFP, UNDP
15.Establish a new instrument of financial solidarity.	Short Term	No such instrument currently exists	Agricultural productivity currently financed through CGIAR system, and work of IFAD, FAO, plus bilateral donor support: no link to trade-distorting support levels	G20 countries could provide political impetus in support of this initiative, with follow up through WTO and other relevant agencies	WTO members, G20, CGIAR, IFAD, FAO
Fostering Agricultural Productivity					
16.Increase investments in agricultural innovation systems.	Long Term	Investments in agricultural innovation systems funded publically through CGIAR system, universities etc. and privately (R&D spending)	New financial solidarity instrument or other innovative financing mechanisms could establish more secure financial basis for investment in agricultural innovation systems	G20 countries could provide political impetus in support of this initiative, with follow up through WTO and other relevant agencies	WTO members, G20, CGIAR, IFAD, FAO
17.Removal of barriers to the adoption of productivity enhancing technologies.	Long Term	Security of rights over key production resources (land, water etc.) vary across countries and regions	In many countries rights over key production resources are not secure, meaning agricultural productivity is affected	Governments develop adequate systems to safeguard rights over productive resources, especially for small farmers and vulnerable rural communities	National governments

Annex 2: Members of the E15 Expert Group

Stefan TANGERMANN – Theme Leader
Professor Emeritus, University of Göttingen

Manzoor AHMAD – Convener
Senior Fellow, International Centre for Trade and Sustainable Development (ICTSD)

Ellen TERPSTRA – Co-Convener
President and Chief Executive Officer, International Food & Agricultural Trade Policy Council (IPC)

Ken ASH
Director of the Trade and Agriculture Directorate,
Organisation for Economic Co-operation and Development (OECD)

Lara BIRKES
Government Relations, World Business Council for Sustainable Development (WBCSD)

David BLANDFORD
Professor of Agricultural and Environmental Economics,
Pennsylvania State University

Bipul CHATTERJEE
Deputy Executive Director & Head, Consumer Unity & Trust Society (CUTS)

Pedro DE CAMARGO NETO
Agricultural Trade and Policy Consultant

Eugenio DIAZ-BONILLA
Visiting Senior Research Fellow, International Food Policy Research Institute (IFPRI)

Sean DOHERTY
Director, International Trade & Investment, World Economic Forum

Christian HAEBERLI
Senior Research Fellow, World Trade Institute (WTI)

Nicolas IMBODEN
Partner & Co-Founder, IDEAS Centre

Sébastien JEAN
Director, Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)

Timothy JOSLING
Professor Emeritus, Stanford University

Willem-Jan LAAN
Director of Global External Affairs, Unilever

Stephen MBITHI MWIKYA
Chief Executive Officer, Fresh Producers Exporters Association of Kenya (FPEAK)

Seth MEYER
Senior Economist, United States Department of Agriculture (USDA)

Raul MONTEMAYOR
National Business Manager, Federation of Free Farmers Cooperatives (FFFC)

Sophia MURPHY
Senior Advisor, Institute for Agricultural Trade Policy (IATP)

Hongxing NI
Director General, Agricultural Trade Promotion Centre,
Ministry of Agriculture, China

Herbert OBERHAENSLI
Vice President of Economics and International Relations,
Nestlé

Carlos PÉREZ DEL CASTILLO
Chair of the Consortium Board, CGIAR Centres

Jonathan HEPBURN – Group Manager
Programme Manager, International Centre for Trade and Sustainable Development (ICTSD)

The experts all participated in their personal capacity. The views and recommendations expressed in the policy options paper are not attributable to any institution with which members of the E15 Expert Group are associated.



International Centre for Trade and Sustainable Development

The International Centre for Trade and Sustainable Development (ICTSD) is an independent think-and-do-tank, engaged in the provision of information, research and analysis, and policy and multistakeholder dialogue, as a not-for-profit organisation based in Geneva, Switzerland.

Established in 1996, ICTSD's mission is to ensure that trade and investment policy and frameworks advance sustainable development in the global economy.



COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum – committed to improving the state of the world – is the International Organization for Public-Private Cooperation.

The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.



International Centre for Trade
and Sustainable Development
International Environment
House 2
Chemin de Balexert 7-9
1219 Châtelaine
Geneva
Switzerland

Phone: +41 22 917 84 92
Fax: +41 22 917 80 93
Email: info@ictsd.ch

www.ictsd.org

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org