



Department  
for Business  
Innovation & Skills

## Can trade improve food security?

Trade and Investment  
Analytical Papers  
Topic 9 of 18

JANUARY 2013



Department  
for International  
Development

# Contents

<b>CONTENTS</b>	<b>2</b>	
<b>INTRODUCTION</b>	<b>3</b>	
<b>SECTION 1. WHY IS FOOD SECURITY IMPORTANT?</b>	<b>3</b>	
a. the current situation	3	
b. defining food security	4	
c. future trends for food security	5	
<b>SECTION 2: HOW CAN TRADE HELP WITH FOOD SECURITY?</b>	<b>6</b>	
a. trade will increase incomes	6	
b. trade will increase the physical availability of food at a global and local level	7	
c. trade will have an impact on prices	8	
<b>SECTION 3: HOW CAN GOVERNMENTS ENSURE TRADE WORKS FOR FOOD SECURITY?</b>	<b>11</b>	
a. supporting trade reforms	11	
b. supporting complementary policies to trade	12	
<b>CONCLUSION</b>	<b>15</b>	
<b>TRADE AND INVESTMENT ANALYTICAL PAPERS</b>	<b>16</b>	
<b>Figures and Tables</b>		
Figure 1	Food price rises, 2000-2012	5
Figure 2	Global market in staple grains	9
Box 1	Providing a stable policy environment	14

# Can Trade Improve Food Security?

## Introduction

This paper is number 9 of 18 analytical papers written to support the conclusions of the Government's 2011 Trade and Investment White Paper.<sup>1</sup> These papers allow some topics to be discussed at greater depth than was possible in the White Paper. The Trade and Investment White Paper's position on food security is that:

*'Effective trade linkages can help to secure stable food supplies, enabling imports to meet shortfalls in local production and can mitigate price volatility through better functioning markets'.*

This note will explore firstly why food security matters, secondly how trade can contribute to food security, and thirdly how governments can help trade achieve its potential to increase food security.

It concludes that both domestic and international trade's greatest contribution to food security is by helping to raise incomes, thereby increasing the ability of households to purchase food. Trade also helps by balancing supply and demand, encouraging greater productivity, and by stabilising prices, particularly when trade barriers do not distort markets. However trade policy is just one tool of many to help increase food security.

## Section 1. Why is food security important?

### ***a. the current situation***

There are currently an estimated 870 million people without enough food to eat, of which 300 million are in South Asia and 235 million in Sub-Saharan Africa (SSA).<sup>2</sup>

Food and nutritional insecurity can have devastating consequences; if a child does not receive adequate nourishment in the womb and until the age of two, the mental and physical consequences will be irreversible. The effects can even be passed on to their own children. Malnourishment can result in low energy levels reducing the ability to learn, work and fight off diseases.<sup>3</sup>

---

<sup>1</sup> <http://www.bis.gov.uk/policies/trade-policy-unit/trade-white-paper> Trade and Investment for Growth, 2011. BIS

<sup>2</sup> FAO: 2012 State of Food Insecurity in the World.

<sup>3</sup> As well as the diversion of income from schooling or health investments, or the selling of assets, to purchase food

Hunger and under-nutrition are closely linked with poverty. The world currently produces enough food for everyone, but not everyone can afford to buy it. However, even in countries where incomes have risen the expected reduction in malnourished children has not always occurred.<sup>4</sup>

## ***b. defining food security***

The Food and Agricultural Organisation (FAO) defines food security as:

*'when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life'.<sup>5</sup>*

This definition captures the point that the quality, variety and use<sup>6</sup> of the food matters as well as the quantity. It also makes the point that the supply of food needs to be constant and nutritionally adequate both at a global and local level. Global supply is currently sufficient, but the distribution of that supply is not, and this is primarily because the effective demand for food at current prices is lacking, as some people cannot afford to purchase food. To address this problem the focus needs to be on raising the incomes of the poor and making sure food markets work well.<sup>7</sup>

For example a poor household in rural Tanzania will be food insecure if their income is insufficient to allow them to purchase enough nutritious food on top of whatever they can produce themselves. This food insecurity may be due to low wages, poor productivity of their own subsistence farming, poorly functioning markets due to a lack of infrastructure such as roads and communications, or a shortage of food in the area which raises food prices locally. In contrast most households in the UK are food secure as food prices are relatively low compared to wages, and markets function well ensuring there is a constant supply of food at affordable prices.

