



Ending Global Deforestation: Policy Options for Consumer Countries

Duncan Brack
with Rob Bailey

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Executive Summary

Over the last decade, governments in timber-producing and timber-consuming countries have implemented a range of policies and measures aimed at improving forest governance and reducing illegal logging. One important category of measures has been attempts to exclude illegal (and sometimes unsustainable) timber products from international trade through the use of regulatory measures such as public procurement policy, licensing systems, and legal and company due diligence requirements.

Yet illegal logging and the international trade in illegal timber is not the most important cause of deforestation. Clearance of forests (legal or illegal) for agriculture, often for export, is far more significant. The purpose of this report is to examine the potential applicability of the consumer-country measures used to exclude illegal timber to illegal or unsustainable agricultural products associated with deforestation: specifically, palm oil, soy, beef and leather and cocoa. The study primarily considers options open to the European Union (which is the main global importer of these commodities), but in principle they are open to other consumer-country governments too.

Deforestation and agriculture

Although the rate of global deforestation has slowed in the last ten years, it continues at a high rate in several countries. The net loss of forest area due to natural causes or conversion to other uses is estimated at 5.2 million hectares each year in the decade 2000–10, a fall from 8.3 million hectares per year in the previous decade. Although there are many complex and interconnected drivers of deforestation, agricultural expansion is the most significant, accounting for an estimated 55–80 per cent of the total.

Globally the crops most heavily associated with deforestation are soy, maize, oil palm, rice and sugar cane, while more than half the total is associated with pasture and feed for cattle. While domestic consumption of these crops is pre-eminent, international trade is still important: an estimated one-third of the deforestation embodied in crop production (mostly soy and palm oil), though only 8 per cent of the deforestation embodied in ruminant livestock products, is traded internationally. The EU is the largest global net importer of embodied deforestation; its main imported commodities (in 1990–2008) associated with deforestation were soy from Brazil, Argentina and Paraguay, meat products from Brazil, palm oil from Indonesia and Malaysia, cocoa from Ghana and Nigeria and nuts from Brazil.

Palm oil, soy, beef, leather and cocoa are therefore key deforestation-related commodities from the point of view of the EU. They share a number of characteristics:

- The bulk of their production is exported (apart from beef); the EU (along with China) is a major importer of all of them.

- Their supply chains tend to be highly concentrated at the point of production, trading, processing or final sale – in each case a small number of countries are responsible for the bulk of production, and a handful of major companies dominate trading, processing and/or sale.
- A wide range of voluntary initiatives are under way to encourage sustainable production, including the Roundtable on Sustainable Palm Oil (RSPO), the Roundtable on Responsible Soy (RTRS), the Roundtable for Sustainable Biofuels (RSB), the Global Roundtable on Sustainable Beef (GRSB) and the Leather Working Group. In addition, organizations such as the Rainforest Alliance and ProTerra carry out certification of farms and supply chains, often using the Sustainable Agriculture Network standards, for these and other agricultural products.
- Private-sector initiatives for sourcing sustainable products are also common, including the zero net deforestation targets of the Consumer Goods Forum and of Nestlé, and the commodity-specific targets of the Dutch Task Forces on Sustainable Soy and Palm Oil, the Belgian Alliance for Sustainable Palm Oil and many individual companies.

In turn these common characteristics help to make these commodities amenable to supply-chain control measures. All else being equal, measures should be more effective where:

- There is an identification scheme for sustainable products in existence;
- Voluntary private-sector initiatives are already under way;
- Supply chains are simple, with a relatively small number of stages at which controls can be applied, and a narrow category of products in which the raw material ends up;
- There is a concentration of market power at one or more points along the supply chain (producers, traders, processors or retailers), and a strong geographic concentration of production;
- There is a high ratio of exports to domestic consumption, and a high proportion of exports to sensitive markets;
- For public procurement policies, the product is purchased by the public sector;
- There are other opportunities for regulations to affect the market, for example for biofuels.

Although all the commodities considered here do qualify under at least some of these criteria, palm oil and cocoa are probably those best suited to consumer-country measures, followed by soy. Beef and leather pose more difficult challenges.

Controlling supply chains

The main measures taken by consumer countries to exclude illegal timber from their markets include public procurement policies, the use of government standards such as building regulations, bilateral agreements between consumer and producer countries to establish licensing systems, the introduction of broader legislative controls to make imported illegal products illegal in the country of import, and 'due diligence' requirements on industry.

Combined with voluntary commitments by the private sector, the combination of these measures has had a clear impact on consumer markets. This is most evident in the increasing penetration of timber certified under the two major international certification initiatives, those of the Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC), which have emerged as the most important means of demonstrating legality and sustainability for public procurement contracts and building standards. It also seems likely that they will be an important option for companies seeking to eliminate illegal products from their supply chains under legislative due diligence requirements. The voluntary partnership agreements (VPAs) currently being negotiated and implemented under the EU Forest Law Enforcement, Governance and Trade (FLEGT) initiative have had clear positive impacts on forest governance in the partner countries. However, their legality assurance and licensing systems, designed to ensure that only legal products are licensed for export, are proving much slower to develop than anticipated.

In considering the application of similar measures to agricultural products, should illegal, unsustainable or zero-deforestation products be the target for action? Research on illegalities in the production of agricultural commodities has been less extensive than it has on illegal logging, but there are many reports of illegal clearance of forest for oil palm or soy, or pasture for cattle. Research under way for Forest Trends has estimated that most conversion of forest to agriculture (including timber plantations) in tropical countries is currently illegal; this is particularly true of clearance for oil palm plantations and cattle pasture. Illegal forest conversion tends to be more difficult and complex to prove than many other forms of illegal behaviour. It is inevitably entangled with questions of land ownership and tenure which, in many countries, may be unclear or contested. Consumer-country action against illegal agricultural commodities may therefore be more difficult, in practical and political terms, than it has been against illegal timber.

Targeting action against agricultural commodities which are produced legally but unsustainably – e.g. products associated with deforestation – may prove more practical, not least because in most cases there are at least some forms of certification providing evidence of sustainable origin (however defined). However, restricting trade on the basis of sustainability standards may risk accusations of the imposition of foreign values. It also raises issues of compatibility with World Trade Organization (WTO) rules. While there are good reasons to believe that discrimination on the basis of ‘process and production methods’ (PPMs) would be permitted, it does raise issues around the need for clear criteria for sustainability, and whether some of the mechanisms used by the certification systems would be compatible with WTO disciplines.

Options for governments

Thirteen countries currently use **public procurement** policy to source legal and sometimes sustainable timber. Evidence from EU member states suggests that this has proved an important driver behind the significant rise in the market share of certified timber products. The public sector is a significant purchaser of food and catering services, and public procurement policies have clear potential for addressing all the five commodities considered here, except possibly leather. Many local and regional governments have used procurement policy to promote organic and Fairtrade-labelled food products, and the United Kingdom has recently adopted a central government procurement policy for sustainable palm oil in food and catering. This approach should be extended.

Tariff reductions for sustainable products was an option considered for timber but never pursued, owing partly to the low tariffs existing on most timber products. Although lowering tariffs for sustainable products would probably be consistent with WTO rules, adopting them would be a highly controversial move. And in any case, as for timber, tariffs are low or zero on most (though not all) agricultural commodities. This option does not seem likely to offer a useful way forward.

There are also options for **other government regulations**. For timber, building regulations, and criteria for the use of wood as biomass for electricity generation and heat, have been used to promote sustainable products. Palm oil and soybean oil are both used for biofuels, which are encouraged by the EU and US, through subsidies and regulatory requirements, with the aim of reducing greenhouse gas emissions. Sustainability criteria are applied to ensure that the biofuel production does not, for example, cause deforestation, and the criteria for greenhouse gas emission savings which feature in the EU Renewable Energy Directive offer a way in which to discriminate between agricultural products based on their environmental impacts. The indirect impact of biofuel use on food production, however, means that this is a controversial area, and food-crop-based biofuels may not be supported in the future. The use of labelling requirements (e.g. for vegetable oils) is also a potential option, though one unlikely to have a significant impact.

The negotiation of **bilateral agreements** is an important option. For timber, the VPAs agreed so far between the EU and six timber-producing countries (and under negotiation in a further eight) have helped to improve standards of governance in the host countries even though no licensing system for timber products is yet in operation. VPA-type bilateral agreements for sustainable agricultural commodities may be worth considering, particularly in the context of existing VPAs, such as those in Indonesia and Ghana, or those in negotiation, such as in Côte d'Ivoire. Many of the problematic issues in these sectors revolve around decisions, and conflicts, over land use, and it would make sense for these to be discussed in a single forum (similar in some ways to the UN Development Programme's national sustainable commodity platforms). However, it is not clear to what extent the potential partner countries themselves would be interested, and it seems unlikely that licensing systems could be used for sustainable agricultural commodities. The 'new generation' of free trade agreements that the EU is pursuing, which include provisions for encouraging sustainable agriculture, may have some potential.

In recent years **regulatory requirements on companies** trading in timber products have been introduced through the US Lacey Act, the EU Timber Regulation and the Australian Illegal Logging Prohibition Act. These contain two key components: a legal prohibition, making imported illegal products illegal in the country of import; and 'due diligence' requirements on industry, requiring companies to put in place procedures to minimize the chance of their handling illegal products. These may already be relevant to trade in agricultural products, given the extent of illegal clearance of forests for agriculture, but it would be difficult to apply this kind of regulation to commodities on the basis of sustainability. It is, however, possible for governments to encourage companies to scrutinize their own supply chains through the use of reporting systems such as that implemented by the Forest Footprint Disclosure project; these could be encouraged on a voluntary basis or required by regulation.

In both timber and agriculture, the role of **financial institutions** such as banks, investment funds, multilateral development banks and export credit agencies can be critical. These institutions can be encouraged or required to exercise greater due diligence in ensuring that their lending and investment operations do not end up financing illegal or unsustainable activities. No progress has been made in this area for timber, probably largely because the sources of forest investment

have shifted heavily towards developing country banks in recent years. But a much wider range of institutions is involved in investment in agriculture in developing countries. Options include, for public agencies, stricter safeguard policies, and, for private institutions, encouraging or requiring commitments to lending policies including adherence to sustainability standards.

Compared with the early days of the debate around timber supply chains, far more – and far more ambitious – **private-sector initiatives** on sourcing sustainable agricultural commodities are currently under way within consumer countries. This is helpful for the development of identification systems, helping to add critical mass to bodies such as RSPO and RTRS, and lessens the pressure for government action in the near term. It may also increase the pressure for government action in the longer term, as the major companies gain confidence in their supply chains and start to lobby for regulations to level the playing field (i.e. knock their lower-standard competitors out). One obvious conclusion is that government should encourage and perhaps participate in further voluntary initiatives, such as the UK statement on sustainable palm oil, the US-led Tropical Forest Alliance or the Dutch Sustainable Trade Initiative. Action by groupings of companies, such as the Consumer Goods Forum, or the Belgian and Dutch task forces on sustainable soy and palm oil, should be encouraged.

One general conclusion is that all of the regulatory options summarized above must rest on some form of identification system for sustainably produced commodities, which in most cases means **certification**. There is no point imposing consumer-country controls on imports unless the producers can respond, so measures to lower the cost and encourage the uptake of the various certification systems, and to improve their robustness, should be implemented. The possibility also exists of stimulating actions such as those examined in this report through an **Action Plan** – perhaps at EU level – for sustainable agriculture, governance and trade. The EU FLEGT Action Plan provides a good model, helping as it did to stimulate discussion, research and action across a wide range of possible policies and measures.

1 Introduction

Over the last decade, governments in timber-producing and timber-consuming countries have implemented a range of policies and measures aimed at improving forest governance and reducing illegal logging. One important category consists of policies designed to exclude illegal (and sometimes unsustainable) timber products from international trade through the use of regulatory measures such as public procurement policy, licensing systems, and due diligence or legal requirements.

These restrictions on market access for exports of timber and timber products, usually operating alongside the provision of financial and technical assistance, have provided an incentive for producer-country governments to take action and have been a valuable addition to their enforcement efforts. They aim to create protected markets in which legal and sustainable timber can command a fair price and not be undercut by cheaper illegal products; effectively they aim to shut out illegal timber from international markets.

Many private-sector actors have taken similar steps to exclude illegal or unsustainable timber from their own supply chains. Many supply-chain controls, both public and private, make use of the main voluntary certification systems, those of the Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC), as relatively straightforward ways of identifying sustainable or legal products.

Studies by Chatham House, among others, suggest that the combined effect of all the measures taken over the last decade or so – including those listed above alongside many others – has been positive, with a significant reduction (about 25 per cent) in illegal logging between 2000 and 2008, and a similar fall (30 per cent) in imports of illegal timber by major countries from 2004 to 2008.¹

Illegal logging and the international trade in illegal timber is, however, not the only cause of deforestation, nor is it even the most important one. Clearance of forests (legal or illegal) for agriculture is far more significant. A recent study for the European Commission estimated that 53 per cent of the global deforestation experienced from 1990 to 2008 was due to agricultural expansion.² A 2012 study produced for the British and Norwegian governments, with a different methodology and covering a different period (2000–10), estimated that agriculture was responsible for about 80 per cent of deforestation.³

1 Sam Lawson and Larry MacFaul, *Illegal Logging and Related Trade: Indicators of the Global Response* (Chatham House, July 2010).

2 European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis of the Impact of EU Consumption on Deforestation* (2013), p. 20.

3 Gabrielle Kissinger, Martin Herold and Veronique de Sy, *Drivers of Deforestation and Degradation: A Synthesis Report for REDD+ Policy-Makers* (Exeme Consulting, 2012).

The 2012 study concluded that the primary drivers of agricultural expansion in tropical countries were production of crops and livestock for export and to satisfy demand generated by domestic urban growth. The European Commission study similarly identified the main drivers of deforestation as ruminant livestock production (mainly beef), soybeans, maize, oil palm, rice, and sugar cane, while the main deforestation-related commodities imported into the EU were soy, meat products (mainly beef and leather), palm oil and cocoa.

A wide range of initiatives is now under way to try to improve the sustainability of production of these and other agricultural products, and to reduce their impact on forests. Given that a proportion of the demand for these products derives from consumers in places such as the EU or United States, it is logical to ask whether the same kind of supply-chain controls that have been used, with effect, to exclude illegal and unsustainable timber from international trade could be applied to trade in these key agricultural commodities. Can regulatory measures be used in consumer countries to restrict trade only to agricultural products not associated with deforestation?

This extends the argument beyond the question of illegality, which has been the core of the debate around timber over the last 10 years, to issues of unsustainability or, possibly, 'zero-deforestation'. Illegal activity in agriculture is certainly present, but probably relates mainly to the allocation of the land or its conversion from other uses, whereas illegality in production is less of an issue – in contrast to logging, where both factors underlie illegal behaviour. This makes the arguments around the deployment of consumer-country measures more complicated, both technically ('sustainability' is more difficult to define and measure than 'illegality') and politically (there is little opposition to action against illegal products and producers, but action to close markets to unsustainable products often raises questions of competing values and accusations of infringements of sovereignty). This topic is explored in more depth in Chapter 4.

The impact of agriculture on forests is an increasingly important question. The significant efforts put in to controlling illegal logging over the last decade have had positive results, but they do not address the main causes of deforestation. At the same time the issue is of relevance to attempts to construct, within the international climate change regime, effective strategies for reducing greenhouse gas emissions from deforestation and forest degradation (REDD+). Since forest conversion for agricultural commodities is the main competitor to sustainable forestry, successful attempts to restrict trade in unsustainable or deforestation-related commodities should make REDD+ policies more viable.

This report examines the regulatory and legal options used to exclude illegal timber from consumer-country markets and considers whether they could be applied to exclude key illegal or unsustainable agricultural products associated with deforestation: soy, beef, leather, palm oil and cocoa. The study primarily considers options open to the European Union (which is the main global importer of these commodities), but in principle they are open to any consumer-country government. Of course there are many other actions that can be taken to improve the sustainability of agriculture, for example by the private sector and by governments and companies in producer countries. These are clearly important, and will need to be deployed, but they fall outside the remit of this report.

Chapter 2 briefly considers the main agricultural drivers of deforestation. Chapter 3 summarizes key issues related to the five commodities listed above and their supply chains, including the development of sustainability identification schemes such as certification, and voluntary

initiatives under way by suppliers to source sustainably (all these issues are examined in more detail in the Appendix, which looks at each commodity in turn), and considers the characteristics of commodity supply chains that make them most amenable to control. Chapter 4 summarizes the main measures used against illegal timber, and discusses some of the broad questions arising from their possible application to agricultural products, including whether unsustainable, illegal or zero-deforestation products should be the target for action, and possible interactions with the rules of the World Trade Organization (WTO).

The remaining chapters analyse the range of consumer-country measures that have been deployed or contemplated for use against illegal timber, together with their impacts, and consider whether they could feasibly be applied to agricultural commodities such as those discussed here. This includes public procurement policy (Chapter 5), differential tariffs (Chapter 6), other government regulations (Chapter 7), bilateral agreements (Chapter 8), requirements on companies in the supply chain (Chapter 9), regulation of finance and investment (Chapter 10) and cooperation with the private sector (Chapter 11). Chapter 12 offers brief conclusions.

2 Drivers of Deforestation

Rates of deforestation

Thirty per cent of the world's land area – about four billion hectares – is currently covered by forest.⁴ The survival of forest ecosystems is essential to sustainable development, yet they are threatened by increasing human demands. Worldwide, more than 1.6 billion people – almost a quarter of the global population – depend on forests for at least part of their livelihoods, including for fuelwood, foodstuffs and medicinal plants.⁵ The exploitation of forests, along with other natural resources, contributes to development, but in many countries forest-management practices are clearly unsustainable, taking place at the expense of biodiversity and the natural regulation of water and climate, and undermining subsistence support and cultural values for some communities. In some countries, armed conflict has been funded by revenues from timber sales. Between 12 and 15 per cent of global greenhouse gas emissions is estimated to derive from deforestation.⁶

These issues, however, are increasingly acknowledged, prompting a range of policy and technical responses, legislation and non-binding international agreements to promote sustainable forest management and conserve forests, and financial mechanisms to support them. The rate of global deforestation has slowed overall, though it continues at a high rate in several countries. Around 13 million hectares (m ha) of forest were converted to other uses or lost due to natural causes each year in the decade 2000–10, a fall from 16m ha per year in the decade 1990–2000. However, this was offset to a degree by large-scale planting of trees in some countries and some natural forest expansion; the net loss of forest area in 2000–10 is estimated at 5.2m ha (an area the size of Costa Rica, or half the size of Iceland) per year, down from 8.3m ha per year in 1990–2000.

At a regional level, South America suffered the largest net loss of forests in the decade to 2010 – about 4m ha (equivalent to 0.46 per cent of total forest cover) per year – followed by Africa, which lost about 3.4m ha (0.50 per cent) per year. Extensive forest fires and drought in Australia were largely responsible for a net loss of about 0.7m ha (0.36 per cent) per year in Oceania. Northern and Central American forest areas remained more or less stable, while European forests expanded, though at a slower rate than in the previous decade (0.7m ha per year (+0.07 per cent) compared with 0.9m ha per year). The most dramatic change was in Asia, which, overall, reversed a net forest loss of about 0.6m ha per year in 1990–2000 to see a net gain of more than 2.2m ha per year (+0.37 per cent) in the following decade. This was mainly due to large-scale afforestation in China; many South and Southeast Asian countries continued to experience high net rates of forest loss.

4 All figures in this section (except where noted) are taken from Food and Agriculture Organization, *Global Forest Resources Assessment 2010*.

5 Forest Peoples Programme, *Forest Peoples: Numbers Across the World* (2012), p.16.

6 United Nations Environment Programme, *Keeping Track of Our Changing Environment* (2011), p. 37.

Drivers of deforestation

The drivers of deforestation are complex and interconnected. The 2012 study mentioned in Chapter 1 distinguished between proximate, or direct, drivers and underlying, or indirect, drivers. It concluded that in Latin America commercial agriculture, including livestock, was the most important direct driver of deforestation, contributing around two-thirds of total deforestation. In Africa and sub-tropical Asia, commercial agriculture and subsistence agriculture accounted for around one-third of deforestation each. Mining and infrastructure development both played larger roles in Africa and Asia than in Latin America; mining accounting for about 10 per cent of deforestation in Africa and infrastructure for about 10 per cent in Africa and Asia. Urban expansion was most significant in Asia, accounting for another 10 per cent of the total, probably owing to large population growth. For forest degradation (which the study assessed separately from deforestation), timber and logging activities accounted for more than 70 per cent in Latin America and Asia, whereas fuelwood collection and charcoal production were the main drivers for Africa.⁷

Underlying, or indirect, drivers constitute an interplay between demographic, economic, technological, policy/institutional and cultural/socio-political changes.⁸ In reality deforestation is caused by a combination of direct and indirect drivers, making the fundamental causes hard to pinpoint. However, the study identified economic growth based on the export of primary commodities, and increasing demand for timber and agricultural products in a globalizing economy, as the main indirect drivers of deforestation and degradation. A survey of REDD+ countries' own views highlighted as indirect drivers weak forest-sector governance and institutions, including conflicting policies beyond the forest sector, and illegal activity (related to weak enforcement); population growth; poverty; insecure land tenure; and international and market forces, particularly commodity markets, prices and foreign direct investment.⁹

The study of the impact of EU consumption on deforestation (the EU's 'forest footprint') also mentioned in Chapter 1 concluded that 55 per cent of global deforestation in the 1990–2008 period occurred as a result of the conversion of forest for the consumption of crops, livestock and timber.¹⁰ Of this, only 2 per cent was directly attributed to logging for timber. This is almost certainly an underestimate of the total extent of logging operations, partly since forests logged and subsequently converted to agriculture were included in the remaining 53 per cent, as clearance for agriculture (whereas the decision to convert to agriculture could have followed the decision to log rather than the other way round), and also because the study excluded forests that were degraded rather than deforested. Of the remaining 45 per cent, 24 per cent was 'unexplained' (including, probably, illegal logging and simple data errors), 17 per cent was caused by natural hazards (mostly forest fires) and 4 per cent by urbanization and infrastructure.

The 53 per cent of deforestation considered to be due to conversion to agriculture equates to 127.6 million ha, or an average of 7m ha per year. Of this 46 per cent (58.2m ha) was due to livestock (mainly cattle) pasture, and 43 per cent (69.4m ha) to crop production; the remaining 11 per cent was due to crops for animal feed, including pigs and poultry (8 per cent) as well as cattle (3 per cent).

⁷ Kissinger, Herold and de Sy, *Drivers of Deforestation and Degradation*, pp. 10–13.

⁸ Helmut J. Geist and Eric F. Lambin, *What Drives Tropical Deforestation?* (LUCC, 2001).

⁹ Kissinger, Herold and de Sy, *Drivers of Deforestation and Degradation*, p. 13.

¹⁰ All figures in this section are taken from European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, pp. 20–23.

Globally, the crops most heavily associated with deforestation were soybeans, accounting for 19 per cent of embodied deforestation in crops, maize (11 per cent), oil palm (8 per cent), rice (6 per cent) and sugar cane (5 per cent).

It is clear from these figures that meat production has the biggest overall impact on deforestation. When crops produced for animal feed are added to the land directly used for meat production they together account for 57 per cent of the deforestation associated with agriculture. Between 1990 and 2008 this resulted in the loss of 73m ha – an average of 4m ha per year. Of this, 80 per cent (58.2m ha) ended up as pasture for grazing, mainly for beef cattle, meaning that beef consumption is the single biggest driver of deforestation globally, accounting for almost 27 per cent of total global deforestation over the period studied.

Although deforested lands are predominantly used for agricultural purposes, it is not always the case that deforestation occurs directly as a result of agricultural expansion. In many cases the land is converted to agriculture after deforestation has occurred as a result of government policies promoting economic growth or rural development – as has historically been the case, for example, in Brazil.

International trade and deforestation

The increasing liberalization of trade policy over recent decades has also clearly affected the extent and magnitude of deforestation. Globalized demand allows ‘the drivers of deforestation to be mobile’ and the ‘forces of the market to move them around the world,’¹¹ creating an ever-increasing incentive to convert forests into more profitable uses.

Nevertheless, it is still true that the bulk of deforestation from agriculture is the result of domestic use in the producing country: about one-third of the deforestation embodied in crop production, and just 8 per cent of the deforestation embodied in ruminant livestock products, is traded internationally.¹² Oil crops such as soy and palm oil account for the majority (almost two-thirds) of the deforestation embodied in exported crop commodities. While South American countries have experienced approximately one-third of total global deforestation, they account for almost two-thirds of the global trade in crop products associated with deforestation, largely owing to exports of soy, mainly to China.

The EU is an important source of demand for many agricultural commodities associated with deforestation. The European Commission study mentioned above concluded that over the period 1990–2008, the EU imported crop and livestock products associated with 9m ha of deforestation, amounting to almost 36 per cent of embodied deforestation in crop and livestock products traded between regions. Over this period the EU was the largest global net importer of embodied deforestation, with an impact almost double that of the next region, East Asia.

The main embodied-deforestation crops imported into the EU are soy and palm oil, together accounting for almost 70 per cent of the its ‘deforestation footprint’. Ruminant livestock products, mainly beef and leather, are also an important contributor, and the EU is responsible for importing

11 Doug Boucher et al., *The Root of the Problem: What's Driving Deforestation Today?* (Union of Concerned Scientists, 2011), p. 9.

12 All figures in this section are taken from European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, pp. 22–36.

over a quarter of the global export of the deforestation associated with these commodities. The main commodities imported into the EU, along with their sources of origin, which contributed to deforestation between 1990 and 2008 were (in order):

1. Soybean cake and soybeans from Brazil;
2. Meat products from Brazil;
3. Soybean cake and soybeans from Argentina;
4. Palm oil from Indonesia;
5. Soybeans from Paraguay;
6. Cocoa beans from Ghana;
7. Nuts from Brazil;
8. Palm oil from Malaysia; and
9. Cocoa beans from Nigeria.

It can be seen that a large majority of the EU's deforestation footprint derives from Brazil, with 50 per cent being embodied in imports of Brazilian soy, beef and leather products. Brazil is the largest exporter of deforestation into the EU by a factor of five, with the next most important exporters being Argentina, Nigeria, Indonesia and Paraguay, accounting for 25 per cent of the EU deforestation footprint between them, mainly as a result of oil crops such as soy and palm oil.

Imports of some of these products into the EU for non-food uses is increasing sharply, mainly because of expanding demand for biofuels. The 2003 Biofuels Directive and the 2009 Renewable Energy Directive between them set targets for the use of biofuels in the transport sector of at least 5.75 per cent by 2010 and at least 10 per cent by 2020. Imported soy and palm oil are being increasingly used for this purpose, with non-food industrial use of these oils rising dramatically since 2004 – though the impact of the policy on deforestation is increasingly being recognized and the policy framework may be changed accordingly.

3 Agricultural Commodities

The analysis for this report focuses on the international supply chains for palm oil, soy, beef, leather and cocoa. These five commodities were chosen on the basis of the analysis contained in the European Commission's report on the impacts of EU consumption on deforestation; as noted in the preceding chapter, they are the five agricultural commodities imported by the EU that are most strongly associated with deforestation. (Each commodity is looked at in greater detail in the Appendix.)

Although each supply chain is different, a number of common characteristics are evident. With the exception of beef, a high proportion of each of these commodities is exported; consumer countries therefore have at least the potential to affect the international trade in them, much as they do for timber. The EU is a major importer – ranked first or second, globally – for all of these commodities; as has been seen in Chapter 2, it was the largest global net importer of embodied deforestation over the period 1990–2008. Unsurprisingly, China is the other major global importer for all apart from cocoa, where the United States is ranked second. Cocoa is the only one of these five commodities for which the United States is a major importer; because of the country's significant domestic agricultural production, US imports are much less associated with embodied deforestation. North American imports accounted for only about 8 per cent of embodied deforestation in 1990–2008, compared with the EU's 36 per cent and East Asia's 18 per cent.¹³

All of these commodity supply chains also display a high degree of concentration at one or more points, with production and exports usually dominated by a handful of countries (palm oil – Malaysia and Indonesia; soy – Brazil and Argentina (and the United States); beef – Brazil (and the United States and EU); cocoa – Ghana and Côte d'Ivoire). In addition, a small number of trading companies account for a high proportion of the international trade; these include the 'ABCD' group of multinationals – ADM, Bunge, Cargill and Dreyfus – that controls much of the world's agricultural processing and manufacturing as well as trading. Relatively little is known in detail about their operations and strategies, partly since some are privately owned (Cargill is the world's largest privately owned firm).

A wide range of voluntary initiatives is under way for all these commodities, aiming to encourage and identify sustainable practices in production. This includes international multi-stakeholder processes such as the Roundtable on Sustainable Palm Oil (RSPO), the Roundtable on Responsible Soy (RTRS), the Roundtable for Sustainable Biofuels (RSB), the Global Roundtable on Sustainable Beef (GRSB) and the Leather Working Group. In addition, organizations such as the Rainforest Alliance and ProTerra carry out certification of farms and supply chains, often using the Sustainable Agriculture Network standards, for these and other agricultural products. Many (though not all)

13 Ibid., p. 23.

of the standards set by these bodies contain criteria relating to forest conservation, though some have been criticized for loopholes that may nevertheless permit deforestation.

In addition, some of these schemes, including the RSPO and RTRS, do not require full segregation in their supply chains in recognition of the fact that this can be costly and time-consuming to develop (see Appendix). ‘Book and claim’ certificate trading systems (similar to offset schemes) and ‘mass balance’ systems (where certified and uncertified products can be mixed) are in widespread use, at least as transitional measures. Although these ensure the delivery of financial support to certified producers, they do not guarantee that the products bought by the companies using these systems are themselves certified (this is reflected in labelling rules). This may have implications for WTO and procurement rules, discussed in the next chapter.

Many companies involved in the supply chains have undertaken voluntary initiatives to promote sustainable products. The Consumer Goods Forum, a global industry network of retailers, manufacturers and service providers, has adopted a target of achieving zero net deforestation in its membership’s supply chains by 2020, and encourages take-up of RSPO, RTRS and similar standards. Many large consumer and food manufacturing companies, such as Nestlé and Unilever and most of the major chocolate companies, have adopted similar targets or are aiming to ensure 100 per cent certified sustainable products in their supply chains by a particular target date. Despite all this activity, the penetration of certified products is still limited, particularly for beef and leather, and is not much of a concern other than for European and US companies and consumers.

Suitable commodity supply chains

The rest of this report considers the potential for consumer-country government action to reduce levels of deforestation associated with the agricultural products their countries import. What characteristics of a commodity supply chain should make the application of these measures easier and potentially more successful? All else being equal, measures should be more effective where:

- There is already an identification scheme for ‘desirable’ (sustainable or legal) products in existence. The application of the various timber consumer-country measures has been rendered easier by the prior existence of certification schemes such as FSC and PEFC; and in turn, uptake of the certification schemes has been encouraged by the implementation of the measures. As can be seen from Annex 1, the situation is not as good for the agricultural commodities considered here, where sustainability schemes are in general less well developed, particularly for soy, beef and leather.
- Voluntary private-sector initiatives are already under way. Clearly, if major consumers or traders of the commodities are already taking action to source sustainable commodities, government measures will be easier to implement; in the best case, they may even be unnecessary, though there will always a strong case for them to be used to level the playing field. For these commodities the picture is much better than it was for timber ten or so years ago, with far more voluntary initiatives already in progress.
- Supply chains are simple, with a relatively small number of stages at which controls can be applied, and a narrow category of products in which the raw material ends up. This is true of soy, beef and cocoa, but less so of leather and much less so of palm oil, where supply chains can be long and complex.

- There is a concentration of market power at one or more points along the supply chain (producers, traders, processors or retailers): the fewer companies governments have to deal with, the more likely they are to be able to enforce compliance, or encourage voluntary action. This applies to all of the commodities considered here.
- There is likewise a strong geographic concentration of production: the smaller the number of producer countries there is to deal with, the more likely initiatives may be to succeed, particularly where they involve bilateral arrangements. However, this can be argued both ways; countries controlling relatively high percentages of global production may be less amenable to restrictions placed on their exports. The production of each of the commodities considered here is dominated by a small number of countries.
- There is a high ratio of exports to domestic consumption. Self-evidently, the greater the proportion of exports, the more consumer-country measures aimed at them will be effective; the more production ends up in the domestic market, the less effective they will be. For these commodities, palm oil, soy, cocoa and leather are all heavily exported, beef much less so.
- Similarly, there is a higher proportion of exports to sensitive markets – i.e. those concerned about sustainability impacts and willing to use consumer-country measures to promote sustainable production: in practice the EU and, to a lesser extent, the United States. As a major importer of palm oil, soy, beef and cocoa, the EU possesses significant market power; however, China is a bigger importer of palm oil, soy and leather.
- For public procurement policies, the product is purchased by the public sector; obviously, if the public sector is only responsible for a small proportion of consumption, public procurement policies will not be particularly effective (though note the knock-on effects for timber procurement indicated in Chapter 5 – 10 per cent of the market – may well be enough to trigger much wider effects). It is likely that the public sector is a reasonably significant buyer of all the commodities considered here.
- There are other opportunities for government regulations to affect the market, as with building standards and biomass sustainability criteria for timber. For these commodities, this is true for palm oil and soy, which are widely used in biofuels, but not for the others.

Although all the commodities considered here qualify under at least some of these criteria, palm oil and cocoa are probably those best suited to consumer-country measures, followed by soy; beef and leather pose more difficult challenges.

4 Excluding Undesirable Products

Timber

As noted in Chapter 1, there is now more than 10 years' experience of consumer-country governments' efforts to exclude illegal, and sometimes unsustainable, timber from international supply chains. Right from the beginning of the international debate on the issue, it was always recognized that consumer countries contributed to the problems of illegal logging by importing timber and wood products without ensuring that they were legally sourced. In fact, until the last few years, importing countries have generally had no legal mechanisms to exclude illegal timber even if they could detect it. With a few exceptions, it was not unlawful to import timber produced illegally in a foreign country.

Measures adopted by consumer-country governments in response have included the following.

- The use of public procurement policies to require legal (and often sustainable) products for government purchasing; 13 consumer countries now possess such policies;
- The use of other government standards, such as building regulations requiring legal and/or sustainable timber;
- Bilateral agreements between consumer and producer countries to establish licensing systems designed to ensure that only legal products enter trade between the two, and improve forest governance in the producer country, such as the voluntary partnership agreements currently being negotiated and implemented under the EU Forest Law Enforcement, Governance and Trade (FLEGT) initiative;
- The introduction of broader legislative controls to make imported illegal products illegal in the country of import, such as the US Lacey Act, the EU Timber Regulation and the Australian Illegal Logging Prohibition Act;
- 'Due diligence' requirements on industry, requiring companies to put in place procedures to minimize the chance of them handling illegal products, as in the EU Timber Regulation and the Australian Illegal Logging Prohibition Act.

All these measures aim, in different ways, to exclude illegally produced timber from a given market (either the whole of a consuming country's market, or its public-sector purchases). In order to achieve this, importers must establish means of distinguishing between legal and illegal products, either by setting up new systems or by making use of existing ones – mainly the international forest certification schemes, FSC and PEFC.

Together with voluntary commitments by the private sector, the combination of these measures has had a clear impact on consumer markets. This is most evident in the increasing penetration of FSC- and PEFC-certified timber, which have emerged as the most important means of demonstrating legality and sustainability for public procurement contracts, building standards and voluntary company commitments. By 2010 certified products accounted for around 27 per cent of global industrial roundwood production, but in the United Kingdom certified timber and panel products accounted for over 80 per cent of the market in 2008, having grown from 55 per cent in 2005.¹⁴ In the Netherlands, the share of certified timber and panel products grew from 13 per cent in 2005 to 34 per cent in 2008 to 68 per cent in 2011; the share of certified paper and paperboard was 33 per cent in 2011.¹⁵ It can be expected that the EU, US and Australian legislation referred to above will also help boost demand for certified products – though since all of these measures aim to exclude illegal, rather than unsustainable, timber, simpler legality verification schemes may be taken up instead of full sustainability certification.

Development of the legality assurance and licensing systems under the voluntary partnership agreements (VPAs) has been much slower than anticipated, though the Indonesian legality assurance scheme is now in use domestically, and a successful shipment test for exports to the EU was conducted in late 2012. In addition, all the VPAs have had positive impacts on transparency and forest governance in the host countries.

Illegality and sustainability

It should be noted that, with the exception of public procurement policies, all the measures listed above aim to exclude illegal rather than unsustainable timber. In general the debate around illegal timber is relatively straightforward, as it (mostly) relies on laws developed in the producer countries, and very few people argue that timber produced illegally in one country should be marketed freely in other countries. Thus legality-based approaches such as the Lacey Act or due diligence requirements can be used. The debate around sustainability is more complex, relying on definitions that are generally not developed in the country producing the commodity (or at least not solely developed there), and raising questions of competing values. The interaction with WTO rules is also more complex.

However, illegality and sustainability are clearly linked. In almost all situations reducing levels of illegal logging and improving standards of forest governance will in turn improve the sustainability of forestry management. Simply putting in place the mechanisms needed to track the movement of logs from the forest through to export is a big step towards establishing full chain-of-custody tracking. And, as noted above, many of the initiatives examined here have led in practice to greater uptake of the sustainability certification schemes.

Agricultural commodities

Can these types of supply-chain controls, which have been used with effect with regard to timber, be applied to the agricultural commodities described in Chapter 3 and the Appendix? The main aim is the same: to exclude undesirable commodities from consumer-country markets. This reduces the rate of return to the producers of undesirable products and creates protected markets for desirable commodities, where the latter can avoid being undercut by cheaper undesirable products and where the higher costs generally associated with their production can be recouped.

14 Nick Moore, *UK Timber Industry Certification* (UK Timber Trade Federation, 2009).

15 Probos, 'Market Share of Sustainably Produced Timber Doubled in Three Years: Government Target Exceeded', *Bosbericht* (2013). See <http://www.probos.nl/index.php?cat=home&top=publications&frames=>.

Specific options are looked at in more detail in the following chapters, but here some general issues relating to all of them are considered.

Illegal, unsustainable or zero-deforestation?

In the case of timber, ‘desirable’ and ‘undesirable’ have generally meant legal and illegal respectively, though some public procurement policies and voluntary company initiatives go further and source sustainable timber. In practice attempts to source legal timber have often ended up sourcing sustainable timber, as certified by FSC or PEFC, generally because it is easier to obtain certified products than to obtain products not certified but verified as legal.

In the case of the agricultural commodities considered here, illegality has not, in general, been as high-profile an issue as illegal logging was, and remains. Research on the topic has been less extensive than on illegal logging, but there are many reports of illegal clearance of forest for oil palm or soy, or pasture for cattle, in most countries that produce them. Research under way for Forest Trends, based on case studies in Brazil, Peru, Colombia, Cameroon, Cambodia, Indonesia, Malaysia and Papua New Guinea, estimates that most conversion of forest to agriculture (including timber plantations) in tropical countries is currently illegal; and this is particularly true of clearance for oil palm plantations and cattle pasture.¹⁶

It is often impossible to disentangle illegal logging and illegal agricultural production. Forests may be cleared illegally for their timber, and then replaced with soy or oil palm; or they may be cleared illegally for agriculture with the timber produced illegally sold on to the market. Illegal behaviour related to forest conversion includes the following.

- Clearing forest without required corresponding clearance permit and/or without permission from the ministry with jurisdiction over the area;
- Clearing forest in designated protected area or forest as having high-conservation value, e.g. deep peat or riparian forest;
- Permit for conducting clearance issued or obtained illegally, not following due legal process, e.g. through bribery or coercion;
- Permit for conducting clearance issued or obtained without meeting conditions, e.g. approved environmental impact assessment, forest inventory or community consent;
- Failing to pay corresponding taxes for timber resources and/or for land acquisition;
- Failure to enforce or implement required environmental mitigation measures during forest clearance activities;
- Failing to comply with provisions stated in contract.¹⁷

16 Sam Lawson, presentation at Chatham House, 9 July 2013: ‘Illegal forest conversion for industrial agriculture, and associated trade in timber and agro-commodities: the scale of the problem and potential solutions’, <http://www.illegal-logging.info/sites/default/files/Sam%20Lawson%20%282%29.pdf>.

17 Daphne Hewitt, *A Review of Legality Definitions: Identifying Illegality in Timber from Forest Conversion Issues* (Forest Trends and IDL Group, July 2013), p. 4.

In addition there may be illegalities associated with the production of crops, for example in failures to abide by environmental standards (e.g. excessive pesticide or fertilizer use) or labour standards (e.g. the use of forced labour, which has often been reported in cocoa production).

As the experience of the illegal logging debate suggests, however, illegal forest conversion is often more difficult and complex to prove than many other forms of illegal behaviour. It is inevitably entangled with questions of land ownership and tenure which, in many countries, may be unclear or contested. Consumer-country action against illegal agricultural commodities may therefore be more difficult, in practical and political terms, than it has been against illegal timber.

Targeting action against unsustainable commodities may consequently prove more practical, not least because in most cases there are at least some forms of certification providing evidence of sustainable origin (however defined). However, sustainability incorporates a wider range of issues than legality and relies on definitions that are not, in general, reached in the country of production, or at least not only there. Restricting trade on the basis of sustainability standards therefore risks accusations of foreign values being imposed. It could also trigger the development of sustainability standards by the countries of origin that may not always meet international criteria for sustainability (note the current development of Indonesian and Malaysian standards for sustainable palm oil). And it raises issues of compatibility with WTO rules (see further below).

Finally, is there a basis for consumer-country measures based on the concept of ‘zero deforestation’? This has been adopted as a target by a number of organizations, including the Consumer Goods Forum and World Wide Fund for Nature (WWF), in each case by 2020, and by some countries, including Paraguay. As an overall objective it is a good one, but it is not applicable as an identification mechanism making discrimination in trade or in procurement contracts possible – no products are actually identified as such, and even if they were it would beg several questions (including ‘zero from what baseline?’ and ‘by when?’). It could be related to offset mechanisms, such as those envisaged for REDD+, or currently operating in voluntary carbon markets, but this is a controversial area that goes beyond the scope of this paper.

Certification systems

Any consumer-country measure aimed at favouring sustainable products must rest on a means of identifying them, and distinguishing them from unsustainable products; there is no point imposing consumer-country controls on imports unless the producers can respond. As noted above, in the timber sector the main means of identification has proved to be the certification schemes FSC and PEFC – and the adoption of consumer-country measures has boosted their uptake.