Food security is not the same as self-sufficiency; a person, country or region does not need to produce food so long as they have the means to purchase it. Trade allows a household or country to make a choice as to whether it is more appropriate to produce food oneself, or produce and sell something else and then buy food. Most developed countries have made the transition to smaller agriculture sectors, (relative to the rest of the economy), and a greater reliance on global markets. However in many developing countries, where agriculture plays a much bigger role, people are

---

<sup>4</sup> This can be due to an increase in inequality with the poorest incomes failing to grow in line with the national average, or a lack of clean water, micro-nutrients or poor health leading to the inability to properly absorb and 'utilise' the food.

<sup>5</sup> FAO, 2006

<sup>6</sup> Utilisation of food is commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilization of food consumed, this determines the *nutritional status* of individuals. FAO 2008: An Introduction to the Basic Concepts of Food Security.

<sup>7</sup> Increasing food production and reducing market inefficiencies would also help reduce the price of food as long as the market price effectively reflected the increase in supply.

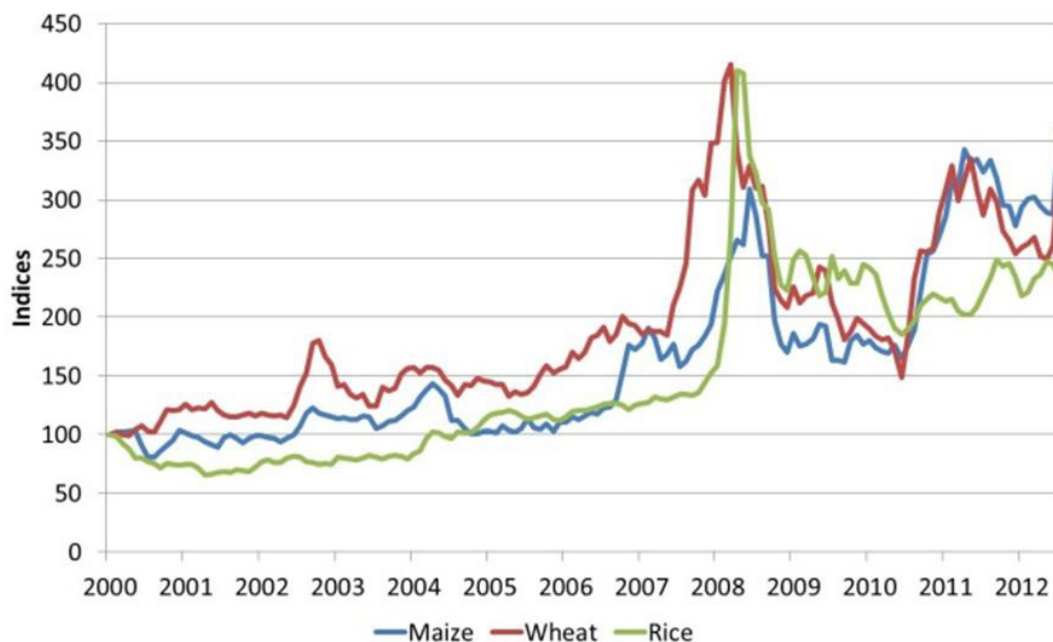
still, on average, net consumers of food. For example over 50% of smallholders in many countries in East and Southern Africa are net food buyers.<sup>8</sup>

People who are food insecure over a significant period of time, experience 'chronic food insecurity'.<sup>9</sup> However there can be times when prices rise temporarily to very high levels which can result in many more people becoming temporarily food insecure. This is discussed in Section 2 (c).

### ***c. future trends for food security***

Food security is a topical subject given recent high and volatile international food prices. Figure 1 highlights the rise in 2008 for maize, wheat and rice and again in 2010/11 and in 2012 for maize and wheat. The poor are particularly vulnerable to food price increases and are disproportionately affected, given they spend relatively more of their income on food.<sup>10</sup> (For every dollar spent in Tanzania, 73 cents is spent on food, contrasted with just ten cents in the US).<sup>11</sup>

**Figure 1: Food price rises from 2000-2012**



Source: IMF.

<sup>8</sup> While some poor small-holders will benefit from price rises, the price rise will need to be specifically in the crop they produce and assume they have an excess of production. Smallholder market participation: Concepts and evidence from eastern and southern Africa. Christopher. B. Barrett, 2007

<sup>9</sup> The FAO define this as when people are unable to meet their minimum food requirements over a sustained period of time. FAO 2008: An Introduction to the Basic Concepts of Food Security.

<sup>10</sup> Wheat is a staple crop in many developing countries in the Middle East, North Africa and South Asia while maize is particularly important in Southern and East Africa.

<sup>11</sup> Regmi and Seale (2010). Typically in low income countries, expenditure on food is over 50% of income. OECD, 2012.

The long-term global challenge of producing sufficient food for a growing global population with changing dietary patterns, at the same time as confronting climate change and resource limitations, will make food security an increasing pre-occupation for governments.<sup>12</sup> A significant increase in agricultural productivity is required. In addition reductions are needed in food wasted through storage and transportation in developing countries and excess consumption and consumer waste in developed countries. (It is estimated that each person in Europe and North America throws away over 100 kg of food a year compared to under 10 kg in Africa and Asia).<sup>13</sup>

The challenge of climate change has led to the search for low carbon sources of energy such as biofuels. Biofuel policy is increasingly linked to food security given the substitutability of some foods for sources of energy. Cereals, sugar and oil crops, as well as soya, can all be turned into alternatives to oil-based fuel. This can put pressure on agriculture crop prices and is discussed in Section 3(b).

## Section 2: How can trade help with food security?

Trade can be at the global or regional level or within a country. Trade can support food security objectives through its impact on incomes, availability (or access) and prices (levels and volatility) :-

### ***a. trade will increase incomes***

As it increases the productivity of all trading nations as they specialise where they have a 'comparative advantage' compared to other countries; be this in goods that require cheap labour rates, services that require a highly skilled workforce, or on products that require plentiful land and water. A food surplus country such as New Zealand, can export food and in turn use the funds generated to import manufactured goods more cheaply than it could produce itself. This increased productivity supports economic growth, jobs and incomes and hence the ability to purchase food. The White Paper made this link explicit when it said:

*'Evidence from a broad sample of OECD countries indicates that an increase of 10% in trade openness translates into an increase of around 4% in income per person.'*

*'According to the World Bank, in the 1990s per capita income grew more than three times faster for developing countries that had lowered trade barriers than for those that had not.'*<sup>14</sup>

---

<sup>12</sup> The UN predicts the global population will rise from over 7 billion now to over 9 billion by 2050. OECD, 2012: Global Food Security: Challenges for the Food and Agriculture System. TAD/CA/APM/WP(2012)18.

<sup>13</sup> OECD, 2012

<sup>14</sup> <http://www.bis.gov.uk/policies/trade-policy-unit/trade-white-paper> Trade and Investment for Growth, 2011. BIS

Analytical paper, no.2, in this series, '*Economic openness and economic prosperity*' explores these issues further, as well as the adjustment costs that trade can sometimes imply.<sup>15</sup> A recent OECD paper<sup>16</sup> concluded that it is trade's relationship to growth and incomes that makes the biggest contribution to food security.

### ***b. trade will increase the physical availability of food at a global and local level***

- as it helps balance supply and demand. For example Yemen has extremely scarce water supplies and cannot grow sufficient wheat to meet the needs of its population. However it can sell the oil it produces and use the proceeds to buy grain. There are many countries that rely on trade in food to fulfil their essential needs, including the UK. All countries benefit from a more diverse supply of nutritious food which could not be grown locally thanks to trade<sup>17</sup>
- as it increases the incentives to produce more. With access to global demand producers can sell their surplus food, scale up production, and increase their efficiency through economies of scale. This will increase returns, lower costs, and reduce waste
- as it allows agricultural goods to be produced in the most efficient and sustainable manner for a given set of resources such as land, water, chemicals, labour, energy and sunshine. This will become increasingly important as climate change affects agriculture-producing countries. With free trade, countries that can produce food in the most efficient way, can specialise in producing food, rather than countries that receive the most agricultural support and protection from their governments
- as it reduces costs, through the sharing of technology and knowledge of efficient agricultural production techniques and equipment. There is currently a significant gap in agriculture productivity between Sub-Saharan Africa and developed countries; trade and investment could help close this gap and raise agricultural yields

---

<sup>15</sup> <http://www.bis.gov.uk/policies/trade-policy-unit/trade-white-paper/white-paper-analytical-papers>. Economic Openness and Economic Prosperity, 2011

<sup>16</sup> OECD, 2012: Global Food Security: Challenges for the Food and Agriculture System.