All the agricultural commodities considered here have certification systems in place, either through multi-stakeholder initiatives such as the roundtables or through individual schemes such as those run by Rainforest Alliance, ProTerra or UTZ. Although their use is not yet widespread, they are gaining wider acceptance, particularly in the cases of palm oil and cocoa. Experience from the timber sector shows that the certification schemes were themselves affected by the adoption of consumer-country measures, with both FSC and PEFC tightening up their standards and systems.¹⁸ There is no reason to think that this could not happen if public procurement policy started being applied to these agricultural commodities.

18 Efecca, *An Assessment of the Impacts of the UK Government's Timber Procurement Policy* (November 2010), p. 29.

The alternative would be for procurement policies, or other measures, to rest on criteria that could not easily be met through any existing international scheme. It would not be impossible to create a new certification or licensing system – international treaties have done just that for wildlife (the Convention on International Trade in Endangered Species of Wild Fauna and Flora – CITES) or conflict diamonds (the Kimberley Process), for example – but it would probably be a slow process and a difficult one for only a small group of countries to pursue. At the very least, a significant number of the major producing and consuming countries and the major companies or trade associations would need to agree on the principle, which at the moment does not seem likely.

WTO implications

Sustainability

Measures taken by consumer countries to discriminate in trade between sustainable and other products – for example, through tariff preferences, or trade bans – potentially interact with WTO rules. Member states are not permitted to discriminate between traded ‘like products’ produced by each other, or between domestic and international like products, though exceptions are permitted to these general principles under certain circumstances.¹⁹

The question of whether products possessing identical physical characteristics but grown, harvested or processed in different ways are or are not ‘like products’ is controversial and contested in the debates around the interactions between trade rules and environmental measures. Partly thanks to some early trade dispute cases, and the conclusions reached on them by dispute panels, it is often believed that this kind of discrimination is not permissible under WTO rules. In fact, however, no such language exists in the WTO agreements, and the outcome of a number of more recent disputes suggests that discrimination on the basis of ‘process and production methods’ (PPMs) could be permitted as long as it is carefully targeted (e.g. on a shipment rather than a country-of-origin basis) and enforced evenly between domestic and foreign products.

Nevertheless, concerns remain over the possible use of PPM-based trade measures. Environmental and social standards, together with their accompanying regulatory bodies, conformity assessment procedures and accreditation agencies, are increasingly common in international trade, often used by the private sector (which is not subject to WTO rules), with the aims of satisfying consumer markets, building brand reputation and helping to secure supply chains. Developing countries often see these as disguised protectionism by developed countries through the imposition of their environmental and social standards (which are assumed to be higher and more costly) on poorer countries’ exports. Even where this is not the justification, poorer countries possess less capacity to adapt to standards and regulations such as these, which are generally drawn up by developed-country enterprises and agencies.

It is for these kinds of reasons that the ongoing discussions within the WTO about the potential for eliminating tariff and non-tariff barriers to environmental goods and services – an element of the Doha Development Agenda launched at the Fourth WTO Ministerial Conference in November 2001 – have tended to shy away from considering ‘environmentally preferable products’, such as sustainable palm oil, because of their uncertain status under the

¹⁹ For a longer discussion, see Duncan Brack, *Controlling Imports of Palm Oil: Interaction with WTO Rules* (Global Canopy Programme, forthcoming, 2013).

WTO agreements. A listing of proposed environmental goods discussed by the organization's Committee on Trade and Environment in 2010, for example, does not contain any goods distinguished by virtue of their PPMs.²⁰

Even if the principle of PPM-based discrimination is accepted, a number of other factors remain to be considered.

First, in general, under WTO rules, the criteria for 'sustainability' on which the measures are based must be expressed in terms of performance rather than design or descriptive characteristics. In other words, trade preferences given to 'sustainable' palm oil might be permissible, but specifying 'sustainable' as only 'RSPO-certified', for example, would not be. The government applying the measure would have to draw up a list of criteria which any supplier could potentially meet regardless of its membership of any given certification scheme.

Second, it is very likely that trade preferences could only be used for trade in segregated commodities. Discrimination on the basis of the book and claim or mass balance systems allowed by both RSPO and RTRS would be very unlikely to be WTO-compatible, as they would be applied to palm oil or soy that was no different from non-certified palm oil or soy that did not benefit from the preference.

Third, a question to be considered in the case of palm oil and soybean oil is whether they would be considered to be 'like products' with other vegetable oils, such as corn, rapeseed or sunflower oils. In some ways they are highly substitutable (most oilseeds contain the same fatty acids, though in different combinations), being equally usable, for example, as a base for frying, a food additive or a component of biodiesel. In other ways, however, they are different: palm oil tends to be much more energy-dense than other vegetable oils and the crops grow in different conditions and, usually, different countries. They also possess different tariff classifications under the Harmonized System of Customs Codes.

This matters because if any trade measure is used to give preference to sustainable palm oil or soybean oil, if all vegetable oils are considered to be 'like', then a similar preference would have to be given to sustainable vegetable oils in general. This may, of course, be itself a desirable outcome, though it would at the very least complicate the measure. It also may not have to be exactly the same preference – the EU's sustainability criteria for biofuels, for example (see Chapter 7) cover several different oils, but treat them differently in terms of default values for greenhouse gas emission savings.

The question of 'likeness' is a difficult one to judge and would have to be determined in relation to the trade measure in question if it came to a WTO dispute. The following chapters touch on some specific issues in relation to particular potential trade measures.

Legality

Measures targeting illegal products, such as the US Lacey Act or the EU Timber Regulation, raise fewer WTO issues.²¹ The prohibition on the placing of illegal timber on the market is not a trade measure, applied at the border, and operators or traders are not required to provide proof of legality at the point of import or sale. It is simply a provision to make timber produced illegally (overseas or domestically) also illegal at home.

20 World Trade Organization, Committee on Trade and Environment Special Session, Report by the Chairman, Ambassador Manuel A. J. Teehankee, to the Trade Negotiations Committee for the purpose of the TNC stocktaking exercise (TN/TE/19, 22 March 2010).

21 See further in Duncan Brack, *Combating Illegal Logging: Interaction with WTO Rules* (Chatham House, 2013).

The due diligence requirements in the EU Timber Regulation apply equally to timber produced domestically within the EU as well as to imports, so should raise no question of discrimination. It is still too early to assess the practical outcomes of operators' implementation of their due diligence systems, but care will need to be taken to ensure that the risk assessment process they must carry out does not in practice lead to entire countries being treated as high-risk sources. If more extensive (and therefore potentially more expensive) documentary evidence were routinely demanded of all products originating in some countries and not others, regardless of the company or area of production, the regulation could be found to be operating in effect to give protection to some countries' products at the expense of others'. The Timber Regulation itself, and the implementing regulation setting out details of the due diligence procedure, are careful to specify that operators should seek information not just about the country of origin and its degree of illegal logging, but also about the sub-national region and concession of origin, including the prevalence of illegal activity in the sub-national region, where these vary within the country.

5 Public Procurement Policy

In all developed countries, purchasing of goods and services by public authorities – central, regional and local government and agencies – is estimated to account for an average of about 12 per cent of GDP.²² Although government purchasing will not reach the same proportion in all markets, it is clear that the public sector is a major purchaser (or specifier) of timber for a variety of uses, including paper and paper products, furniture and timber for construction, and also of food and catering products. Public procurement policy – i.e. the criteria governments set for their purchases of these products – can accordingly have a major impact on the market.

Timber

As of September 2013, 13 countries (Austria, Belgium, Denmark, Finland, France, Germany, Japan, Mexico, the Netherlands, New Zealand, Norway, Switzerland and the United Kingdom) have government procurement policies aimed at ensuring that public purchasers source only legal and/or sustainable timber and wood products. Many local and regional governments in these and other countries also possess some kind of timber procurement policy.²³

Governments have adopted one of two different approaches to deciding the criteria for legality and sustainability they wish the timber products they procure to satisfy. Some countries, mainly the Netherlands and the United Kingdom, have drawn up their own criteria, derived from a variety of sources and inputs, and generally subject them to a consultation process. Under this approach, governments need to give guidance to their buyers to ensure that they purchase products that meet their criteria, and do so quickly and efficiently. In practice the simplest way to achieve this has been to purchase products covered by the main certification schemes, FSC and PEFC. Both countries have established systems, relying on independent advisory bodies, for assessing whether the certification schemes meet their criteria for legality and sustainability. Since EU procurement rules require that procurement policies must rest on criteria, not on whether a product has been certified by any particular scheme, they have also developed systems for assessing claims by suppliers that their products meet the sustainability or legality criteria even if they are not certified by any recognized scheme.

Other countries have adopted a less elaborate system, deciding simply that particular certification schemes are adequate to meet their criteria. Germany's policy, for example, simply requires FSC- or PEFC-certified timber, or its equivalent. In practice the outcome of this is much the same

22 OECD, 'Size of Public Procurement Market', in *Government at a Glance 2011* (OECD Publishing), http://dx.doi.org/10.1787/gov_glance-2011-46-en.

23 For summaries, see Duncan Brack, *Controlling Illegal Logging: Using Public Procurement Policy* (Chatham House, June 2008); and Markku Simula et al., *The Pros and Cons of Procurement: Developments and Progress in Timber Procurement Policies as Tools to Promote Sustainable Management of Tropical Forests* (ITTO Technical Series 34, April 2010).

as that of the more complex policies, as almost all timber purchased under British or Dutch guidelines is FSC- or PEFC-certified in any case. Denmark initially drew up its own criteria, similar to the British and Dutch ones, but eventually concluded that in practice simply opting for FSC- or PEFC-certified timber (or equivalent) was a much simpler process for both buyers and policy-makers, and had much the same impact.

Other countries accept an even wider range of evidence of legality and/or sustainability. Some countries' procurement policies cover only particular end uses or products, such as timber for construction, or paper. Within the EU, a European Commission working group was established in 2009 to encourage member states to exchange experiences on their approaches to timber procurement. It reported in November 2010 with a series of recommendations encouraging member states to adopt consistent approaches towards issues such as the definitions of legality and sustainability.²⁴

Impacts

To date only two countries – the Netherlands and the United Kingdom – have undertaken market research studies on the impacts of their timber procurement policies on overall supply. In both cases the volume of certified timber products imported had grown steadily since their introduction. In the United Kingdom, growth has been particularly rapid; in 2008 certified products accounted for over 80 per cent of the market (domestic production and imports).²⁵ As one study concluded:

*There is an undeniable shift in the behaviour of the timber trade, in particular the leading more progressive companies, and the UK Government's timber procurement policy has had a significant impact and been one of the drivers for this change, along with NGO pressure and Corporate Social Responsibility (CSR) policies aimed at managing risk.*²⁶

Similarly, in the Netherlands, the share of certified timber and panel products grew from 13 per cent in 2005 to 34 per cent in 2008 and 68 per cent in 2011, while the share of certified paper and paperboard was 33 per cent in 2011.²⁷ In 2011 a survey of the timber markets in six EU countries (Denmark, France, Germany, Italy, the Netherlands and the United Kingdom) concluded that 'the public sector and commercial big buyers – DIY, wholesaler, retailer and other large enterprises – are the main drivers generating demand for SFM [Sustainable Forest Management]-certified timber'.²⁸

The evidence also suggests that public procurement policies can have a much broader impact on consumer markets than simply through the direct effect of government purchases. Suppliers' preferences for relatively simple supply chains magnifies the effect; if they need to supply sustainable timber for public purchasers, for example, the evidence suggests that they tend to prefer to supply the same products to their other customers too. One estimate suggested that government procurement could achieve market leverage of up to 25 per cent of the market (compared with about 10 per cent for direct purchases) when knock-on effects such as these were

24 European Commission, *Public Procurement of Wood and Wood-Based Products*, Report to the Standing Forestry Committee by the Standing Forestry Committee Ad Hoc Working Group IV on Public Procurement of Wood and Wood-Based Products (November 2010).

25 Moore, *UK Timber Industry Certification*. Both certified imports and domestic production are almost entirely FSC- or PEFC-certified.

26 Efeca, *An Assessment of the Impacts of the UK Government's Timber Procurement Policy*, p. iii.

27 Probos, 'Market Share of Sustainably Produced Timber Doubled in Three Years'.

28 André de Boer and Gunther Hentschel, *European Timber Trade Federation Annual Survey: The European Market for Verified Legal and Sustainable Timber* (April 2011), p. 6.

included.²⁹ And in any case in some markets, public buyers are disproportionately significant; for example, in the United Kingdom the public sector is thought to account for 30–50 per cent of demand for office furniture,³⁰ and in most countries public-sector buyers are particularly important for timber for specialist uses such as harbour defences.

Procurement policies are attractive because they can be developed and implemented more rapidly than most other policy options – generally they do not need new legislation, unlike other options examined here. Their impact, however, is affected by the extent of the policy's coverage. So far, all the countries referred to above have adopted these policies only for central government, which accounts on average for about 30–35 per cent of total public-sector expenditure (in the United Kingdom, which is unusually centralized, this figure is about 70 per cent). There has been some take-up among regional and local governments, in the countries listed above and in others, but this has been slow and piecemeal.

Agricultural commodities

Public procurement policies for sustainable food

All the commodities considered in this paper, with the exception of leather, are or can be foodstuffs or components of food. The report of the United Kingdom's Sustainable Procurement Task Force in 2006, *Procuring the Future*, identified food as the third most important of 10 priority sectors for UK sustainable procurement policy; its analysis was based on a mixture of total spend (i.e. impact in the market), scope to do more, and risks.³¹ At the time, public spending on food and catering amounted to 2.1 per cent of total procurement spend: £3.2 billion, about 10 per cent of the total UK catering sector. The European Commission's 2008 communication on green procurement, *Public Procurement for a Better Environment*, similarly identified food and catering services as the second of 10 priority sectors.³² Given governments' spending on food for canteens for offices, prisons, health and education services and the military, this is not surprising.

Public procurement policies have not commonly been applied to food by central governments, though there are many examples of local and regional governments using their own procurement policies to specify organic or Fairtrade-labelled products. Specifications for organic food are becoming more common particularly for school meals, thanks to concerns over children's health and development. There are, for example, over 300 examples of organic school meals services in Italy – some of them use only organic fruit and vegetables, whereas others offer whole meals based on 80, 90 or even 100 per cent organic ingredients. The city of Ferrara took a structured approach to going organic, commissioning a feasibility study in 1994 and then establishing a list of foods that could be used without significantly increasing costs.³³ In Sweden, all coffee included in the range available in public-sector canteens must meet the requirements of a certified organic food programme.

29 Markku Simula, 'Public procurement policies for forest products – impacts', presentation at UN Economic Commission for Europe/Food and Agriculture Organization policy forum on public procurement policies for wood and paper products and their impacts on sustainable forest management and timber markets, 5 October 2006.

30 Efeca, *An Assessment of the Impacts of the UK Government's Timber Procurement Policy*, p. 65.

31 UK Department for Environment, Food and Rural Affairs, *Procuring the Future: Sustainable Procurement National Action Plan: Recommendations from the Sustainable Procurement Task Force* (2006), pp. 11, 71.

32 European Commission, *Public Procurement for a Better Environment* (2008), p. 8.

33 European Commission, *Buying Green! A Handbook on Environmental Public Procurement* (2004), p. 25.

In the United Kingdom, the Sustainable Food Cities Network was established in 2011 as an alliance of public-, private- and voluntary-sector organizations aiming to encourage healthy and sustainable food strategies, including health and wellbeing, environmental sustainability, local economic prosperity, resilient communities, and fairness in the food chain. Its (voluntary) principles include that: 'food production should conserve and enhance terrestrial and marine ecosystems and natural resources including soil, water and air',³⁴ though it is not clear to what extent this has encouraged the uptake of certified sustainable products.

Also in the United Kingdom, 'Fish and Kids' is a project of the Marine Stewardship Council (MSC), a voluntary certification body modelled on the FSC.³⁵ It aims to increase the availability of sustainable seafood in schools as a means to increase awareness of sustainable seafood issues. MSC provides support to food distributors to help them source sustainable seafood, communicates and advises local authorities and school-meal providers, and provides educational resources to schools and communities. By April 2007, over 1,000 schools were using the logo on their school menus, and four million sustainable fish dinners were being served to about 250,000 schoolchildren per year.³⁶

There are therefore plenty of precedents for procurement standards for foodstuffs, and their application to products containing soy, palm oil, beef and cocoa should be considered.

UK procurement policy for sustainable palm oil

This process is already under way in the United Kingdom, at least for palm oil, where in April 2011 a government-commissioned report on sustainable palm oil procurement was published.³⁷ It drew lessons explicitly from the experience of the UK timber procurement policy, including its wider market impact and the necessity for technical support from the government (as delivered via the Central Point of Expertise on Timber – CPET). After considering a range of options, it concluded that 'the highest positive impacts would be achieved by a combination of a public procurement policy that incorporates a time-bound goal, together with targeted support and awareness-raising to galvanise action across UK supply chains'.³⁸ It recommended a target of 100 per cent sustainable palm oil by 2015, together with collaboration with industry to encourage collective implementation efforts.

In October 2012, the government duly announced that it was adopting the target of 100 per cent sourcing of credibly certified sustainable palm oil by the end of 2015.³⁹ The announcement was made jointly with 14 trade associations and NGOs, including several covering food and catering. To a certain extent it was modelled on the Dutch and Belgian initiatives (see Appendix), but explicitly included the UK government as a signatory to the target.

The government added the requirement for sustainability for palm oil, palm kernel oil and derivatives to the Government Buying Standard for food and catering, which is mandatory for central government and encouraged throughout the wider public sector (local authorities, the

34 Sustainable Food Cities, 'Principles of Sustainable Food', <http://www.sustainablefoodcities.org/about/definitionsofsustainablefood/principlesofsustainablefood>.

35 For further information, see MSC website (<http://www.msc.org>) and Fish and Kids website (<http://www.fishandkids.org>).

36 Marine Stewardship Council press release, 'Nearly 4,000,000 school lunches go green with blue eco-label', 2 April 2007, <http://www.msc.org/newsroom/news/nearly-4-000-000-school-lunches-go-green-with-blue>.

37 Proforest, *Review of Policy Options Relating to Sustainable Palm Oil Procurement* (April 2011).

38 Ibid., p. 7.

39 UK Department for Environment, Food and Rural Affairs, *Sustainable Production of Palm Oil: UK Statement* (October 2012).

National Health Service, etc.). It is using CPET to provide an advice and information service on sustainable palm oil for businesses and government procurers, including a helpline, web resources, newsletters and seminars.⁴⁰ The government also pledged to work with the organizations involved in the national statement to monitor the progress towards the target, and to encourage other consumer nations to switch to sourcing sustainable palm oil.

Unlike the private-sector initiatives described in the Appendix, the government cannot simply use 'RSPO-certified' as its definition of sustainability, thanks to EU procurement rules (see below). The new Government Buying Standard for food and catering accordingly sets out eight specific sustainability criteria for palm oil, which are based closely on the RSPO system.⁴¹ CPET has the responsibility of elaborating the system further.

WTO and EU implications

Government procurement measures are subject to the WTO Government Procurement Agreement (GPA). Unlike most WTO agreements, this is a plurilateral agreement, to which not all WTO members are parties. In fact, as at September 2013, only the EU and all its member states and 14 other countries are parties. None of the major agricultural exporters discussed in this report are members, so for this and other reasons the GPA is of little practical relevance.

EU member states develop and apply their own procurement policies, but the EU sets principles to which the individual policies must conform. These aim to ensure that public procurement policies operate in a transparent way, ensure equal treatment of suppliers (e.g. forbid discrimination on the basis of nationality), and achieve best value for taxpayers and consumers of public services. In common with the WTO agreements (see Chapter 4), they require specifications to be described in the form of general criteria rather than simply in terms of conformity with particular certification schemes. One implication is that book and trade or mass balance systems may not satisfy the procurement criteria, as under these systems the commodities that are being bought may not actually be sustainably produced.

EU rules do allow significant scope for including environmental criteria, though many of the same debates as have taken place in the WTO arena over PPM-based trade measures have taken place over EU procurement rules as well, and their applicability is still sometimes disputed. However, none of the timber procurement policies mentioned above have ever been subject to challenge.⁴²

40 See palm oil section of CPET website at www.cpet.org.uk/palm-oil-folder.

41 Guidance on Government Buying Standards for Food and Catering Services, <http://sd.defra.gov.uk/documents/GBS-guidance-food.pdf>.

42 For a much longer discussion, see Duncan Brack, *Social Issues in Timber Procurement Policies* (Chatham House, October 2010).

6 Differential Tariffs

Customs duties on imports or exports are called tariffs. Tariffs on imports give a price advantage to locally produced goods over similar goods that are imported, while tariffs on exports dissuade the export of particular products, making supply to the domestic market more price-competitive. Tariffs also raise revenues for governments. In the past this was generally a major source of government funding, but its importance has declined as countries have developed effective systems of income, consumption and business taxes, though tariff revenue can still be significant for developing countries.

Successive international trade rounds have seen a dramatic fall in tariffs, though the process has been less extensive in agriculture, largely owing to the key political roles played by agricultural producers in many countries. Average agricultural tariffs in 2007 were estimated at 15.9 per cent, with a range from 1.5 per cent for Australia to 60.5 per cent for India; the EU's average of 14.6 per cent equalled the average agricultural tariff for developed countries as a whole.⁴³

In theory, at least, lower tariffs could be set for products identified as sustainably produced, encouraging their import and/or export – but this raises a host of practical, legal and political questions, explored below.