<sup>17</sup> There are currently 31 net food-importing countries (NFICs) in addition to 48 Least Developed Countries who are recognised by the WTO as being particularly vulnerable to food price changes. While most countries' domestic production is the main source of domestic consumption, for some countries trade in agriculture produce is extremely important.

### ***c. trade will have an impact on prices***

- through diversifying risk

Global production of a particular food crop is less variable than production in an individual country. Crop failures in one country will have a reduced impact when the country is open to global trade as the price change can be shared among more consumers and thereby diluted. This is particularly relevant given agriculture's vulnerability to random shocks from drought, disease and pests. It is also helped by the localised nature of these shocks; drought in the US is unlikely to affect Thailand, which can then potentially compensate for any drop in supply from the US. Even large countries such as China and India, would benefit from free trade. The World Bank estimates that if there were 100% free trade in global rice production, the variation in rice price would reduce by 40% for China and 60% for India with the benefits for smaller countries even higher.<sup>18</sup> While a country open to trade is exposed to all international price fluctuations, these would be far less severe than in a country pursuing a self-sufficiency path and trying to rely on domestic food production alone.

- Through market structure.

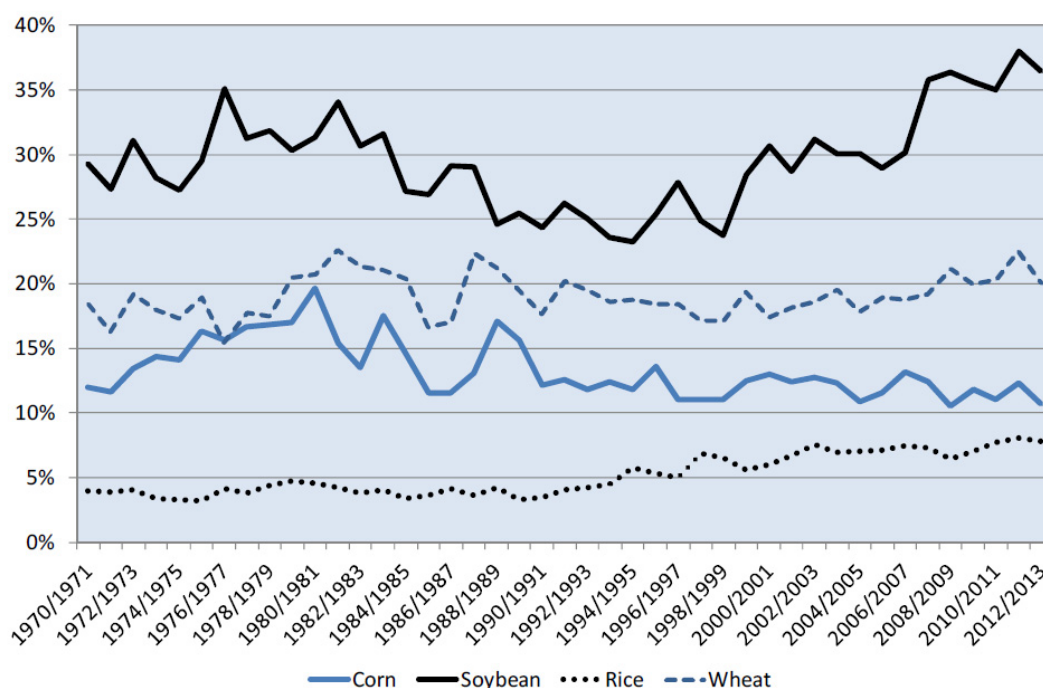
However there can be times when the international system does pass on significant price rises as shown in Figure 1. This is partly due to the 'thin' structural nature of global trade in agriculture; only 25% of agricultural production is traded (compared to 50% of industrial goods), and under 10% of this trade is in basic goods such as rice, soya, maize and wheat as shown in Figure 2.

---

<sup>18</sup> Wright, B.D. (2012) 'International Grain Reserves and Other Instruments to Address Volatility in Grain Markets.' *The World Bank Research Observer*, 27 (2):222-260.