The option of higher tariffs for unsustainable products not only raises all the same questions, but also runs counter to the commitments WTO members have made in successive trade rounds to reduce tariffs and 'bind' them, i.e. set ceilings above which they will not raise them. It is possible for them to break these commitments, but only through negotiation with the countries most concerned and probably at the cost of paying compensation for the loss of trade. This option is so unlikely that it is not considered further here.

Timber

The option of lower tariffs for sustainable timber was considered in the early years of the debate around illegal logging (the option was raised in two Chatham House reports on the issue in 2001 and 2002) but was never seriously pursued.

In fact, in 1998 the EU had already incorporated environmental (and labour) clauses in its generalized system of tariff preferences (GSP); countries meeting International Tropical Timber Organization sustainability standards were eligible to receive special tariff reductions of about 25 per cent. No country, however, ever applied for these environmental special incentives,

43 Alan Matthews, 'Will the right tariff average stand up?', Cap Reform.eu, 31 May 2012, <http://capreform.eu/will-the-right-tariff-average-stand-up/>. Note that the calculation of average agricultural tariffs is extremely complex.

probably largely because of the low rate of duties already applying to timber and wood products – in the EU these were generally no more than 5 per cent, and often as low as zero. The bureaucracy involved and the implicit acknowledgment of trade and environment linkages (undesirable to some developing countries – see Chapter 4) probably also contributed to the poor uptake.

Agricultural commodities

In recent years a number of calls have been made for the EU to abolish the tariff on sustainable palm oil, in order to give it a price advantage in the market over unsustainable palm oil (or, at least, palm oil not identified as sustainable). In 2011, for example, Jan Kees Vis, president of the RSPO, called for consideration to be given to tariff preferences to boost demand for sustainable palm oil.⁴⁴ In 2011 and 2012, the Dutch Product Board for Margarine, Fats and Oils (MVO) called for a zero tariff on RSPO-certified palm oil, which would supposedly more than offset the higher price of certified products.⁴⁵ In January 2012 the Dutch minister of economic affairs, Maxime Verhagen, echoed the call.⁴⁶

In fact, tariffs for most of the commodities discussed in this report are already very low, as they are for timber. For example, the EU's import duty on palm oil for use in food is 3.8 per cent, and for non-food applications zero. On top of that, developed countries generally offer preferential access to products of developing countries (permitted under an exception to normal WTO rules). Under the EU's new GSP for developing countries, which will apply from 1 January 2014, the tariff on crude palm oil is zero for any use.⁴⁷

Further tariff preferences are available under the 'Everything but Arms' (EBA) provisions (for the least developed countries) and the 'special incentive arrangement for sustainable development and good governance' ('GSP+', for countries classified as vulnerable, suffering from a lack of economic diversification, which also adhere to a list of 27 international conventions on human and labour rights, environmental standards and good governance). Countries with economic partnership agreements or free trade agreements with the EU may also enjoy lower tariffs. The outcome of this system is that for most raw or crude agricultural commodities – including palm oil, soybeans and cocoa beans, and also leather – developing-country exporters face zero import tariffs for exports to the EU.

Processed products do in general face rather higher tariffs, and beef higher again, thanks to EU concerns about the impact of imports on the domestic beef industry. In addition, Malaysia, Brazil and Argentina will not qualify for the new EU GSP, owing to their upper-middle-income status, which means that from 2014 tariffs on their exports, particularly on beef, will rise. Malaysian palm oil producers have accordingly called for the rapid conclusion of a free trade agreement with the EU (on which negotiations began in 2010), which could offset the increase.⁴⁸ There are also ongoing discussions between the EU and the Mercosur countries over a free trade agreement.

44 'Palm oil body calls for reduced tariffs', *Financial Times*, 22 November 2011.

45 'EU import duty on sustainable palm oil may be lifted by 2013 – industry executive', *Dow Jones Newswires*, 26 October 2012.

46 'Netherlands to push for the lifting of EU import tariff on sustainable palm', Malaysia External Trade Development Corporation market alert, January 2012.

47 Information derived from <http://ec.europa.eu/trade/wider-agenda/development/generalised-system-of-preferences/>. Full details of the GSP are set out in *Regulation (EU) No 978/2012 of the European Parliament and of the Council of 25 October 2012 applying a scheme of generalised tariff preferences and repealing Council Regulation (EC) No 732/2008*.

48 For example, see 'Crunch time for CPO producers', *The Edge*, 18 March 2013; 'New palm oil markets may offset EU taxes', *KiniBiz*, 26 March 2013.

Would lower tariffs for sustainable agricultural commodities be permissible under WTO rules? The discussion in Chapter 4 suggests that they may. There is little doubt, however, that this would be a highly controversial step, because of the background of disagreements over PPM-based trade measures and developing countries' general hostility to them. It would also open a much wider debate around sustainable products; if sustainable palm oil should be given a lower tariff, why not sustainable vegetable oils in general (in fact, WTO rules may require this)? Or agricultural products? Or other products?⁴⁹

For all these reasons it is unlikely that the EU (or, realistically, any country) will seriously contemplate offering lower tariffs for sustainable agricultural products.

49 For a longer discussion on tariffs and palm oil, see Brack, *Controlling Imports of Palm Oil*.

7 Other Regulations

Timber

Other government regulations also affect the demand for legal and sustainable timber. Many governments, for example, set building standards for construction, both public and private, and often these relate to environmental performance. The systems used generally award points for satisfying various environmental criteria, and then assess particular designs according to the total number of points accumulated. For example, the LEED (Leadership in Energy and Environmental Design) system, developed by the US Green Building Council, awards an additional point for the use of FSC-certified timber. Similarly, BREEAM, the UK Building Research Establishment's Environmental Assessment Method, awards points for the use of sustainable and recycled timber in new and existing buildings.

In the United States, all new federal government construction projects and substantial renovations must be certified through the LEED system. Green Building Council estimates suggest that federal, state and local government agencies combined account for approximately 30 per cent of national construction; by 2006 14 states and 42 localities had adopted various mandates, governmental orders, incentives or other mechanisms to encourage green building.⁵⁰ As with procurement policies, it is likely that government standards will result in impacts outside the public sector, as construction companies implement responsible purchasing strategies across their entire supply chains. This is backed up by LEED statistics, which suggest that only 44 per cent of LEED-certified construction projects are government-owned.

Wood is also increasingly in demand as a fuel in the generation of renewable electricity and heat, as many governments try to encourage a move away from fossil fuels. This is particularly true in the EU, where several governments are providing subsidies for biomass electricity in their attempts to meet the 2020 targets agreed under the EU's Renewable Energy Directive. As a result, per capita biomass energy use is projected to triple from 2010 to the 2020s, though to what extent this can be met by domestic wood production and non-wood sources (energy crops and agricultural residues) is largely unknown.⁵¹ Accordingly, several governments are now setting sustainability criteria for woodfuel, in a similar manner to criteria already adopted for biofuels for transport. The UK government, for example, has recently decided to use legality and sustainability criteria similar to those in its timber procurement policy, and the European Commission is expected shortly to issue a draft directive on the topic.

50 Thomas Westcot, 'Market Aspects of Public Procurement Policies in the USA' United States Department of Agriculture, presentation presentation at UN Economic Commission for Europe/Food and Agriculture Organization policy forum on public procurement policies for wood and paper products and their impacts on sustainable forest management and timber markets, 5 October 2006.

51 Food and Agriculture Organization, *State of the World's Forests 2009*.

Agricultural commodities

Biofuels

Palm oil and soybean oil are both used extensively in transport biofuels, which are increasingly being encouraged by governments – mainly in the EU and the United States – because of concerns over climate change, the rising price of oil and energy independence.

The Renewable Energy Directive came into force in December 2010, as part of the EU's climate and energy package aiming to reduce greenhouse gas emissions. One of its objectives is to see a minimum 10 per cent target for renewable fuels in each member state's transport sector by 2020. Sustainability criteria have been set in order to ensure that the biofuels used to meet this target deliver significant greenhouse gas savings compared with the fossil fuels they replace (at least 35 per cent, rising to 50 per cent in 2017 and, for new installations, 60 per cent in 2018), and have not been produced from land converted from primary forests, wetlands, peatlands or protected areas. Biofuels that do not meet these criteria can still be used in the EU, but do not count towards the 10 per cent target, and are not eligible for the incentives made available by member states, including favourable tax treatment and minimum blending requirements.

Suppliers of biofuels have to prove compliance with the sustainability criteria. The greenhouse gas savings figures can be obtained by a calculation of the actual value according to a methodology set out by the European Commission, or suppliers can use default values included in the directive. The default value for palm oil biodiesel is 19 per cent, clearly below the threshold, though if it is manufactured with methane capture at the mill, the default value rises to 56 per cent. The default value for soybean biodiesel is 31 per cent, also below the threshold.

The sustainability criteria were attacked by palm oil producers in Malaysia and Indonesia as protectionist, unfairly excluding palm oil from the EU market; a WTO dispute was threatened.⁵² Nevertheless, it can be argued that they are WTO-compatible: they apply to all potential sources of biofuels, and although each source is treated differently, the differences are based on rational calculations of the impact of the biofuel on the environment, both local and global.⁵³ No palm oil producer has yet begun a challenge against the EU, though in 2012 Argentina, a major exporter of biofuels made mainly from soy, launched a challenge against Spain's implementation of the Renewable Energy Directive, which specifically favoured biofuels produced in the EU over those imported from elsewhere.⁵⁴ The challenge, which could be viewed as part of an escalating series of tit-for-tat measures taken by Argentina against the EU, the United States and other countries, was put on hold when Spain revised its regulations in late 2012, dropping the provisions to which Argentina had objected.⁵⁵

The EU regulations themselves are facing an uncertain future. The greenhouse gas emissions figures were produced assuming no net carbon emissions from land-use change, but recent research has highlighted the importance of indirect land-use change (ILUC); e.g. forest converted to food production because of the unavailability of land used for biofuels, and the accompanying lower values of biofuels in reducing emissions (indeed, some studies have suggested that they can

52 See, for example, 'Possible WTO case over EU palm oil restrictions?', *Bridges Trade BioRes*, 10: 9, (14 May 2010).

53 For a longer discussion, see Andreas Lendle and Malorie Schaus, *Sustainability Criteria in the EU Renewable Energy Directive: Consistent with WTO Rules?* (International Centre for Trade and Sustainable Development (ICTSD), 2010).

54 'Argentina challenges Spain's biofuel rules at WTO', Reuters, 13 June 2012.

55 'Four Argentina WTO disputes reach panel stage', *Bridges Weekly Trade News Digest*, 30 January 2013.

be worse than fossil fuels). In response, in October 2012 the European Commission published a proposal to modify the greenhouse gas emission figures for all land-based biofuels by ILUC factors, for reporting purposes only (i.e. this is not a modification of the sustainability criteria) and also to limit to 5 per cent the contribution of biofuels from food crops to the 10 per cent target. This was intended to freeze the current EU consumption of land-based biofuels and open up more of the market for non-land-based biofuels (from algae, waste and residues). The entire framework would be revised for the period after 2020.

Three ILUC emission factors were proposed: for cereals (12g CO₂eq/MJ), sugars (13g) and oil crops (55g). The comparatively high ILUC factor for oil crops would disqualify most biodiesel made from palm oil, rapeseed and soybean oil if the sustainability criteria themselves were modified to include them. The proposal – and, in effect, the future of the EU’s biodiesel policy – remains under debate by the European Parliament and Council.

What the approach shows, however, is how it is possible to discriminate in trade between different oils, even if these are regarded under WTO rules as ‘like products’ (though the discrimination is in relation to access to favourable treatment for biofuels, rather than access to an entire market). Furthermore, the requirement that the products demonstrate specific levels of greenhouse gas emission values is an element of sustainability, and possibly shows an alternative way for basing trade restrictions to one based on evidence of sustainability through a certification or equivalent scheme.

Labelling

Labelling requirements are a straightforward way of influencing the market, simply by giving consumers information about the products they are buying. When required by government policy, they can be subject to WTO rules – specifically the Sanitary and Phytosanitary Standards (SPS) Agreement, which deals with requirements designed to protect the life or health of people, animals, or plants, or the Technical Barriers to Trade (TBT) Agreement, which covers other technical requirements, including standards, regulations and labels. Both agreements include essentially the same principles of non-discrimination and minimizing disruption to trade as other WTO agreements.

In 2010 the Australian parliament debated proposed legislation designed to require the identification of palm oil on any food product containing it, instead of just listing it as a ‘vegetable oil’. The primary justification for the Food Standards Amendment (Truth in Labelling – Palm Oil) Bill was given as the environmental impact of palm oil production, though the health impacts on consumers were also mentioned in the debates on the bill. The bill was criticized for inconsistency with WTO rules, in that it singled out only one vegetable oil and therefore treated ‘like products’ differently.⁵⁶ Although passed by the Senate, the bill was defeated in the House of Representatives.

In the EU, Regulation 1169/2011, on the provision of food information to consumers, will apply from 13 December 2014. It will require food labels to indicate which vegetable oils are included in the product – simply using the term ‘vegetable oil’ (as permitted under the current regulations) will no longer be sufficient. This would seem to avoid any problems of potential WTO incompatibility.

56 For a detailed critique, see Elizabeth Sheargold and Andrew D. Mitchell, ‘Oils Ain’t Oils: Product Labelling, Palm Oil and the WTO’, *Melbourne Journal of International Law*, Vol. 12, 2011.

Whether it would have any impact on the market is another question; the evidence suggests that labels by themselves do little to shift consumer behaviour, though labelling could make NGO campaigns against particular products more likely to succeed. In March 2013 the Dutch MVO predicted that palm oil consumption in Europe could be 'slashed' as a result of manufacturers attempting to replace palm oil with other products. In Malaysia, an unnamed government official was quoted as saying that his country would draft a new labelling strategy to reassure European consumers: 'The strategy is to differentiate ourselves from Indonesian palm oil where most of the forest clearing is happening.'⁵⁷ Although RSPO products are already labelled as such, this is a voluntary label, not a government-imposed one, and as such WTO rules do not apply.

57 'Palm oil labelling will slash EU consumption – Dutch agency', Reuters, 5 March 2013.

8 Bilateral Agreements

Timber

Voluntary partnership agreements

The EU published its Action Plan for Forest Law Enforcement, Governance and Trade (FLEGT) in 2003; it remains the most ambitious set of measures aimed at illegal logging and forest governance adopted by any consumer country or bloc to date.⁵⁸ The negotiation of voluntary partnership agreements (VPAs) with timber-producing countries lies at the heart of the FLEGT approach. When fully implemented the VPAs will put in place in each partner country a legality assurance system designed to identify legal timber products and license them for import to the EU (unlicensed products will be denied entry). The EU provides capacity-building assistance to set up the licensing scheme, improve enforcement and, where necessary, reform relevant laws.

By September 2013, VPAs had been concluded with Cameroon, the Central African Republic, Ghana, Indonesia, Liberia and the Republic of Congo (while the Indonesia and Liberia VPAs have yet to be ratified). VPA negotiations were under way in Côte d'Ivoire, the Democratic Republic of the Congo, Gabon, Guyana, Honduras, Malaysia, Thailand and Vietnam. Several other countries have also expressed an interest in entering negotiations.

The licensing systems established under the terms of VPAs aim to prevent the export from the partner country to the EU of any timber products that have not been licensed as legally produced. What is 'legal' is defined in relation to the laws of the country of harvest of the timber. This is not always straightforward. In some countries, forest law is not always clear, and laws agreed by national governments sometimes conflict with those adopted by regional or local governments. Even where the laws are clear, there may be uncertainty over which are relevant to the consideration of 'illegal logging' – those relating to timber harvesting or the payment of royalties or export duties are obviously important, but laws regulating the working conditions of truckers transporting the timber, for instance, may be tangential. In most cases the VPA negotiations have seen the adoption of multi-stakeholder processes to agree operational definitions of 'legal timber', and all the agreements contain commitments to legal reform to make the laws clearer and more comprehensive.

Impacts

Although interest in the VPAs from producer countries has been extensive, no licensing system has yet been established, and successive target dates for their introduction have been missed. (The Ghana VPA, for example – the first to be signed – envisaged the first FLEGT-licensed products being exported by the end of 2011.) There are a number of reasons behind this, including the complexity of establishing robust legality assurance systems, the growing importance of export markets other than the EU (in particular, China) and, possibly, a lack of political will.

⁵⁸ European Commission, *Communication from the Commission to the Council and the European Parliament: Forest Law Enforcement, Governance And Trade (FLEGT) – Proposal for an EU Action Plan (May 2003)*.

However, some VPA countries are quite close to implementation, particularly Indonesia, which from January 2013 has required all timber exports to be accompanied by a ‘V-Legal Document’, assuring the legality of the products from the point of harvesting to transporting, trading and processing. In late 2012, Indonesia and several EU member states conducted a shipment test as a pilot exercise for the export of timber products with V-Legal Documents, with positive outcomes.

In addition, the VPAs seem already to have had positive impacts on forest governance. The processes of negotiating and starting to implement them have in general improved transparency, opened up decision-making processes to participation from civil society and triggered processes of legal and regulatory reform, with potentially far-reaching long-term impacts.⁵⁹

Other bilateral agreements

A number of other countries have negotiated bilateral agreements or memoranda of understanding to address the problem of illegal logging and the associated trade in illegal timber, though none have been as extensive as the FLEGT VPAs. The most ambitious attempt has probably been the United States’ 2007 trade promotion agreement with Peru, in which the chapter on environment includes an annexe on forest-sector governance.⁶⁰ This contains a number of mandatory provisions to address illegal logging, including commitments by Peru to improve forest-law enforcement, develop systems to track protected tree species through the supply chain, improve the management of forest concessions, and conduct periodic audits of producers and exporters of timber products exported to the United States. Peru also undertook to investigate violations of forest law, and, at the request of the United States, to verify whether a particular shipment was legally produced. The United States is allowed to detain questionable shipments pending verification that the timber was legally harvested. These provisions have, however, largely not been enforced, and recent reports have revealed the extent of illegal logging that still goes on in Peru.⁶¹

Agricultural commodities

VPA-type agreements

Could something like FLEGT voluntary partnership agreements be developed for agricultural commodities such as these considered in this report? Some of the issues are the same – consumer-country concern over the environmental and social impacts of the product, problems with governance in some of the countries of origin, at least some illegal activity, and significant trade links with the EU. There have been some suggestions for this in the past. For example, a UK government submission to the European Commission during the consultations over the EU strategy on the sustainable use of natural resources in 2004–05 suggested EU action plans for sustainable palm oil and sustainable soy, including exploring ‘options for applying the FLEGT model, with its VPAs and import regulation’ to both commodities.⁶²

Such agreements would require the producer countries to improve standards of governance and to establish a legality, or sustainability, assurance scheme for the products (with capacity-building assistance from the EU) and for the EU to legislate to require evidence of the licence at the EU

59 See further in An Bollen and Saskia Ozinga, *Improving Forest Governance: A Comparison of FLEGT VPAs and their Impact* (FERN, February 2013).

60 For full text, see <http://www.ustr.gov/trade-agreements/free-trade-agreements/peru-tpa/final-text>.

61 See, for example, Environmental Investigation Agency, *The Laundering Machine: How Fraud and Corruption in Peru's Concession System are Destroying the Future of its Forests* (EIA, 2012).

62 ‘UK Position Paper on the Thematic Strategy on the Sustainable Use of Natural Resources’ (undated); http://ec.europa.eu/environment/natres/pdf/uk_position_paper_.pdf.

border. Rather than establishing a new agreement for each commodity, it would make more sense for multi-commodity agreements to be reached, attempting to establish sustainability standards for the entire agricultural sector, or possibly (and more feasibly) for large-scale crop production destined for export. Many of the problematic issues in these sectors revolve around decisions, and conflicts, over land use, and it would make sense for these to be discussed in a single forum. Where timber VPAs already exist, they could potentially be extended to other products.

There are, however, formidable obstacles. Some of the major countries of export of these crops, such as Brazil (soy, beef, leather) or Argentina (soy) are not likely to be interested in VPA-type agreements (Brazil has shown no interest in a timber VPA). Although Malaysia (palm oil) is negotiating a timber VPA, progress has been very slow, and marked by intra-Malaysian disagreements about its desirability. Indonesia (palm oil, cocoa) and Ghana (palm oil, cocoa) may offer a better chance; both have VPAs in place, and at least in Indonesia implementation is proceeding relatively well. Similarly, Côte d'Ivoire (cocoa) has recently opened negotiations on a timber VPA, and as a small country with governance and capacity problems it may be amenable to such an approach.

However, as the existing VPAs have shown, it has been difficult enough to develop a legality assurance scheme for timber; adding the complexities of developing legality, or sustainability, assurance schemes for a range of agricultural commodities may simply overwhelm the process. There may also be problems with combining timber and agricultural VPAs. Normally (though not invariably), different government departments and different companies are involved. Rather than an agricultural VPA building on the strengths of the timber VPA, the agricultural VPA could end up impeding the timber VPA.

On a more positive note, there should be no WTO implications. If countries agree between themselves to restrict trade only to sustainable, or legal, commodities, there is no real question of a WTO challenge. The WTO dispute settlement mechanism does not act on its own initiative; it is only triggered when a country mounts a challenge on the basis of impairment to trade – and in this case, no other country would be affected.

As noted above, the VPAs have led to benefits in terms of transparency, governance and law reform even in the absence of a licensing scheme, and it may be possible to try to replicate at least this part of the VPA experience. In this respect the UN Development Programme's experiment with establishing national commodity platforms is relevant.⁶³ This is an attempt to develop a multi-stakeholder dialogue process within individual national commodity supply chains. All relevant actors are brought together to encourage the production and trade of sustainable commodities, in order to reduce the conversion of natural habitat into farmland, increase biodiversity, improve water management, reduce the ecological and carbon footprint of production, protect food security and ensure sustainable livelihoods for rural communities. Examples include a national platform for the production of pineapples in Costa Rica.

This experience is still too new for many lessons to be drawn, but it may suggest a way forward, for the EU members and other consumer countries) to work with producer-country governments to develop VPA-style processes of consultation over agricultural policy and land allocation, building on the experiences of the timber VPAs. The absence of a licensing scheme element removes some of the incentives for producer countries to agree to such a process, but there is, after all, growing demand from consumer countries for sustainable agricultural products, as demonstrated by the

63 For further information, see http://www.greencommodities.org/index.php?option=com_content&view=article&id=85&Itemid=62.

wide range of voluntary initiatives mentioned in the Appendix. This could be reinforced by the adoption of public procurement policies by consumer-country governments.

Free trade agreements

Partly thanks to developing-country suspicions about the imposition of developed-country standards and dislike of PPM-based trade measures (see the discussion in Chapter 4), free trade agreements between producer developing countries and the EU, the United States and other consumer countries have not generally featured clauses on promoting environmentally sustainable agriculture or trade in certified products. Developing-country trade negotiators tend to see their priorities as reducing trade barriers and subsidies in developed countries, and protecting their own countries' food security and farmers' livelihoods.

In any case, it is not clear what traditional free trade agreements aimed at reducing tariffs could do to promote the trade in sustainable commodities; as noted in Chapter 6, import duties already tend to be low or zero on most agricultural products from developing countries, giving no scope for affording them any preferential treatment. (An exception is the countries that will fall out of the EU GSP in 2014, which include Argentina, Brazil and Malaysia.) There is substantial scope for consumer-country governments to offer technical and financial assistance to producer countries to promote sustainable agriculture, establish certification schemes and improve forest conservation, and these are important options to pursue, but they fall outside the remit of this report.

However, the EU has begun to negotiate what it refers to as a 'new generation of free trade agreements', extending to a much wider range of products than before and encompassing a broader range of issues. The first of these, with Korea, in force since 1 July 2011, contains a chapter on sustainable development, through which the parties 'reaffirm their commitments to promoting the development of international trade in such a way as to contribute to the objective of sustainable development'.⁶⁴ Among a wide range of provisions, the chapter includes provisions on 'goods that contribute to sustainable development', including a commitment to 'facilitate and promote trade in goods that contribute to sustainable development, including goods that are the subject of schemes such as fair and ethical trade and those involving corporate social responsibility and accountability'.⁶⁵

The trade component of the EU–Central America Association Agreement, with Honduras, Nicaragua and Panama, agreed in 2012, contains a similar commitment to 'facilitate and promote trade in products that respond to sustainability considerations, including products that are the subject of schemes such as fair and ethical trade schemes, eco-labelling, organic production, and including those schemes involving corporate social responsibility and accountability'.⁶⁶ (This agreement also contains a specific commitment to 'to work together to improve forest law enforcement and governance and to promote trade in legal and sustainable forest products'.⁶⁷)

It is still too early to tell what impact these agreements will have, but they do at least open the possibility of discussion and action on the issue of facilitating and promoting trade in legal and sustainable agricultural products.

64 Free Trade Agreement between the European Union, and its Member States, of the one part, and the Republic of Korea, of the other part, Article 13.1 (1).

65 Ibid., Article 13.6 (2).

66 Agreement Establishing an Association between Central America, on the one hand, and the European Union and its Member States, on the other, Article 288 2(c).

67 Ibid., Article 289.

9 Requirements on Companies

It is not, of course, normally governments that trade in timber or agricultural commodities, but private enterprises. In recent years a number of consumer-country governments have taken actions to regulate the way in which companies handling or potentially handling illegal timber operate. Can the same measures be applied to agricultural products?

Timber

The major benefit of a licensing system such as that established by the FLEGT VPAs is that it creates a means of distinguishing between legal and illegal timber. Any timber product from a VPA country possessing a licence is allowed to enter the EU; any other timber product from the country is barred from entry. The vast bulk of timber in trade is not, however, covered by any licensing system: only six countries have signed VPAs and none yet have functioning licensing systems. The 2013 conference of the parties to CITES added a significant number of timber species to CITES Appendix Two, which means that they will require export permits, but this still only covers a small proportion of the timber in trade. Similarly, although an increasing volume of products is identified under the private certification schemes, this still accounts for only about 27 per cent of global industrial roundwood production. Accordingly, the United States, the EU and Australia have all taken broader (and similar) measures to exclude illegal timber products from their markets. They rest on two basic approaches:

- A legal prohibition, making imported illegal products illegal in the country of import; and
- ‘Due diligence’ requirements on industry, requiring companies to put in place procedures to minimize the chance of their handling illegal products.

Prohibitions

In 2008 the US Congress voted to amend the Lacey Act, a law dating originally from 1900, that made it illegal to import or handle fish and wildlife produced illegally in foreign countries. The amendment extended this to plants, with the main aim of targeting illegal timber. The amended Act now makes it unlawful to ‘import, export, transport, sell, receive, acquire or purchase in interstate or foreign commerce ... any plant taken, possessed, transported or sold ... in violation of any foreign law’.⁶⁸ The penalties rest on the level of intent that can be shown on the part of the violator, and even when no intent to break the law can be shown, the extent to which the individual should have known ‘in the exercise of due care’ that the products had been illegally produced. In all cases the illegal products can also be forfeit.

68 The Lacey Act (Chapter 53 of Title 16, United States Code), section 3372 (a)(B)(2)(i).

The EU Timber Regulation, agreed in 2010 and applying in full from 3 March 2013, prohibits the placing of illegally harvested timber and timber products on the EU market.⁶⁹ ‘Placing on the market’ means the supply of timber or timber products for the first time on the EU internal market; it excludes the sale of products resulting from subsequent processing within the EU. In addition, traders in the supply chain (anyone who buys and sells within the EU) must be able to identify the operators or traders who have supplied them and, where applicable, the traders to whom they have supplied timber or timber products. Products accompanied by a FLEGT licence or a CITES permit are considered to have been legally harvested for the purposes of the regulation.

The Australian Illegal Logging Prohibition Act, agreed in 2012 and entering fully into force on 30 November 2014, prohibits the import of all timber products containing illegally logged timber, and the processing of domestically grown raw logs that have been illegally harvested.

In all cases legality is defined in relation to existing national legislation in the country of harvest; in the US and EU legislation, the issues this covers are listed (the EU list is slightly wider than the US one). In the United States, all timber products are covered apart from packaging; the EU and Australia have a wider list of exclusions, including packaging, printed matter and handicrafts.

Due diligence and due care

In addition to the prohibitions, the EU and Australian legislation create an obligation on timber operators to put in place systems of ‘due diligence’ to minimize the chance of their handling illegal timber. For the EU Timber Regulation, these systems must include means of ensuring access to information on the timber products, including their country of harvest, their volume or weight, details of their suppliers and information on compliance with legislation in the country of harvest. Operators must analyse and evaluate the risk of illegally harvested timber or timber products being placed on the market, taking into account relevant risk-assessment criteria including assurance of legal compliance, prevalence of illegal harvesting of particular tree species and in particular countries, UN Security Council sanctions and supply-chain complexity. Except where the risk is determined to be negligible, operators are obliged to undertake mitigating measures, such as requesting additional documentation from suppliers or third-party verification. The regulation also allows operators either to establish their own due diligence systems or use systems provided by ‘monitoring organizations’.

The Australian requirements are similar, but also use the concept of a ‘timber legality framework’ – defined as the FLEGT licensing scheme, and the FSC and PEFC certification schemes – to make it easier for importers to acquire information on compliance with legislation in the country of harvest. Where such a framework exists, the importer must have access to a copy of the relevant licence or certificate providing evidence of compliance with the framework and, under the due diligence procedure, assess whether the information it contains is likely to be accurate and reliable. Where it does not exist, the importer must go through a more complicated procedure to determine the likelihood of illegality.

The Lacey Act contains no explicit requirement for a due diligence system, but in practice anyone handling potentially illegal products may have to prove that ‘due care’ has been exercised in ensuring they were not illegal – so importers may find themselves developing something like the EU or Australian systems in any event. The first major enforcement action under the Lacey Act was against Gibson Guitar, which was found to have been importing illegally produced

69 Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010.

rosewood from Madagascar for several years. As part of its settlement with the authorities (which included paying \$350,000 in fines and forfeiting all the illegal material), the company agreed in 2012 to implement a compliance programme to minimize the risk of purchasing illegal timber in the future. This included working with suppliers, collecting information on the sources of the products, looking carefully at documentation and declining to purchase products if there was any doubt over their legality – effectively, a system of ‘due care’ or ‘due diligence’.⁷⁰

Impacts

It is still too early to judge the impacts of the EU Timber Regulation or the Australian Illegal Logging Prohibition Act, though the fact that VPA-licensed products will be assumed automatically to be legal under the EU regulation, and encouraged under the Australian legislation, provides a strong incentive for countries to agree VPAs and put their licensing systems in place. In practice, operators are likely to turn to certification and legality verification schemes to help them source material that is not illegal, at least from high-risk countries or regions.

The implementing regulations for the EU regulation lay down criteria that any such schemes must meet to be of possible use, focusing on whether the system has a publicly available mode of operation, whether the system considers compliance with the necessary laws, and how robust and credible it is. It will be for operators to determine whether these criteria are met, and using such a scheme will not by itself mean that the operator will comply with the Timber Regulation; rather, they set a minimum threshold that needs to be met if the operator is to rely on the scheme at all. As noted above, the Australian system explicitly encourages the use of FSC and PEFC certification.

There has as yet been no systematic study of the impacts of the Lacey Act amendment, but anecdotal evidence suggests effects on industry, particularly after the action against Gibson Guitar demonstrated that the authorities were serious about enforcing it. One impact has been an increased interest in and take-up of timber certification and legality verification systems, as means of helping to demonstrate the legality of imports.

Agricultural commodities

Could measures like these be applied to agricultural commodities? All three are targeted at illegal products, not unsustainable ones, so could in theory be applied to illegal agricultural commodities too (see the discussion above in Chapter 4). As noted, however, where illegal acquisition or conversion of land is the basis for the illegality, this is likely to be more difficult to track than illegal behaviour during the production process. Requiring operators to use due diligence procedures therefore raises questions of practicality: would they be able to access the information needed to assure themselves that the commodities had been produced legally, including questions of land ownership and conversion?

In fact this is an issue that should be addressed in implementing these laws anyway, with respect to timber, where land conversion may be just as controversial an issue. Both the FSC and PEFC schemes, on which operators are likely to rely, contain criteria relating to forest conversion – as do most of the certification schemes for agricultural commodities discussed in the Appendix,

70 See Arnold & Porter LLP, *Interpreting The Lacey Act's 'Due Care' Standard after the Settlement of the Gibson Guitar Environmental Enforcement Case: Advisory* (August 2012).

including RSPO, RTRS, ProTerra and the Leather Working Group, all of which set dates after which no conversion of primary forest should have occurred. They also mostly contain criteria requiring adherence to national laws. However, as noted, coverage of the schemes is still limited, particularly for soy and beef.

Extending prohibitions and due diligence requirements to sustainable (rather than illegal) agricultural commodities would entail a very substantial expansion of their scope to a much larger proportion of international trade. Coupled with the practical problems discussed above, these seem unlikely to be suitable mechanisms.

Reporting requirements

There is one further option available to governments to encourage companies to scrutinize their own supply chains: reporting requirements.

The Forest Footprint Disclosure project was founded in 2009 by the Global Canopy Programme, with the aim of assisting companies and their investors worldwide to understand and address their exposure to 'forest risk commodities', including timber, palm oil, cattle products and biofuels.⁷¹ The programme acts on behalf of investors to collect information from companies on the operational, reputational and regulatory risks and opportunities, and the value creation and erosion, resulting from this exposure; in 2013, requests were sent out on behalf of 184 investors with \$13 trillion in assets. The information disclosed is made publicly available where the company agrees.

In 2012, 450 disclosure requests were sent to international companies, of which 100 responded, and the response rate has been steadily increasing.⁷² In many cases the request to disclose has triggered a response in terms of improving information on the company's own supply chain (often largely lacking) and implementing systems such as sourcing certified products. Only when this process is complete does the company respond fully to the request. The project (now in the process of merging with the Carbon Disclosure Project, which operates a similar approach to climate change-related data) is developing a scoring system for responses, and aiming to combine carbon, water and forest data to create a more comprehensive approach to measuring an organization's full natural capital impact.

This is a voluntary approach, but governments could encourage its uptake by supporting the organization and its aims. Measuring and reporting environmental impacts often proves to be an effective first step to controlling them.

More radically, governments could regulate to require this form of disclosure. Mandatory reporting of environmental impacts is becoming more common. For example, from October 2013 the United Kingdom will require all quoted companies (those that are incorporated in the United Kingdom and whose equity share capital is officially listed on the main market of the London Stock Exchange or similar) to include in their annual directors' report data on their greenhouse gas emissions, wherever in the world they take place. EU legislation already requires the disclosure of some non-financial information by large companies, and could be suitably amended.

71 For further information, see <http://www.globalcanopy.org/projects/cdp-forests-program>.

72 Forest Footprint Disclosure, *Annual Review 2012*.

10 Finance and Investment

In timber and agriculture, the role of financial institutions such as banks, investment funds, multilateral development banks and export credit agencies can be critical. The option is open, at least in theory, of encouraging these institutions to exercise greater due diligence in ensuring that their lending and investment operations do not end up financing illegal or unsustainable activities.

Timber

This issue was included in the EU's FLEGT Action Plan. It was argued that improved due diligence on the part of financial institutions lending to the timber or related sectors could prove beneficial in cutting off finance to operations (such as pulp mills) that would in practice rely at least partly on illegal sources of raw material or would encourage illegal conversion of land.⁷³ A Chatham House study in 2005 considered a wide range of options and recommended in particular bringing the investment criteria for public agencies in line with forest governance objectives, promoting the development of international norms and standards for operations and governance in the forestry and forest lands sectors, and encouraging the implementation of the Equator Principles, a voluntary framework intended to provide a minimum standard of due diligence for determining, assessing and managing environmental and social risks in projects.⁷⁴ Probably largely because the sources of forest investment have shifted heavily towards developing-country banks and other institutions in recent years, in practice there has been very little progress on this agenda.

The Action Plan also touched on the possibility of using anti-money-laundering legislation (i.e. taking action against the proceeds of crime) to target illegal timber, both in EU member states and in timber-producing countries.⁷⁵ A series of studies, by Chatham House among others, suggested that such legislation was not likely to be of much use in consumer countries, given that most illegal timber being imported had never been associated with any enforcement action in its country of origin, and the complexity involved in tracing the products back through the supply chain.⁷⁶ However, there was scope to use anti-money-laundering techniques to reinforce enforcement actions taken in the producer country in which the illegal logging had taken place, seizing the profits of such activities even when they were disposed of in foreign countries. A number of cases, particularly in Indonesia, have used anti-money-laundering laws with positive outcomes.

⁷³ FLEGT Action Plan, p. 18.

⁷⁴ Jade Saunders, *Improving Due Diligence in Forestry Investments: Restricting Legitimate Finance for Illegal Activities* (Chatham House, June 2005).

⁷⁵ FLEGT Action Plan, p. 19.

⁷⁶ For a longer discussion, see Duncan Brack, 'Limitations of Anti-Money-Laundering Techniques to Control Imports of Illegally Logged Timber', in Gregory Rose (ed.), *Following the Proceeds of Environmental Crime: Forests, Fish and Filthy Lucre* (forthcoming, 2014).

Agricultural commodities

Financial institutions such as private banks and investment funds and public institutions such as the multilateral development banks also play an important role in financing agricultural production and trade. In fact, in recent years there has been a significant increase in investment in agriculture in developing countries. This has been partly a response to the global recession, which has made more traditional investments look less attractive, but also indicates recognition of the rapidly growing global demand for food, in line not only with the increasing population but also with the expanding global middle class, given its appetite for higher-value products such as meat.

Investment has also been driven in some cases by rising concerns over potential resource scarcity, and a number of food-importing states, often in the Middle East, have engaged in large-scale land deals in food-producing regions in Africa and Southeast Asia, often referred to pejoratively as 'land grabs'. A World Bank study in September 2010 found that large-scale farmland acquisitions or negotiations for a total of over 46 million hectares (probably an underestimate) were announced between October 2008 and August 2009 alone, with two-thirds of the land in sub-Saharan Africa.⁷⁷ Of these projects, 37 per cent related to food crops, 21 per cent to cash crops and 21 per cent to biofuels. The investments often took the form of long-term (25–99-year) leases, rather than purchases, often because of constitutional prohibitions on land sales to foreigners.

Clearly, these investments could bring benefits to the host country, not only by injecting investment capital but also through accompanying investments in infrastructure, new sources of employment, the transfer of skills and increases in agricultural productivity. Equally clearly, however, there can be negative impacts, particularly if the host country has poor levels of governance and a high degree of corruption. The World Bank's research found that investments tended to target precisely those countries with the weakest institutions and governance.⁷⁸

There are many potential sources of investment in agriculture. These include, in the public sector, multilateral development banks, national aid agencies, export credit agencies and sovereign wealth funds (often the source of funding for 'land grabs'); and in the private sector, banks, pension funds, hedge funds, private equity, agribusiness companies and microfinance institutions.⁷⁹

Regulating these institutions is a complex issue with many different aspects. Briefly, however, public sources of finance are already generally subject to safeguards of various kinds, designed to avoid negative environmental and social impacts. These could be strengthened to promote sustainable and legal agricultural practices, and to avoid perverse incentives to deforest. Questions have been raised recently about whether the safeguards of the International Finance Corporation (the private-sector arm of the World Bank) are adequate to deal with the social and environmental risks associated with investments in the financial sector.⁸⁰

Some private sources of finance are already implementing similar safeguards. Recently, for example, a number of commercial banks, including BNP Paribas, Citibank and Rabobank, have adopted lending policies that require palm oil refiners to purchase palm fruit from growers that

77 Klaus Deininger and Derek Byerlee, *Rising Global Interest in Farmland: Can it Yield Sustainable and Equitable Benefits?* (World Bank, 2010).

78 Bernice Lee et al., *Resources Futures* (Chatham House, 2012), p. 111.

79 See Patrick E. McNellis, *Foreign Investment in Developing Country Agriculture: The Emerging Role of Private Sector Finance* (FAO, June 2009).

80 See, for example, Global Witness, *Rubber Barons: How Vietnamese Companies and International Financiers are Driving a Land Grabbing Crisis in Cambodia and Laos* (Global Witness, 2013).

follow sustainability standards.⁸¹ Voluntary approaches such as these can be encouraged and extended to other commodities. All financial institutions also operate under strict regulations for transparency, risk assessment and disclosure requirements. These could be modified to require greater scrutiny of the impact of an institution's investments on agricultural supply chains, land use and forests.

81 Nigel Purvis, Michael Wolosin and Cecilia Springer, *Breaking the Link Between Commodities and Climate Change* (Climate Advisers June 2013), p. 8.

11 Working with the Private Sector

As well as the trade-restrictive measures examined in earlier chapters, governments can simply encourage private-sector sourcing of sustainable products, and work with companies to promote this.

Timber

The EU's FLEGT Action Plan contained a commitment to work together with the private sector to promote responsible purchasing policies and to engage them in the development of further regulations. In general EU member states and the European Commission have built positive relationships with timber and timber-importing companies in pursuit of these aims, and some countries have also engaged, alongside their own private sector, directly with businesses in timber-exporting countries.

Agricultural commodities

As noted in Chapter 5, the UK statement on sustainable palm oil, announcing a target of 100 per cent sourcing of credibly certified sustainable palm oil by the end of 2015, was made jointly with 14 trade associations and NGOs, including several covering food and catering. To a certain extent this was modelled on the Dutch and Belgian industry initiatives (see Appendix), but explicitly included the UK government as a signatory to the target.

The Tropical Forest Alliance is a public–private partnership with the goal of reducing the tropical deforestation associated with key global commodities, such as soy, beef, palm oil, and pulp and paper.⁸² It was born out of discussions between the US government and the Consumer Goods Forum around the Rio+20 Conference in 2012, and now also includes the governments of the Netherlands, Norway and the United Kingdom. Its goal is to tackle the drivers of tropical deforestation using a range of market, policy and communications approaches.

The Dutch Sustainable Trade Initiative (IDH) is another example.⁸³ With a staff of over 40, it aims to convene coalitions of front-running companies, NGOs and governments to transform markets towards sustainable production and consumption worldwide. It organizes scoping, development and implementation of public–private, pre-competitive market transformation programmes in 16 sectors. Its investment programmes are co-funded by the government and the private sector.

82 For further information, see <http://www.usaid.gov/climate/tfa2020>.

83 For further information, see <http://www.idhsustainabletrade.com>.

Through initiatives such as this, governments can help to stimulate the development of private-sector groupings such as the Dutch Task Forces on Sustainable Soy and Palm Oil or the Belgian Alliance for Sustainable Palm Oil, and action by existing groups such as the Consumer Goods Forum.