**Figure 2. Percentage of global grain production traded globally.**



Source: OECD 2012 using USDA data

More trade in basic crops would help smooth out price fluctuations as deeper markets are less sensitive to price changes. Price falls can be particularly damaging for producers who have a slow supply response, while price rises will hurt consumers particularly when there is no appropriate alternative food that can be purchased at a lower price. A decline of just 2% in milled rice production, is equal to 28% of world trade in rice (only 5-7% of rice produced is traded). This market thinness is magnified when there is also a high concentration of export suppliers (or dominant companies); currently just six countries account for 90% of rice exports. Therefore, only a fraction of the benefits of trade are realised as many countries are not open to agriculture trade. Greater integration with global markets would see the benefits of trade rise for all.<sup>19</sup>

- Through export bans

Price changes, whether local or global, reflect the market adjusting, (albeit slowly given the slow supply response of agriculture production), to an imbalance between supply and demand. These price changes are a key function of markets to allow food shortages to be clearly signalled. The price rises in 2007/8, reflected changes in supply of the major exporters primarily due to adverse weather, low stocks, rising demand and a rising oil price. In 2008, the eight largest wheat exporters responded to these higher prices by increasing wheat production by 23.5%, while wheat production for the rest of the world was flat.<sup>20</sup>

<sup>19</sup> Current barriers to this integration include fluctuating exchange rates, government price controls and poor functioning markets. Transport costs are a particular barrier given the relatively low value of basic agricultural crops compared to their weight.

<sup>20</sup> Drawn from USDA data.

Price rises in 2008 also reflected a sense of panic as countries began to withdraw from an open trading system by imposing export bans on vital food grains, such as rice, in an attempt to control the domestic price of food. It is calculated that international rice prices rose an additional 45%, and wheat prices by 25%, as a result of export bans and equivalent policies during the period 2005-8.<sup>21</sup>

While export bans will always have negative international consequences, governments use them in an attempt to keep domestic food prices low at little cost to government budgets. Some studies have shown export bans to be an expensive and inefficient way to tackle food price rises from a domestic perspective. Farmers lose from lower prices and incentives are reduced to invest in future production. The Russian export ban in 2010, resulted in a net loss to Russia of \$300 million.<sup>22</sup> At \$800 million, the loss suffered by least developed countries (LDCs) was even higher because LDC consumers faced higher prices from the global markets as a result of the Russian export ban, while LDC producers did not experience the same gains due to poorly functioning markets.

However other studies have highlighted that there *may* be a domestic advantage to imposing an export ban if the exporting country can by itself influence global prices, and other countries do not retaliate.<sup>23</sup> A country may also rank immediate food security concerns higher than efficiency, and see this policy action as an effective second best response. Given the implications for poor food-importing countries, it is clear that alternative responses to export bans are needed to prevent temporarily high food prices from impacting particularly on poor and vulnerable parts of the global population; this is addressed in Section 3.

Trade benefits are greater if market mechanisms work well. Many rural regions in developing countries are poorly integrated with national, let alone global markets, due to a.) high transport costs<sup>24</sup> and b.) high transaction costs in trading.<sup>25</sup> If global prices are not speedily transmitted (passed on) to a domestic economy, the benefits of trade will not reach that country. Analytical paper no. 7 on '*Trade and Regional Integration in Africa*' details the economic benefits that could result with increased government action to improve trading links in Africa. (One estimate of the potential increase in economic activity in sub-Saharan Africa as a result of a trade facilitation deal at the WTO, which deals only with blockages at the border, is up to €10 billion per year).<sup>26</sup> Many policy reforms are required to enable countries to take advantage of the opportunities of trade; - ranging from achieving a stable macro-environment and exchange rates, a supportive enabling environment for business, secure property and land rights and adequate infrastructure. Trade is a partial answer to addressing food security concerns but on its own not a sufficient one.

---

<sup>21</sup> Anderson, World Bank

<sup>22</sup> Russian consumers gained by \$2.8 billion, but Russian producers lost by \$3.1 billion. Defra analysis using Aglink-Cosimo, 2012,

<sup>23</sup> Agricultural Price Distortions: Trends and Volatility, Past and Prospective. Kym Anderson, 2012.