12 Conclusion

This report has examined the extent to which the consumer-country measures used to exclude illegal timber from consumer markets could be applied to illegal or unsustainable agricultural commodities, with particular reference to palm oil, soy, beef and leather, and cocoa.

There are a number of similarities. Both are drivers of unsustainable levels of deforestation (indeed, agriculture is a far more significant cause); illegalities in the production of agricultural products appear to be common (though are probably associated more with the land allocation and conversion process than with illegal production); and many commodities are heavily traded, with the EU being a particularly significant importer.

There are also differences. Compared with the early days of the debate around consumer-country timber supply-chains control, far more – and far more ambitious – private-sector initiatives on sourcing sustainable agricultural commodities are under way. This is helpful for the development of identification systems, helping to add critical mass to bodies such as RSPO and RTRS, and lessens the pressure for government action in the near term. It may also increase the pressure for government action in the longer term, as the major companies gain confidence in their supply chains and start to lobby for regulations to level the playing field (i.e. knock their – lower-standard – competitors out).

One obvious conclusion is that governments should encourage and perhaps participate in further voluntary initiatives, such as the UK statement on sustainable palm oil, the US-led Tropical Forest Alliance or the Dutch Sustainable Trade Initiative. Action by groupings of companies, such as the Consumer Goods Forum or the Belgian and Dutch task forces on sustainable soy and palm oil, should be encouraged.

Certification systems are not, however, as well developed as they were in the timber sector, and crediting and offsetting systems (mass balance, book and trade) are sometimes used, which may be problematic under WTO or EU procurement rules. The greater the demand for certified segregated commodities, though, the faster the supply of them should develop.

Some of the regulatory options used with effect to exclude illegal (and sometimes unsustainable) timber have a clear application to agricultural commodities. The public sector is a significant purchaser of food and catering services, and public procurement policies have clear potential for all of these commodities, except possibly leather. The UK adoption of procurement policy for palm oil is welcome, and its development and effectiveness should be monitored.

Sustainability criteria for biofuels have clear potential for palm oil and soy, though this is a controversial area, and demand for land-based biofuels is likely to be constrained in the future. Nevertheless, the criteria for greenhouse gas emission savings that feature in the EU Renewable

Energy Directive provide a potential alternative model for the use of sustainability criteria to relying on certification.

Tariff reductions for sustainable commodities do not seem likely to offer a potential way forward, mainly as tariffs are so low on most commodities already (though this is not true of beef).

Bilateral agreements to encourage sustainable agriculture, similar in some ways to the FLEGT VPAs, may be worth considering, particularly in the context of existing agreements, such as those in Indonesia and Ghana or those in negotiation, such as in Côte d'Ivoire. Many of the problematic issues in these sectors revolve around decisions, and conflicts, over land use, and it would make sense for these to be discussed in a single forum. However, it is not clear to what extent the potential partner countries themselves would be interested. The 'new generation' of free trade agreements that the EU is pursuing, which include provisions for encouraging sustainable agriculture, may also have promise.

There may be scope for adapting broader legislation such as the US Lacey Act, the EU Timber Regulation or the Australian Illegal Logging Prohibition Act, given the likely incidence of illegal behaviour – mostly around land and forest conversion – in the production of these agricultural commodities. In the timber sector, the expectation that this kind of legislation would come was helpful in encouraging the private sector to scrutinize its supply chains, and it could do the same here. Applying this kind of approach to commodities on the basis of sustainability, however, would be very difficult, although there may well be scope for encouraging and possibly eventually requiring reporting of company impacts on deforestation.

There should also be scope for encouraging greater due diligence on the part of financial institutions. For public agencies, safeguard policies should be reviewed to ensure their institutions' activities do not contribute to deforestation. For private sources, voluntary commitments to lending policies requiring adherence to sustainability standards should be encouraged, and disclosure requirements should be reviewed to require greater scrutiny of the impact of an institution's investments on agricultural supply chains, land use and forests.

All of these regulatory options must rest on some form of identification system for sustainably produced commodities, which in most cases means certification of some kind; as can be seen in the Appendix, a variety of systems are already in use. There is no point imposing consumer-country controls on imports unless the producers can respond, so supporting measures to lower the cost and encourage the uptake of various certification systems, and to improve their robustness, should be implemented.

Finally, the possibility also exists of stimulating actions such as those examined in this report through an Action Plan – perhaps at EU level – for sustainable agriculture, governance and trade. The EU FLEGT Action Plan provides a good model, helping as it did to stimulate discussion, research and action across a wide range of possible policies and measures.

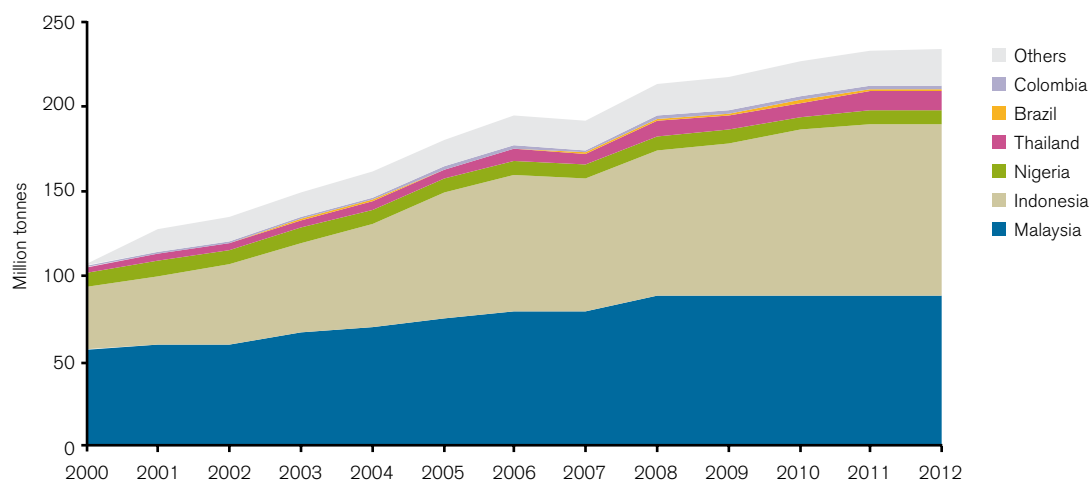
Appendix: Agricultural Commodity Supply Chains

Palm oil

According to the European Commission study on the impact of EU consumption on deforestation, palm oil ranked as the fourth highest agricultural product in terms of impact, accounting for 8 per cent of the global deforestation taking place between 1990 and 2008.⁸⁴ Palm oil accounted for about 10 per cent of the deforestation embodied in EU imports over the same period.⁸⁵

Palm oil and palm kernel oil – both edible highly saturated fats – are products of the African oil palm (*Elaeis guineensis*), a palm native to west and southwest Africa (the southern coast of Nigeria was named the Palm Oil Coast by the first European traders). Oil palm was introduced into plantations in Indonesia in the 19th century and Malaysia in the early 20th century, and these two countries now dominate the international market, together accounting for over 80 per cent of global oil palm fruit production in 2012, and well over 90 per cent of palm kernel and palm oil exports in 2010 (Figures A1 and A2).

Figure A1: Global palm fruit production

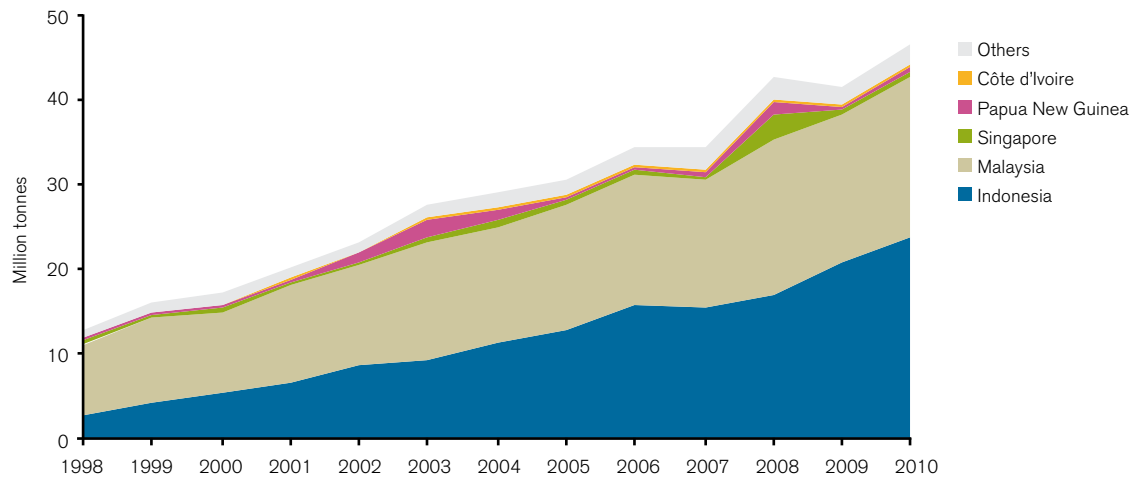


Source: FAOSTAT.

84 European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, p. 21.

85 *Ibid.*, p. 24.

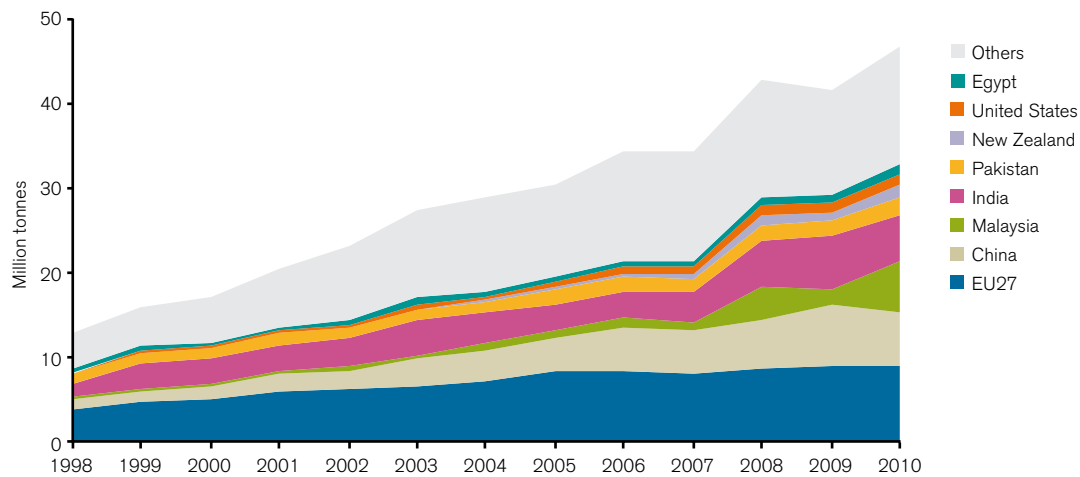
Figure A2: Global palm kernel and palm oil exports



Sources: Chatham House Resource Trade Database, BACI, COMTRADE.

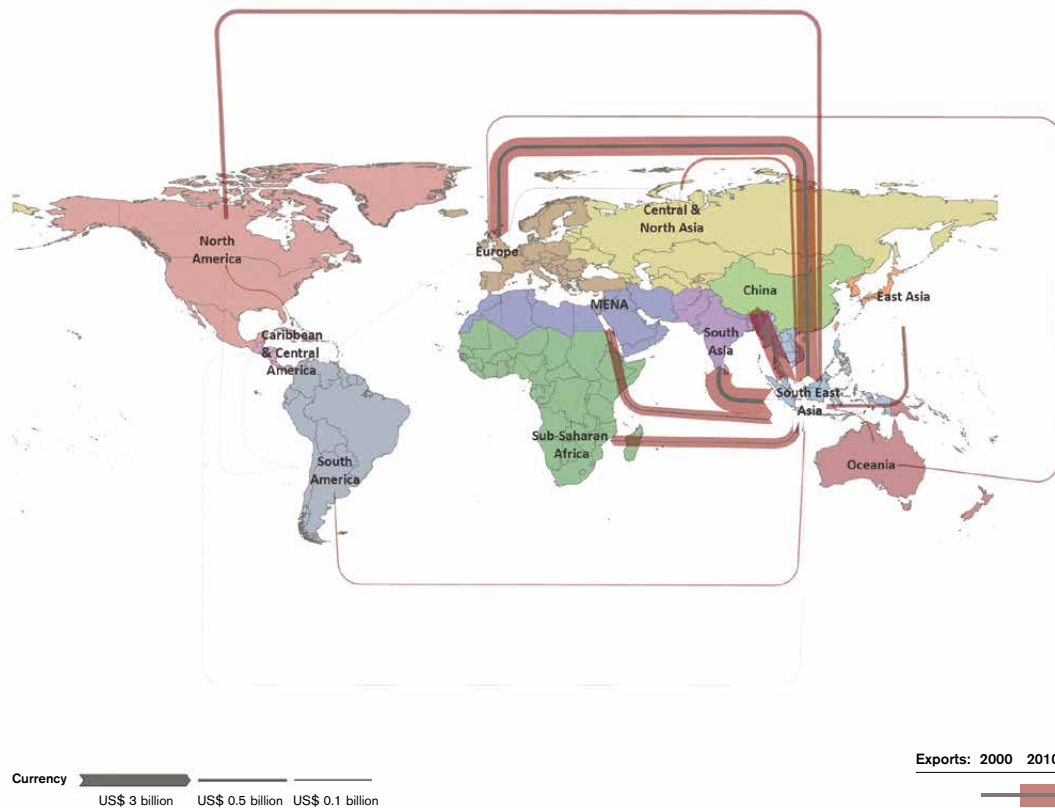
Global demand for palm oil has seen strong and sustained growth, averaging 8 per cent a year over the last three decades – a ninefold increase. The principal consumers are China, India and the EU, which together accounted for just over 40 per cent of worldwide consumption in 2010. The same three were responsible for about half of global demand growth from 2000 to 2010 (Figures A3 and A4).

Figure A3: Global palm kernel and palm oil imports



Sources: Chatham House Resource Trade Database, BACI, COMTRADE.

Figure A4: Global palm oil trade, 2000 vs 2010



In China and India, demand growth is correlated with increasing incomes and urbanization and an associated dietary shift towards processed foods, in which palm oil is an increasingly ubiquitous ingredient. Palm oil has also grown in popularity as a cooking oil.

European demand growth, however, is primarily an indirect consequence of regulation. The EU Renewable Energy Directive target of 10 per cent of transport energy from renewable sources by 2020 has made the EU the biggest consumer of biodiesel in the world. Sustainability standards and palm oil's high melting point mean that it contributes a relatively small amount (9 per cent in 2010) to EU biodiesel, which relies primarily on rapeseed oil (56 per cent in 2010).⁸⁶ However, the increasing diversion of rapeseed oil to biodiesel production has created a deficit in the European edible oils market, which has been met through reducing exports of rapeseed oil and increasing imports of palm oil. Between 2000 and 2010 net EU palm oil imports rose by over three million tonnes – roughly the same amount as the rapeseed oil shortfall resulting from biofuel mandates.⁸⁷ EU regulations requiring food manufacturers to label foods containing genetically modified (GM) ingredients are also thought to have contributed to a shift from soybean oil to palm oil as an ingredient, as companies have struggled to source sufficient non-GM soybean oil.⁸⁸

86 Ecofys et al., *Renewable Energy Progress and Biofuels Sustainability*, report for the European Commission (2012).

87 Chris Malins, *Vegetable Oil Markets and the EU biofuel mandate* (International Council on Clean Transportation, 2013).

88 Daniel J. Sanders et al., *Revisiting the Palm Oil Boom in Southeast Asia: the Role of Food versus Fuel Demand Drivers* (International Food Policy Research Institute, 2012).

Palm oil is also used as an ingredient in a variety of cosmetics, detergents and a wide range of industrial applications;⁸⁹ according to one oft-cited WWF estimate, as much as half of all packaged products in developed-country supermarkets contains palm oil or palm oil derivatives. Palm oil's attraction lies in its price (it trades at a near permanent discount to other edible oils) and a range of qualities that lend it to different applications. It can be easily separated into solid (stearin) and liquid (olein) components for use in hard products such as soaps and margarines or liquid products such as oils and lubricants. Its high saturated fat content makes it well suited to margarine manufacture, particularly as a substitute for hydrogenated fats or 'trans-fatty acids' now known to be particularly bad for cardiovascular health; palm oil is also an excellent cooking oil, with a high smoke point and a high level of stability, making it resistant to oxidation.

Palm oil and deforestation

Indonesia and Malaysia have met global palm oil demand through extensification of production rather than intensification. Over the last three decades, the area harvested in Malaysia increased nearly fivefold, while yields increased by less than 30 per cent (global oil crop yields increased at about three times this rate over the same period). In Indonesia, the increase in production has been met entirely through expansion; the area harvested has increased 26 times over, while yields have remained flat.⁹⁰

The expansion of oil palm plantations in Indonesia and Malaysia is inextricably linked to the clearance and drainage of peat-swamp and lowland rainforest – some of the most biologically diverse and carbon-rich forests found on earth.⁹¹ There is also a clear link between deforestation for timber revenues and palm oil production; it is often the case that revenues from timber sales are used to fund the start-up cost of the plantations.⁹² Almost three million hectares of forest in Indonesia and Malaysia have been cleared to make way for oil palm over the last 15 years, and 50–60 per cent of all oil palm expansion in the two countries has occurred at the expense of natural forest.⁹³

The palm oil supply chain

Although models vary by country, oil palm production commonly includes a significant smallholder component.⁹⁴ In Papua New Guinea, Indonesia and Malaysia, smallholdings account for over 40 per cent of production area, and as much as 75 per cent in Thailand.⁹⁵ In Indonesia and Malaysia, plantation companies produce the remainder. Smallholders may be independent or members of schemes in which they contractually supply particular plantation mills and receive support in the form of credit, inputs and technical assistance. In reality, independent smallholders are also tied to plantations as the fresh fruit bunch must be processed within 24 hours of harvesting to prevent spoilage, meaning that there is often only one possible buyer – the plantation mill.

There are many oil palm companies operating plantations and mills in Indonesia and Malaysia. Major players include Wilmar, Sime Darby, IOI Corp, Golden Agri and Sinar Mas. At the plantation mills, fresh fruit bunch is pressed to release crude palm oil (CPO), while the kernels

89 Jan Willem van Gelder, *Greasy Palms: European Buyers of Indonesian Palm Oil* (Friends of the Earth, 2004), pp. 6–11.

90 FAOSTAT.

91 William F. Laurance et al., 'Improving the Performance of the RSPO on Nature Conservation', *Conservation Biology*, 24: 2 (April 2010).

92 Ibid.

93 Sam Lawson, 'Illegal forest conversion for industrial agriculture, and associated trade in timber and agro-commodities: The scale of the problem and potential solutions'; presentation at Chatham House, 9 July 2013, <http://www.illegal-logging.info/sites/default/files/Sam%20Lawson%20%282%29.pdf>.

94 The RSPO defines palm oil smallholdings as farms of less than 50 hectares, although they are often considerably smaller than this.

95 FSG, *Improving the Livelihoods of Palm Oil Smallholders: The Role of the Private Sector*, report commissioned by the World Bank (2011).

are crushed to produce palm kernel oil (PKO) and palm kernel meal (PKM) – the three basic feedstocks for the huge variety of manufacturing processes and industrial applications in which palm oil is used.

A significant proportion of CPO and PKO is sent for refining to produce RBD (refined, bleached and deodorized) palm oil and PKO. Much of this takes place locally in Indonesia and Malaysia at refineries operated by the large palm oil companies. Higher tariffs on refined oils in consumer markets, however, mean that considerable refining capacity also exists at major import destinations – for example, higher EU import duties on RBD palm oil mean that Cargill, IOI, Sime Darby and Wilmar all operate refineries in Rotterdam. Refining capacity is also being developed in India, where refined palm oil currently faces an import duty of 7.5 per cent, whereas crude palm oil enters tariff-free.

Around 60 per cent of palm oil and palm kernel oil is fractionated by refineries into stearin (solid) and olein (liquid). This can take place before or after refining, as crude fractions can be subsequently refined at their export destinations. A relatively small number of companies operate refineries, making this one of the most concentrated stages of the value chain.

There are now a variety of tradable oil palm commodities: CPO and RBD palm oil, PKO and RBD PKO palm stearin (crude and RBD) and palm olein (crude and RBD). In addition there are a number of by-products such as PKM (from crushing) and palm fatty acids distillate (PFAD) (from refining) that are used in animal feed. These commodities are used widely in manufacturing and industry and are predominantly traded by major global multi-commodity houses such as Cargill, ADM, Bunge and Dreyfus, and also Wilmar (although smaller trading operations also exist). These companies commonly integrate downstream into palm oil production and refining (for example, Cargill owns plantations and refineries). The major palm oil companies are the most vertically integrated, however: businesses such as Wilmar and IOI are not only among the largest plantation owners and refiners but are also active upstream in oleochemical production.

Many of the same palm oil companies also operate oleochemical plants that further process stearin and olein into a wide range of derivative products such as food additives (colourings, preservatives, antioxidants, sweeteners, emulsifiers, stabilizers and thickeners), surfactants for cleaning products (primarily PKO derivatives), surfactants and emollients for personal care and cosmetic products (sodium lauryl sulfate, sodium laureth sulfates, glycerine) and lubricants, solvents and plasticizers for industrial use. Oleochemical plants are also operated by companies that use palm oil derivatives in their manufacturing processes, such as processed food manufacturers or cosmetic companies.

Palm oil, palm oil fractions and palm oil derivatives are widely used in manufacturing, including:

- Food products such as margarines and spreads, frying fats, bread, biscuits, cakes, snacks, confectionery, dairy replacers, ready meals etc. Key players include Unilever, Nestlé, PepsiCo, Kraft, United Biscuits and Mars.
- Personal care and cosmetics products such as soap, shampoo, shower gel, facial washes, make-up removers, bubble bath, blusher, concealer, foundation, lipstick, mascara, eyeliner etc. Key players include Unilever, Colgate-Palmolive, L'Oréal, P&G and Beiersdorf.
- Cleaning products such as laundry detergents, toilet cleaners, washing-up liquids etc. Key players include Unilever, P&G, Reckitt Benckiser and SC Johnson.

Other applications include solvents (for use in paints and paint removers), chemical ingredients for insect repellents and insecticides, lubricants and pharmaceuticals.

The huge range of consumer products that use palm oil or its fractions and derivatives as ingredients is distributed through specialist retailers and supermarkets. Other important outlets include restaurants and fast food chains. Non-retail products such as those used in industry, cleaning or catering are likely to be handled by wholesaler intermediaries.

As noted, oil palm commodities are also used for renewable energy generation. Non-food uses of palm oil have increased from 16 to 26 per cent in the last decade, probably as a result of rising demand for biodiesel.⁹⁶ Biodiesel plants producing palm methyl ester (PME) through transesterification of refined palm oil are located in Indonesia, Malaysia and Singapore, from where PME is exported, and also at import destinations such as Rotterdam; the EU is the world's largest producer and consumer of biodiesel, and palm oil is the third most widely used feedstock, accounting for 9 per cent of production in 2010. Despite sustainability standards and cool temperatures that can lead to problems with PME solidifying in car engines, the EU is the principal export destination for PME; it imported about a third of Indonesia's output in 2012.⁹⁷

Key players in biodiesel production include the major commodity traders (ADM, Bunge, Cargill and Dreyfus), Wilmar, and Neste Oil (which operates the world's largest biodiesel plant in Singapore) and a large number of specialist biofuel companies. PME is then combined with other biodiesels for final blending with fossil diesel, or blended directly into fossil diesel and distributed to motorists. European players in the distribution of PME are therefore the major petroleum companies such as BP, Shell, ExxonMobil, Total, Chevron, Murco, ConocoPhillips etc.

Oil palm commodities are also increasingly being used for electricity generation, again in the EU, where the Renewable Energy Directive not only mandates increasing biofuel use in transport, but also requires increased deployment of renewables in electricity and heating. In particular, member states are co-firing with biomass in power stations, and have been using PKM and CPO for this purpose, while some countries are developing bioliquid plants that can burn CPO for heat and power. Key players include energy utilities and specialist biomass companies.

Certification initiatives

Roundtable on Sustainable Palm Oil

The Roundtable on Sustainable Palm Oil (RSPO) was founded in 2003, becoming fully operational in 2007, and certifying the first sustainable palm oil plantation in 2008; today it covers approximately 10 per cent of the global palm oil market. The roundtable is a multi-stakeholder initiative that includes members from palm oil producers, processors and traders, NGOs, goods manufacturers, financial institutions and retailers.

The certification scheme requires members to adhere to 43 sustainability criteria, which are organized within eight core principles: transparency, compliance with applicable local laws, long-term economic viability, applying best practice, environmental responsibility and conservation, social responsibility, responsible new planting policy and commitment to continual improvement.⁹⁸

96 Sanders et al., *Revisiting the Palm Oil Boom in Southeast Asia: The Role of Food versus Fuel Demand Drivers*.

97 'Indonesia PME heads to US; EU clamps down on biodiesel imports', ICIS.com, 13 February 2013.

98 *Principles and Criteria for the Production of Sustainable Palm Oil 2013*, http://www.rspo.org/file/PhC_RSPO_Rev1.pdf.

The RSPO excludes any new plantings since November 2005 on land converted from primary forest or on land required to maintain or enhance areas of high conservation value. Critics argue, however, that two loopholes have enabled deforestation to continue:

- The definition of primary forest is that which ‘has never been logged and has developed following natural disturbances and under natural processes, regardless of its age’ – potentially allowing forest that has been logged, or is undergoing rehabilitation, to be cleared.
- What constitutes high conservation value forest is open to national interpretation, approved by the RSPO Executive Board.

Efforts to limit RSPO-certified palm oil from deforested land have focused on developing criteria for greenhouse gas accounting, which could in principle prevent planting on lands of high carbon stock such as forest and peatland. However, environmental groups were disappointed with the latest set of criteria (agreed in April 2013), which require only that companies estimate emissions and develop plans to minimize them.⁹⁹

As with forest certification schemes, the RSPO runs two certification systems: one to ensure that palm oil is produced sustainably, and one to ensure the integrity of the trade in sustainable palm oil. Both systems involve third-party certification bodies. Full segregation throughout the supply chain of traders, storage tanks, pipelines and oil tankers is generally regarded as expensive and difficult. Although some companies, such as New Britain Palm Oil, have pursued this model, the RSPO concluded that insisting on segregation would slow down the adoption of the system, particularly in the burgeoning markets of China and India. It therefore permits various systems short of full segregation.

Similar in principle to offset schemes, ‘book and claim’ is a certificate trading system through which a company buys certificates to cover the quantity of palm oil used; although the palm oil that they actually use in their supply chain may not be from certified sources, they are supporting sustainable palm oil through the purchase of these certificates.¹⁰⁰ The RPSO book and claim system is run by GreenPalm, a subsidiary of AAK, the United Kingdom’s largest palm oil importer.

The ‘mass balance’ option permits traders or refiners of palm oil to buy RSPO palm oil but then mix it with non-RSPO supplies. In both these systems, volumes of oil are matched between producers and buyers, but manufacturers or retailers cannot claim that their products ‘contain’ sustainable palm oil; they may say only that their products have ‘advanced’ the production of sustainable palm oil. The claim that products ‘contain’ RSPO-certified sustainable palm oil can only be made if the palm oil used in the product came from a certified plantation and was kept segregated from conventional oil throughout the supply chain.

The RSPO system tends to divide opinion, particularly among environmental NGOs. One criticism includes the lack of monitoring and enforcement of the sustainability criteria, given shortage of resources. Another is the dominance of the palm oil industry within the RSPO’s membership; under 7 per cent of member organizations are environmental and social civil society groups; the

⁹⁹ Ibid.

¹⁰⁰ WWF International, *Palm Oil Buyers Scorecard* (2011).

majority is made up of oil palm growers, processors and trading corporations. There have been calls for a more balanced and representative membership base to ensure that environmental and social sustainability remains at the heart of the RSPO's work, with the FSC being held up as a potential model of representative leadership.¹⁰¹ More fundamentally, there have been concerns that RSPO may create the illusion of a sustainable palm oil industry while not preventing some of the worst practices associated with the industry, including large-scale clearance of forest and peatland. As noted above, the organization's decision in April 2013 not to limit greenhouse gas emissions – which could have prevented this – was widely criticized.

Demand for sustainably produced palm oil remains low – although 12 per cent of global production was certified by 2011, only half of it was purchased or had earned a price premium.¹⁰² Uptake remained flat in 2012.¹⁰³ Certified palm oil can be significantly more expensive than its conventional counterpart – around 8–15 per cent higher in price – and with the largest consumers of palm oil now being China and India, there may be few incentives for suppliers to meet RSPO's higher standards. However, RSPO is widely supported within the sector and is steadily gaining ground; of 132 companies assessed in 2011 by the WWF *Palm Oil Buyers Scorecard*, 112 were members or had already applied to be members of the RSPO.

June 2013 saw the launch of the Palm Oil Innovation Group at the Tropical Forest Alliance's meeting in Jakarta. Comprising NGOs including Greenpeace and WWF, and 'progressive' palm-producing companies including New Britain Palm Oil and Golden Agri Resources, it aims to demonstrate new models for sustainable palm oil production, improving on RSPO principles and criteria. In particular, the group aims to break the link between palm oil expansion and deforestation and improve forest conservation.¹⁰⁴

Indonesian and Malaysian standards

The Indonesian Sustainable Palm Oil (ISPO) scheme was created after the Indonesian Palm Oil Association (Gapki) left the RSPO in 2011, following a series of conflicts linked to environmental standards. Administered by the government, the ISPO standard is based on existing laws and regulations; it is less strict than the RSPO standard, and the cost of certification per hectare is lower. The ISPO standard is mandatory, and in March 2013 the government announced that it would revoke palm oil production permits for companies not possessing an ISPO certificate by 2014.¹⁰⁵ Many large Indonesian palm oil producers, however, continue to support the RSPO.

The Malaysian Palm Oil Standard (MSPO) is still in development by the government, though it is expected to be finalized by the end of 2013. Unlike the ISPO, it will be voluntary, not mandatory. It is expected to be similar to the Malaysian interpretation of the RSPO framework, which differs slightly from the generic RSPO principles and criteria, though the cost of certification is expected to be lower. In fact, most of the big Malaysian palm oil plantations are already RSPO-certified. It has not yet been decided whether palm oil meeting the standard will be branded as 'sustainable' or 'responsible'.¹⁰⁶

101 Laurance et al., 'Improving the Performance of the RSPO on Nature Conservation'.

102 WWF International, *Palm Oil Buyers' Scorecard*.

103 RSPO, *Key Statistics*, 11 June 2013.

104 'Joint Statement: Palm oil companies join NGOs to find palm oil solutions', 28 June 2013, <http://www.ran.org/joint-statement-palm-oil-companies-join-ngos-find-palm-oil-solutions>.

105 'Indonesian government to revoke palm oil licenses without sustainable credentials', *Jakarta Globe*, 11 March 2013.

106 'National palm oil standard soon', *The Star Online*, 21 March 2013.

Roundtable on Sustainable Biofuels

The Roundtable on Sustainable Biofuels (RSB) was established by the Swiss Federal Institute of Technology in 2007, but is now an independent multi-stakeholder organization bringing together those concerned with ensuring the sustainability of biofuels production and processing; more than 100 organizations are currently members.¹⁰⁷ The RSB Global Sustainability Standard for the sustainable production, conversion and use of biomass has 12 principles and criteria, covering legality, impact assessment and stakeholder consultation, greenhouse gas emissions, human and labour rights, local development and food security, conservation (biodiversity and ecosystem services), soil, water and air protection, use of hazardous technologies, and land rights – a comprehensive but possibly over-complex system, which may have deterred many companies from using it.¹⁰⁸ It aims to achieve a threshold of at least a 50 per cent cut in greenhouse gas emissions for a blend of biofuels compared to a fossil fuel baseline. The first company to be certified under the RSB standard was approved in February 2012.

Sustainable Agriculture Network/Rainforest Alliance

The Sustainable Agriculture Network (SAN), founded as a network of conservation organizations in 1997, has developed a cross-cutting standard for sustainable agricultural practices applicable to more than 100 different crops.¹⁰⁹ Certification is carried out through the Rainforest Alliance, founded in 1987 to conserve biodiversity and ensure sustainable livelihoods by transforming land-use practices, business practices and consumer behaviour.¹¹⁰ Its sustainable agriculture programme oversees the certification of farms that produce tropical crops; it also provides the secretariat of the SAN. Most of the farms certified to the SAN standard grow cocoa, coffee or bananas, but a small number (all in Colombia and Guatemala, as of July 2013) grow oil palm.¹¹¹

The SAN standard has comprehensive requirements related to deforestation and biodiversity. Farms cannot destroy any natural ecosystem from the date of application for certification onwards, and no high-value ecosystems must have been destroyed in the farm from November 2005 onwards. If any natural ecosystems were destroyed between 1999 and 2005, the farm must document the scope and ecological impact of the destruction, develop a mitigation plan that compensates for the negative impact, and implement the plan. Cutting, extracting or harvesting trees, plants and other non-timber forest products is only allowed if the farm implements a sustainable management plan that has been approved by the relevant authorities.

Private-sector initiatives

Several voluntary initiatives are currently under way among major private-sector consumers of palm oil, including in particular Nestlé and Unilever.

In 2010 **Nestlé** adopted a commitment to remove deforestation from its supply chain, largely in response to a high-profile Greenpeace campaign targeting the destruction of forests and habitats consequent on palm oil production used in the manufacture of the company's product Kit Kat ('give the orang-utan a break'). Specific targets include the protection of peatlands, high carbon value forests and forests important for conservation and the use of free, prior and informed consent (FPIC) in any interactions with local and indigenous communities. All plantations must conform to local applicable laws. This pressure on suppliers has had a significant impact; one of the world's largest

107 For further information, see <http://rsb.org>.

108 Proforest, *Agricultural Roundtables and Sustainability Initiatives: Briefing Note for DFID* (February 2012), p. 17.

109 Available at <http://sanstandards.org/sitio/>.

110 For further information, see <http://www.rainforest-alliance.org/>.

111 See full list of certified farms at <http://sanstandards.org/sitio/subsections/display/16>.

palm oil suppliers, Golden Agri Resources, has pledged to cease the felling of high conservation value peatlands and high carbon value forests for its entire operations, not just those that supply Nestlé.¹¹² Nestlé has also established a partnership with The Forest Trust (TFT) to work on the ground with suppliers to ensure that the commodities they supply are free from deforestation.¹¹³

Unilever is one of the world's largest consumers of palm oil, buying approximately 3 per cent of global supplies, amounting to 1.3 million tonnes annually.¹¹⁴ In 2007, the company was the target of a Greenpeace investigation which alleged that many of its suppliers were involved in large-scale rainforest destruction for palm oil plantations.¹¹⁵ In response to this, and in an effort to improve the sustainability of its operations, Unilever developed its Sustainable Living Plan, released in 2010. This included a commitment to source all palm oil from RSPO-certified sources by 2015, but in fact progress was faster than anticipated and the company brought forward the target to the end of 2012. This was achieved, however, through the GreenPalm certificate scheme, which the company accepted was only a transitional step. It adopted a target of sourcing all palm oil from fully traceable sources by 2020. In addition, it plans a major investment in a palm oil derivatives processing plant in Indonesia, with the aim of improving the traceability of its supply chain.

The **Consumer Goods Forum**, a global industry network of retailers, manufacturers and service providers, has adopted a target of achieving zero net deforestation by 2020. It encourages its members to support the work of the RSPO, and has also organized workshops to raise awareness of the importance of sustainable palm oil, for example in July 2012 in Beijing with Chinese business leaders.¹¹⁶

The Dutch **Task Force on Sustainable Palm Oil** was established in 2010, with the aim of ensuring that all palm oil used in the Dutch market is sustainable by the end of 2015.¹¹⁷ 'Sustainable palm oil' is defined as palm oil certified according to RSPO principles and criteria and traded in conformity to one of the three RSPO-approved trading systems: segregation, mass balance or book and claim. The Netherlands imports about 4 per cent of global palm oil production, much of it for re-export.

Mirroring the Dutch initiative, the **Belgian Alliance for Sustainable Palm Oil** was established in January 2012, with the aim of ensuring that all palm oil used in the Belgian market would be sustainable by the end of 2015; to date it includes 10 major companies and trade associations.¹¹⁸ It encourages the purchase of RSPO-certified palm oil, and intends to produce an annual report on progress towards the target.

Mainly because of growing concern over the impact on forests or the rapid expansion of palm oil production, many other companies have adopted voluntary initiatives; these include Walmart, Marks & Spencer, the Co-op, Waitrose, Carrefour, Tesco and AAK. Generally they set a target date (frequently 2015) for 100 per cent use of sustainable palm oil in own-brand products; sometimes the target specifies the use of segregated sustainable palm oil.

112 Greenpeace, 'One year after Nestlé committed to giving rainforests a break: What has been achieved?', 23 May 2011, <http://www.greenpeace.org/international/en/news/features/One-year-after-Nestle-committed-to-giving-rainforests-a-break--what-has-been-achieved/>.

113 'The Nestlé example: How companies could end deforestation', interview by Jeremy Hance with Scott Poynton for mongabay.com, http://news.mongabay.com/2010/1005-hance_poynton.html. See also Nestlé, 'Environmental Sustainability: Climate Change', <http://www.nestle.com/csv/Environment/climatechange/Pages/ClimateChange.aspx>.

114 Unilever, 'Our Targets', <http://www.unilever.com/sustainable-living/sustainablesourcing/palmoil/ourtargets/index.aspx> (2012).

115 Greenpeace International, *How Unilever Suppliers are Burning Up Borneo* (2008).

116 For further information, see <http://sustainability.mycgforum.com/deforestation/palm-oil.html>.

117 For further information, see http://www.taskforceduurzamepalmoilie.nl/Portals/4/download/Manifesto_Task_Force_Sustainable_Palm_Oil.pdf.

118 For further information, see <http://www.sustainabelpalm.be>.

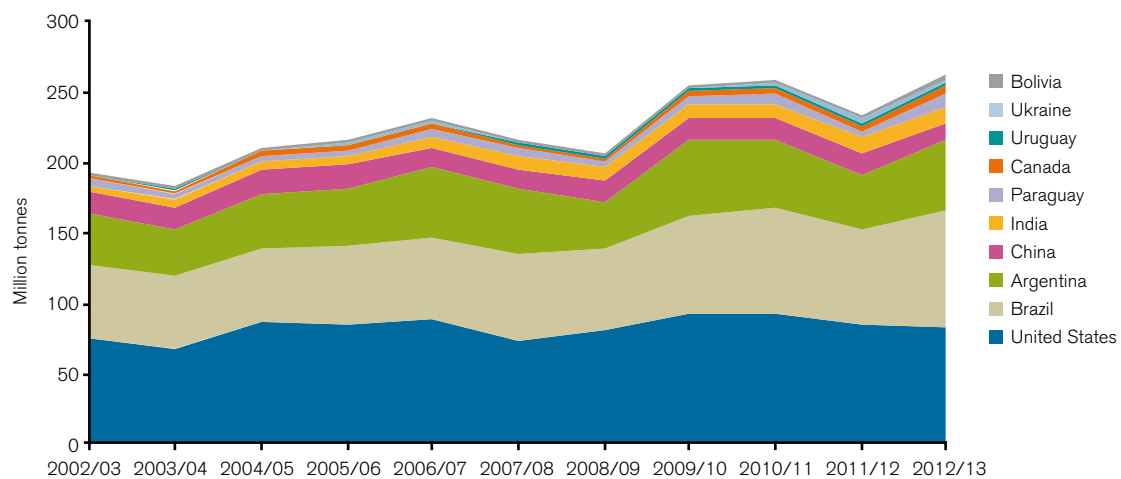
Soy

According to the European Commission study on the impact of EU consumption on deforestation, soy was the second most important agricultural commodity, and the main crop, in terms of global impact, accounting for 19 per cent of the global deforestation taking place between 1990 and 2008.¹¹⁹ Soy, a very heavily traded commodity, accounted for 47 per cent of the deforestation embodied in EU imports over the same period.¹²⁰

The soybean, or soya bean (*Glycine max*), is a species of legume native to East Asia, widely grown for its edible bean that can be processed into soybean meal and vegetable oil. Soybeans produce significantly more protein per hectare than most other uses of land, and are therefore an excellent source of food, primarily for animal feed: after crushing, 80 per cent of the world's soy ends up as animal feed for chickens, pigs, cows and farmed fish. The remainder is used in a variety of industrial applications, including ink, wax and biodiesel production, or for direct human consumption.

Since the 1950s soy production has increased fourteen-fold, with 2012/13 production levels expected to exceed 268 million tonnes.¹²¹ The United States, Brazil and Argentina account for 80 per cent of the world's soybeans, and for 90 per cent of global soy exports (Figures A5 and A6). The rate of soy expansion has been extremely rapid, particularly in the last decade; more than half of Argentina's agricultural area is now used for cultivating soy, resulting in the displacement of 4.6m ha of other agricultural crops in the last five years alone.¹²²

Figure A5: Top ten soybean producers



Source: United States Department of Agriculture, Foreign Agricultural Service (USDA-FAS).

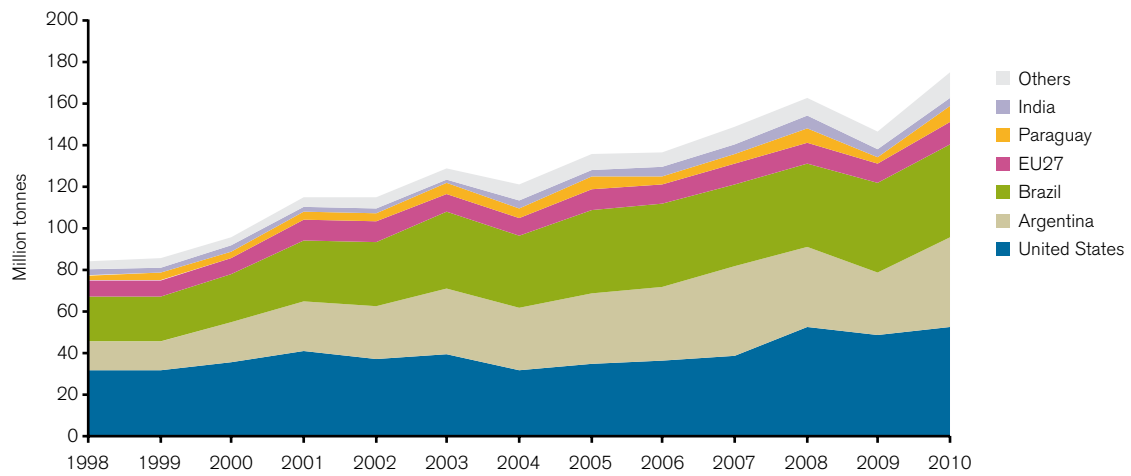
119 European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, p. 21.