<sup>24</sup> For some landlocked countries, transport costs can be as high as 77% of the value of their exports. Foresight, 2011.: The Future of Food and Farming.

<sup>25</sup> For example arranging the logistics of dealing with export licences, exchange rates, food storage and food safety standards.

<sup>26</sup> <http://www.bis.gov.uk/policies/trade-policy-unit/trade-white-paper/white-paper-analytical-papers>.

## Section 3: How can governments ensure trade works for food security?

Trade is not currently fulfilling its potential when it comes to supporting food security objectives. It is only by allowing trade to work freely and within clear rules, that the benefits of trade will be maximised. Governments can help by:

### *a. supporting trade reforms*

- trade-distorting agricultural subsidies and tariffs (trade taxes) and non-tariff barriers<sup>27</sup> that distort price signals and production decisions, (effectively encouraging production away from the most efficient place to produce), should be reduced. While distortions in agriculture trade have decreased in recent years, there is more to be done, for example the average trade-weighted tariff on industrial goods is 8%, while for agriculture it is 25%, with some tariff peaks rising to 1000%<sup>28</sup>
- export subsidies which artificially lower the price of exports (and which for industrial goods have been ruled illegal for over 50 years), also need more progress. While their use has diminished in recent years, a ban on these subsidies would lock-in reform at the World Trade Organisation
- strengthening the rules on export restrictions would also send a strong signal in support of international trade in agriculture. The UK Foresight report<sup>29</sup> recommended avoiding export bans and G20 leaders in 2011 called for a ban on export restrictions relating to humanitarian food aid.<sup>30</sup> The Net Food-Importing Developing Country grouping at the WTO have sought an exemption for themselves,<sup>31</sup> and all LDC countries, from any export restrictions imposed by major exporters. If strengthened disciplines on export restrictions were applied more generally, this would reduce the international food price from rising as high, as well as ensure access to basic food supplies for some of the world's most vulnerable people

---

<sup>27</sup> These are other policies that discourage trade such as unnecessary red tape, rules on the origin of products, pre-shipment inspections etc...

<sup>28</sup> Pascal Lamy: Trade is vital for food security, 30 August 2011.

<sup>29</sup> Foresight. The Future of Food and Farming (2011)

<sup>30</sup> Ministerial Declaration: Action Plan on Food Price Volatility and Agriculture, G20 Agriculture Ministers, Paris, 2011.

<sup>31</sup> 31 developing countries: Antigua and Barbuda, Barbados, Bolivarian Republic of Venezuela, Botswana, Côte d'Ivoire, Cuba, Dominica, Dominican Republic, Egypt, El Salvador, Gabon, Grenada, Honduras, Jamaica, Jordan, Kenya, Maldives, Mauritius, Mongolia, Morocco, Namibia, Pakistan, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sri Lanka, Swaziland, Trinidad and Tobago and Tunisia.

- the UK is actively working to achieve more progress on multilateral agriculture negotiations at the WTO;<sup>32</sup> as well as pushing for reform of the EU Common Agricultural Policy<sup>33</sup> to increase the market orientation of farming and target funds at the delivery of environmental public goods instead
- a multilateral trading system relies on a set of rules to work properly. There needs to be minimum sanitary and phyto-sanitary standards (SPS)<sup>34</sup> to ensure consumers have confidence in the safety of the food they are purchasing, and to prevent producers competing against each other in a race to the bottom in supplying sub-standard food. The UK supports the WTO as well as the Food and Agriculture Organisation (FAO), International Plant Protection Committee (IPPC), Office International des Epizooties OIE), the Codex Alimentarius Commission and the World Health Organisation (WHO), in determining what these standards should be

## ***b. supporting complementary policies to trade***

While an in-depth discussion of non-trade policy requirements is beyond the scope of this paper, some key issues that are highly relevant for trade policy are outlined below.

- social protection systems

Trade will bring increased incomes and growth to a country, but it will not lift everyone out of poverty simultaneously and may increase inequality for a time. As an economy grows, it will need careful monitoring to ensure those who do not benefit from changes,<sup>35</sup> can still meet their minimum needs during this time of transition.

Middle income countries have begun to use social protection programmes that provide support (usually in the form of cash transfers or cash for work schemes) to previously identified households at risk when food prices rise. This targeted support is a far more efficient way to support households, as it does not penalise producers, only supports those who really need it rather than providing subsidised food for all, and is cheaper for developing country governments who often have tight budgets. However, it does rely on a pre-existing institutional network that can take time and resources to build and operate well. Advance planning is therefore essential if second best and costly responses such as export bans are to be avoided in the

---

<sup>32</sup> While progress at the WTO is currently stalled, developing countries and LDCs at present have increased flexibilities under WTO rules to protect their domestic agriculture activities if they feel that subsidised trade, or more developed businesses are affecting their own agriculture sector.

<sup>33</sup> The EU's Common Agricultural Policy currently spends over 40% of the EC's budget and does not represent good value for money for EU taxpayers or EU consumers who face higher food prices as a result. Subsidised food production will also impact on global markets by lowering the price of certain food crops.

<sup>34</sup> SPS measures are defined by the WTO and refer to any measure, procedure, requirement, or regulation, taken by governments to protect human, animal, or plant life or health from the risks arising from the spread of pests, diseases, disease-causing organisms, or from additives, toxins, or contaminants found in food, beverages, or feedstuffs.

<sup>35</sup> For example those who previously benefited from agricultural protection and struggle to find alternative employment in other growing sectors of the economy.

future.<sup>36</sup> The UK government is currently increasing its support for social protection programmes from nine countries in 2009 to 17 by 2014.

- supporting agriculture

Agriculture still supports many poor small-holder farmers in developing countries and between a half and two thirds of the world's poor live in rural areas.<sup>37</sup> Increasing the productivity of small-holder farms could be an effective pro-poor growth strategy as well as increasing the supply of food, and reducing prices. Greater diversification of countries supplying the global market in basic agriculture commodities would also allow a deeper, more stable global market.

However the tension between supporting existing small-holders and supporting a viable future where some farm-holdings become larger must be carefully managed. It will be essential to ensure the enabling environment for agriculture is improved, and any under-investment in public goods such as transport, irrigation, credit markets and research and development is corrected.<sup>38</sup> This approach is more neutral than providing direct support to farmers which can result in perverse incentives and uncompetitive and unsustainable farms. However it can often be difficult for governments to avoid offering direct support given the opportunities it provides for political patronage.

It is useful to distinguish between countries which focus less on agriculture as they have progressed into services and industry, and therefore import more food, and countries who import more food because they have not invested sufficiently in their own agriculture potential or have adopted failed agricultural policies.<sup>39</sup> Current high crop prices coupled with predictions of high crop prices in the future provide a good incentive to re-focus in this area.

---

<sup>36</sup> The IMF estimate that responding to the 2008 food price rises in Sub-Saharan Africa (SSA) cost 1% of its GDP. IMF (2011): Managing Global Growth Risks and Commodity Price Shocks – Vulnerabilities and Policy Challenges for Low-Income Countries.

<sup>37</sup> OECD, 2012.

<sup>38</sup> Defra have calculated that a 10% increase in livestock feed efficiency in Brazil, Russia, India and China could bring down global wheat prices by 20% and for coarse grains by 25%. The latter change alone would increase consumer welfare in SSA by \$1.6 billion per year. This is a good example of how investments in agriculture can benefit all and how the growth of emerging economies such as Brazil and China has important implications for developing countries.

<sup>39</sup> OECD, 2012.

## Box 1: Providing a stable policy environment

Predictable responses to international food price spikes are vital. Producers need to know their increased investment in production, based on high prices, will not be undercut by an export ban or government stock release which will then depress prices. They also need to manage risk themselves rather than rely on government intervention (for example if prices fall too low). However there may also be significant market failures in the credit, risk and insurance markets that governments may need to address before they can expect the market to function without government intervention. Objective and transparent guidelines for when a government plans to intervene will help increase market confidence, (for example with the release of food stocks).<sup>40</sup>

Ensuring the macro-environment remains stable in the event of a price spike is another key task of government as higher food prices can lead to increased wage claims and higher inflation which can then become difficult to control.

Biofuel policy also has an impact on food prices. A significant part of the price increase for coarse grains (cereal grains other than wheat or rice), has been attributed to biofuel policy.<sup>41</sup> Biofuels are supported by government subsidies or mandates to use biofuels as a renewable energy requirement in the transport sector. Governments could ensure these requirements for the transport sector do not increase pressure on food prices and do indeed contribute to reduced emissions of carbon dioxide. One tool available to governments to explore is to allow greater flexibility in the mandates of biofuel production. This means crops that were grown to serve biofuel requirements, (and are relatively inflexible to price changes) can be diverted into the food supply chain to alleviate global pressures on food prices at a time of crisis. Again, this must be done in a transparent and predictable manner so producers have clear expectations on likely returns. Defra estimate price spikes on coarse grains could be reduced by 15-40% if both the EU and the US adopted this policy.<sup>42</sup>

---

<sup>40</sup> The size of stocks required will depend on how effective the distribution systems are within the country and how quickly vulnerable people can be reached. Maintaining stocks will also entail a cost for government, which should also encourage minimum stocks to be held.

<sup>41</sup> Headey, D: Some possible responses to rising food prices, International Association of Agricultural Economists Triennial Conference. 18-24 August, 2012.

<sup>42</sup> <http://www.defra.gov.uk/publications/2012/06/27/pb13786-biofuels-food-security/>

## Conclusion

There are an estimated 870 million people who are food-insecure, concentrated in low and middle income countries.<sup>43</sup> This matters as the effects can last for generations. Food insecurity is closely linked to poverty. In the context of rising food prices, increased population pressures, changing diets and future climate change, food insecurity is receiving more attention from all governments, (particularly around the issue of food price spikes which can temporarily affect many more people than those who are long-term (chronically) food-insecure).

Both domestic and international trade's greatest contribution to food security is by raising incomes and hence the ability to purchase (access) food. Therefore, all trade which increases growth, not just in agriculture products, aids the reduction of food insecurity. Of course, growth from trade will not benefit all at the same rate, which is why additional complementary policies are needed to ensure vulnerable people are supported during this transition.

Trade also helps balance the supply and demand for food and increasing the overall availability of food through increases in productivity, economies of scale and specialisation. In addition, trade plays an important role in stabilising prices, especially when trade barriers do not distort markets and when more countries participate in the global market for basic agricultural crops.

However trade policy is just one necessary element in the fight to reduce food insecurity and policies in many other areas are needed which are outside the scope of this paper.

Trade-specific measures that could be addressed include:

- **Reducing trade-distorting agriculture tariffs and subsidies** (and non-tariff barriers) at a multilateral level to make agriculture trade more effective and efficient.
- Ban agricultural **export subsidies** as has been done for industrial goods over 50 years ago.
- Strengthen the rules on **export restrictions** to send a strong signal in support of international trade in agriculture.

Complementary policies to trade include promoting agriculture, establishing social protection schemes and maintaining a stable macro-environment. In addition bio-fuel policy could be used to alleviate global pressures on food prices, particularly for the poorest countries, by allowing bio-fuel crops to be diverted into the food supply chain at a time of global crisis. The UK government is currently exploring how to achieve this in a manner that does not deter private sector investment into bio-fuels.

---

<sup>43</sup> FAO: The State of Food Security in the World, 2012



## Trade and Investment Analytical Papers

This paper is part of a series of analytical papers, produced by the joint BIS/DFID Trade Policy Unit, which support the Trade and Investment White Paper and the Trade and Investment Challenge. The full list of papers that will be available are:

1. Global context: how has world trade and investment developed? What's next?
2. Economic openness and economic prosperity
3. UK trade performance over the past years
4. The UK and the Single Market
5. Protectionism
6. Sources of Growth
7. Trade and Regional Integration in Africa
8. Comparative Advantage of the UK
9. Trade promotion
10. Food Security
11. Trade Facilitation
12. Asia
13. Trade Finance
14. Bilaterals/plurilaterals – how can we make them better for the world trading system.
15. Trade and the environment
16. Investment, including the impact of foreign ownership
17. Regulatory cooperation
18. Anti-dumping



© Crown copyright 2013

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

This publication is also available on our website at <https://www.gov.uk/government/organisations/department-for-business-innovation-skills/series/trade-and-investment-analytical-papers>

Any enquiries regarding this publication should be sent to:

Department for Business, Innovation and Skills  
1 Victoria Street  
London SW1H 0ET  
Tel: 020 7215 5000

If you require this publication in an alternative format, email [enquiries@bis.gsi.gov.uk](mailto:enquiries@bis.gsi.gov.uk), or call 020 7215 5000.

**URN BIS/13/593**