120 Ibid., p. 24.

121 USDA Foreign Agricultural Service.

122 Gustavo A. García-Lopez and Nancy Arizpe, 'Participatory processes in the soy conflicts in Paraguay and Argentina', *Ecological Economics* 70 (2010).

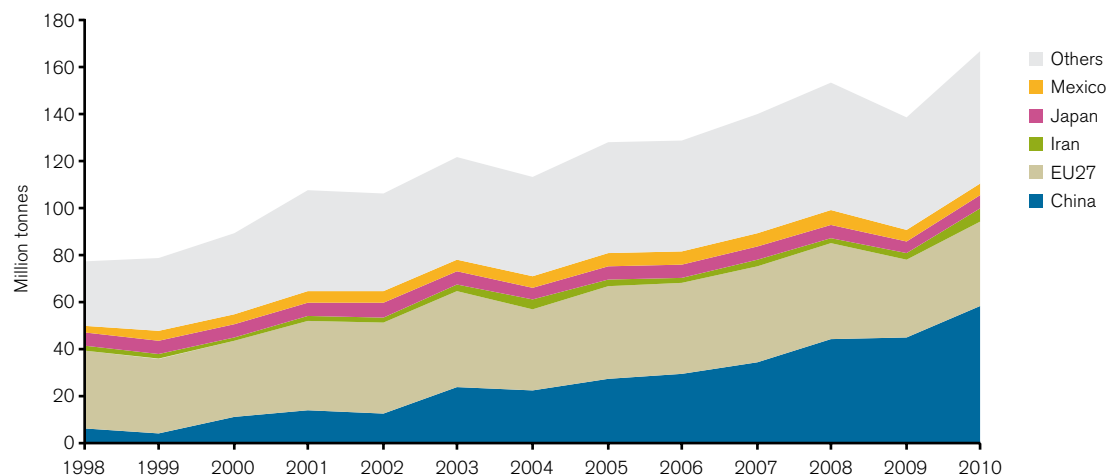
Figure A6: Top exporters of (primary and processed) soybeans



Chatham House Resource Trade Database, BACI, COMTRADE.

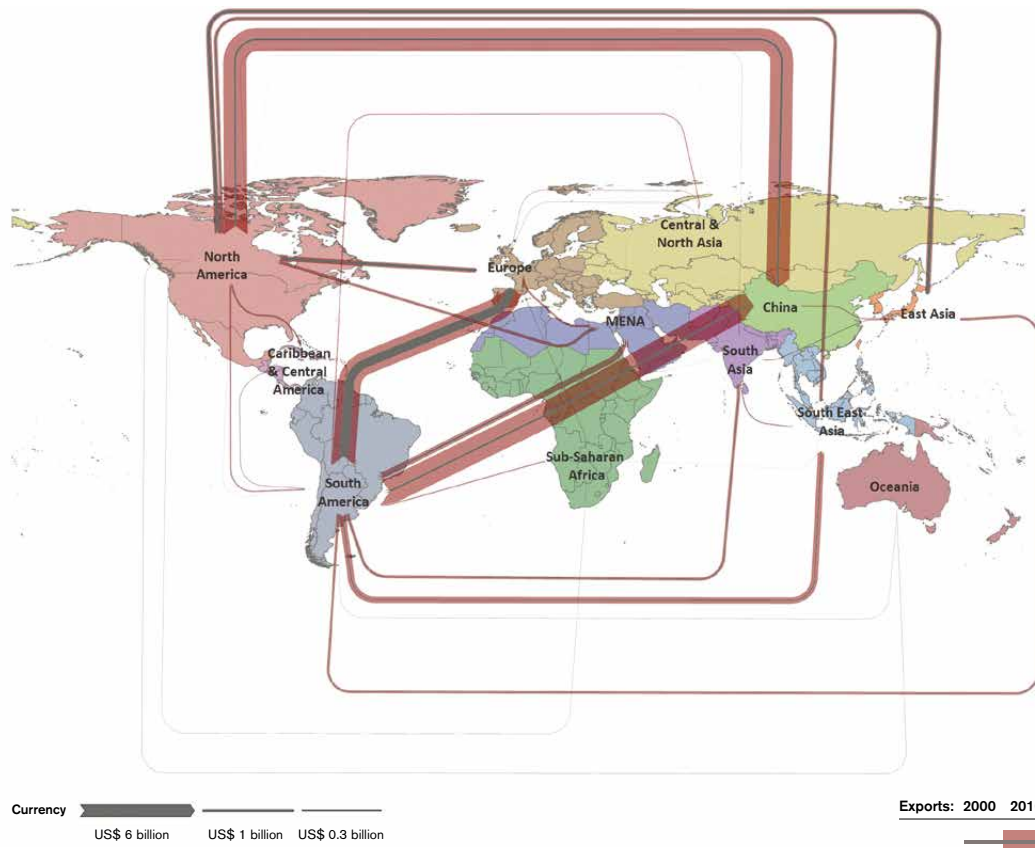
Soybean demand growth is principally attributable to the increasing preference for meat among the growing middle class in emerging economies. Foremost among these has been China, the world's leading importer, which overtook the EU in 2008, and by 2010 was importing 57 million tonnes per year, or a third of global soy imports. Over the last decade, China alone has accounted for almost two-thirds of global demand growth, trailed distantly by Argentina and Brazil (Figures A7 and A8).

Figure A7: Top importers of (primary and processed) soybeans



Source: Chatham House Resource Trade Database, BACI, COMTRADE.

Figure A8: Global soybean trade, 2000 vs 2010



Most of this soybean is fed to pigs, though trade data also indicate that China has been building a strategic reserve since the 2008 food price crisis. The EU is the second largest importer of soy after China, importing 36 million tonnes per year in 2010, or 22 per cent of global imports, much of it in the form of soymeal and cake destined for use as feed for pigs, poultry and cattle.¹²³ The tightening up of EU legislation on animal feed, which in 2002 banned the widespread practice of using animal carcasses and waste meat, led to significant increases in soy imports.

The increase in global soybean demand has been met in large part by South American producers, particularly Brazil, Argentina and Paraguay, where the area harvested has increased dramatically. The US Department of Agriculture expects Brazil to surpass the United States as the world's largest producer in 2013. US acreage has remained flat owing to expanding corn production for ethanol; in effect, US ethanol policies have displaced soybean expansion to South America.

Soy and deforestation

The expansion of soy production in South America has had profound implications for deforestation, as rising demand has coincided with the introduction of new varieties and production techniques, allowing soy to be grown on an industrial scale in the Amazon region.¹²⁴ An influential paper published in 2006 in *The Proceedings of the National Academy of Sciences* established a strong

123 Carrie Brown-Lima, Melissa Cooney and David Cleary, *An Overview of the Brazil-China Soybean Trade and its Strategic Implications for Conservation* (The Nature Conservancy, Latin America, 2010), p. 6.

124 Daniel C. Nepstad et al., 'Globalisation of the Amazon Soy and Beef Industries: Opportunities for Conservation', *Conservation Biology* 20: 6 (2006).

correlation between international soybean prices and rates of deforestation in the Amazon basin, and used satellite imagery to establish that cropland expansion, mainly for soy, was an increasing driver of deforestation between 2001 and 2004, accounting for 17 per cent of total forest loss.¹²⁵

Growing evidence of forest destruction and campaigns from NGOs such as Greenpeace meant that in June 2006, Brazilian soy processors and traders, in consultation with the European soy industry, decided that for a minimum period of two years they would not purchase any soybeans cultivated on land in the Amazonian rainforest that had been subjected to deforestation after 24 July 2006. The moratorium has been regularly extended, and is due to end in January 2014.

The imposition of successive moratoria appears to have weakened the direct link between soybean production and deforestation: the most recent monitoring found that soybean cultivation accounted for 0.41 per cent of all deforestation since the moratorium was first implemented (0.53 per cent in the three main soy producing states).¹²⁶ Nevertheless, there is evidence that soybean expansion remains an indirect driver of deforestation, as it may displace ranching towards forest.¹²⁷

The soy supply chain

Soybean production varies from country to country. In Brazil, it is dominated by large industrial farms, although family farming also plays a role. For example, in the major soybean producing state of Mato Grosso, farms may cover tens of thousands of hectares (the largest are hundreds of thousands), whereas a typical Brazilian family farm may be more like 70 hectares in size. Farms in Argentina are comparably huge. In the United States, average farm size is under 200 hectares.

Elevators – operations that receive, store and transport soybeans – are the next link in the supply chain. These may be operated by large farms, by cooperatives of smaller farms, or by larger processing and trading businesses such as Cargill and ADM, which make international markets in soybeans and soybean products.

Processors may buy direct from producers or via elevators. These businesses crush the soybeans to produce oil and meal, and husks as a by-product. These processed commodities are then sold on for different uses. This is the ‘pinch point’ of the soy supply chain, where concentration is high; the main processors and traders are agribusiness giants such as Cargill, Bunge and ADM, which in 2006 between them financed over 60 per cent of the soy produced in Brazil and controlled 75 per cent of EU crushing capacity.¹²⁸ After this, the chain fragments as the processed commodities are sold on for different purposes.

About 18 per cent of the processed soybean is oil, which is predominantly used in industrial processes for biodiesel production but also in small amounts in the manufacture of paints, inks and resins. The main consumer of soy-based biodiesel is the EU, where it is the second most popular feedstock, accounting for about 11 per cent of biodiesel. Argentina produced 2.4 million tonnes of soy biodiesel in 2012, of which 90 per cent was exported to the EU, making it the world’s largest exporter of biodiesel, from any feedstock.¹²⁹

125 Douglas C. Morton et al., ‘Cropland expansion changes deforestation dynamics in the southern Brazilian Amazon’, *Proceedings of the National Academy of Sciences of the United States of America* 103: 39 (2006).

126 Soy Task Force, *Soy Moratorium: Mapping and Monitoring Soybean in the Amazon Biome – 5th Year* (2012).

127 E. Barona et al., ‘The Role of Pasture and Soybean in Deforestation of the Brazilian Amazon’, *Environmental Research Letters* (2010).

128 Greenpeace, *Eating up the Amazon* (2006), p. 5.

129 Though this is expected to drop sharply in 2013 due to EU anti-dumping measures; see ‘Crisis-hit Argentine biodiesel sector eyes U.S. market’, Reuters, 20 May 2013.

Key players in biodiesel production include many of the major commodity traders, but also specialist biofuel companies. Soy biodiesel may be blended with other biodiesels before finally being blended into fossil diesel by the major petroleum suppliers such as BP, Total and Shell in Europe. Brazil is also a significant producer and consumer of soy biodiesel as part of its national biodiesel programme, primarily aimed at supporting small oilseed farmers. The United States is gradually increasing its biodiesel blending using domestically produced soy biodiesel, although this may change now that Argentinian biodiesel producers have begun to apply for accreditation to supply the US market.

Other industrial uses for soybean oil include the production of paints, inks and resins. The remainder is used in food production, for example in the manufacture of margarines, pastry and cooking oils. Key players in food manufacture include companies such as Unilever and Kraft.

Soybean meal accounts for about 80 per cent of soybean weight. It is the principal protein meal for livestock, poultry and fish, and probably around 90 per cent of soybean meal is used for this purpose.¹³⁰ Compound feed manufacturers are often national or regional, supplying local livestock and poultry industries; major players include Chinese enterprises such as New Hope and Cofco, Cremer Group and BOCM Pauls in Europe, and ConAgra, Cargill and CHS in the United States. The world's biggest feed manufacturer is Thailand's CP Group. Some soy protein is also used in food manufacturing, where it can improve water absorption, increase emulsification of fats, tenderize or extend shelf life.

Hulls are essentially a by-product of crushing. They can be used as a fibre supplement in feed and food manufacturing.

Certification initiatives

Roundtable on Responsible Soy

The Roundtable on Responsible Soy (RTRS) was founded in 2006 and has been operational since 2010, with the first farms being certified in 2011. In 2012 it certified one million tonnes of soy (about 0.5 per cent of the global market), double the amount certified in 2011, and has a target of five million tonnes by 2015.¹³¹ Like the Roundtable on Sustainable Palm Oil (RSPO), it is a multi-stakeholder initiative that includes many of the same founding members, such as WWF, Unilever and Cargill, as well as many that are more specific to the soy industry, such as Monsanto, Syngenta and ADM.

RTRS certification covers legal compliance and commitment to using best business practice, fair and responsible working conditions, responsible community relations, environmental responsibility and use of agricultural best practice. The standard stipulates that any land cleared of native habitat after May 2009 must not be used for soy cultivation, unless it had previously been cleared for agriculture and forest had not regenerated.¹³²

RTRS has been subject to criticism from civil society groups for allowing the use of genetically modified (GM) soy and intensive use of pesticides. There has also been criticism regarding the membership criteria of the roundtable; currently no indigenous groups or small farmers are

¹³⁰ Based on estimate that over 70 per cent of all soybean production goes to animal feed.

¹³¹ 'Responsible soy reaches first million tons', *Solidaridad*, 4 February 2013, <http://www.solidaridadnetwork.org/responsible-soy-reaches-first-million-tons>.

¹³² Round Table on Responsible Soy Association, *RTRS Standard for Responsible Soy Production, Version 1.0* (June 2010).

represented.¹³³ In response it has been argued that the inclusion of GM soy within the standard is a pragmatic approach in encouraging major soy producers to operate more sustainably, enabling engagement and incremental change towards a more sustainable production model, rather than exclusion.

As with palm oil, it is currently difficult and expensive to secure fully segregated and traceable certified soy, so the RTRS allows crediting systems in the same way as the RSPO, i.e. the soy a company actually uses in its supply chain may not be from certified sources, but sustainable soy production is supported through the purchase of certificates.

RTRS currently has little penetration in the US market as US producers tend to see it as a solution to specifically South American problems. As the United States is the largest producer and exporter, this is a drawback, and RTRS members such as Unilever and WWF are making efforts to promote the standard within the United States.

ProTerra

The ProTerra Certification Programme was created in 2006 within Cert ID, a global certification body that provides accredited certification programmes to the food and agricultural industry. Cert ID concentrates on certifying non-GM products, in particular for the EU market, where GM foodstuffs have not generally proved acceptable to governments or the public. This is especially relevant to soy, where much of the product grown in the United States and South America is GM.

Responsibility for the ProTerra certification scheme, which is applicable to a range of agricultural commodities but is used mainly for soy, was transferred to the independent ProTerra Foundation in 2012. Its sustainability standard for soy specifies that areas of high conservation value must not be destroyed in the soy production process, and land that has been cleared after July 2004 must not be used. In addition, if deforestation has occurred since 1994 on the production land, active measures must be taken to increase biodiversity. The scheme is based on the Basel criteria for soy production, stipulating compliance with applicable legislation, technical management and production, environmental management, social management, continuous improvement and traceability as the core components of its standard.¹³⁴ In line with the Cert ID standard, it does not certify GM soy.

ProTerra certified over four million tonnes of soy as sustainable in 2011 – approximately 3.4 per cent of global soy production – with 4.7 million tonnes of soybeans and 3.7 million tonnes of soybean meal being certified as non-GM by Cert ID. Cert ID has a global presence, certifying non-GM soy for producers and manufacturers around the world.¹³⁵ Traceability requirements under the scheme are very strict; all ProTerra-certified soy is fully traceable and includes a chain-of-custody certificate.¹³⁶ The scheme does not use an interim certificate scheme like the RTRS or the RSPO, but rests on full segregation and traceability.

Roundtable on Sustainable Biofuels

As described in the section above on palm oil, the Roundtable on Sustainable Biofuels aims to promote sustainable biofuels; this is relevant to soy as well.

133 García-Lopez and Arizpe, 'Participatory processes in the soy conflicts in Paraguay and Argentina'.

134 Proforest, *The Basel Criteria for Responsible Soy Production* (2004).

135 Cert-ID, 'Non-GMO Certification' (2011), <https://www.cert-id.eu/Certification-Programmes/Non-GMO-Certification>.

136 ProTerra, 'Certification Traceability database' (2012), <http://www.proterrafoundation.org/index.php/certification-2/managing-proterra-certification/certification-traceability-database>.

Private-sector initiatives

Several voluntary initiatives are currently under way among major private-sector consumers of soy. In pursuance of its aim of achieving zero net deforestation by 2020, the **Consumer Goods Forum** is scheduled to agree a strategy and action plan for soy in November 2013.¹³⁷ In order to meet this resolution there will be ongoing support of the RTRS, as well as individual member initiatives and collaboration with relevant NGOs.

As part of its commitment to achieve zero deforestation, **Nestlé** is mapping its soy supply chain in order to find ways of meeting its Responsible Sourcing Guidelines. It is partnering with Conservation International to develop and implement these guidelines, working with suppliers.¹³⁸

Unilever, which buys approximately one per cent of global soy oil production, includes specific commitments on soy in its Sustainable Living Plan: all soybeans should be purchased from sustainable sources by 2014, and all soy oil by 2020. In 2011 Unilever bought certificates covering 5,000 tonnes of RTRS soy oil.¹³⁹

Tesco UK formerly used non-GM soy from sustainable sources for all of its own-brand products, though in April 2013 it admitted it could no longer guarantee the absence of GM soy, given changing agricultural techniques. Animal feed for its meat and egg suppliers is also monitored to ensure that it does not come from within the Amazon biome.¹⁴⁰

Albert Heijn, the largest food retailer in the Netherlands, has made a commitment to ensure that all meat, dairy and egg products will be from animals whose feed is RTRS-certified by 2015.¹⁴¹

In 2011 a large group of Dutch companies and trade associations, responsible between them for 90 per cent of Dutch soy consumption, established the **Task Force on Sustainable Soy**, with a target of sourcing 100 per cent of its soy sustainably by 2015.¹⁴² This is a significant development, as the Netherlands is one of the EU's largest soy importers, owing to its large-scale production of meat and dairy products. It supports the RTRS.

Beef and leather

According to the European Commission study on the impact of EU consumption on deforestation, ruminant livestock – mainly beef cattle – together with the production of feed for it was the most important agricultural product in terms of global impact, accounting for 49 per cent of the global deforestation taking place between 1990 and 2008.¹⁴³ In contrast to palm oil and soy, however, most production is consumed domestically and EU imports of ruminant livestock products accounted for only about 13 per cent of embodied deforestation over the same period.¹⁴⁴

137 For further information, see <http://sustainability.mycgforum.com/deforestation/soy.html>.

138 For further information, see <http://www.nestle.com/csv/ruraldevelopment/othercommodities/Pages/otherCommodities.aspx>.

139 Information derived from <http://www.unilever.com/mediacentre/pressreleases/2011/Unileversnextstepinsustainablesourcingofrawmaterials.aspx>.

140 For more information, see <http://www.tescopl.com/assets/files/cms/Soy.pdf>.

141 For more information, see <https://www.ahold.com/Media/WNF-and-Albert-Heijn-collaborate-to-promote-conservation-and-sustainability.htm>.

142 For more information, see <http://www.taskforcesustainablesoy.org/>.

143 European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, p. 21.

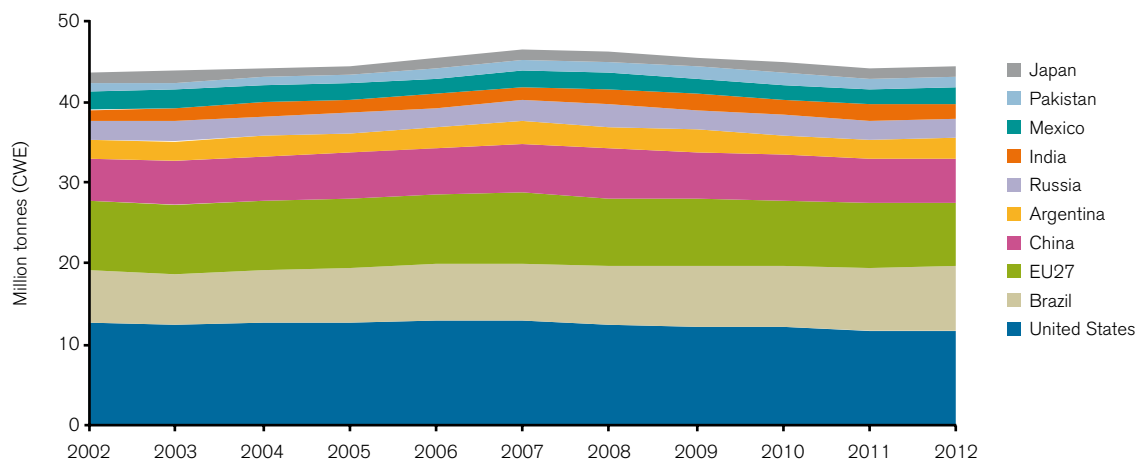
144 *Ibid.*, p. 24.

Beef

Global beef consumption is stagnant, with little change over the last decade. It peaked in 2007 at about 58 million tonnes CWE (carcass weight equivalent) and declined slightly since then to around 55 million tonnes in 2012. In most developed countries consumption is falling: US and EU consumption has declined by about 2 per cent a year since 2007. It is unclear to what extent this is related to greater awareness of the health risks associated with red meat consumption (as some would claim), as economic difficulties and falling real incomes are also likely to have played a part.

Declining consumption in the developed world has been partially offset by increasing consumption in emerging economies, particularly Brazil (now the second biggest consumer of beef globally behind the United States) but also India, Pakistan and China (Figure A9).

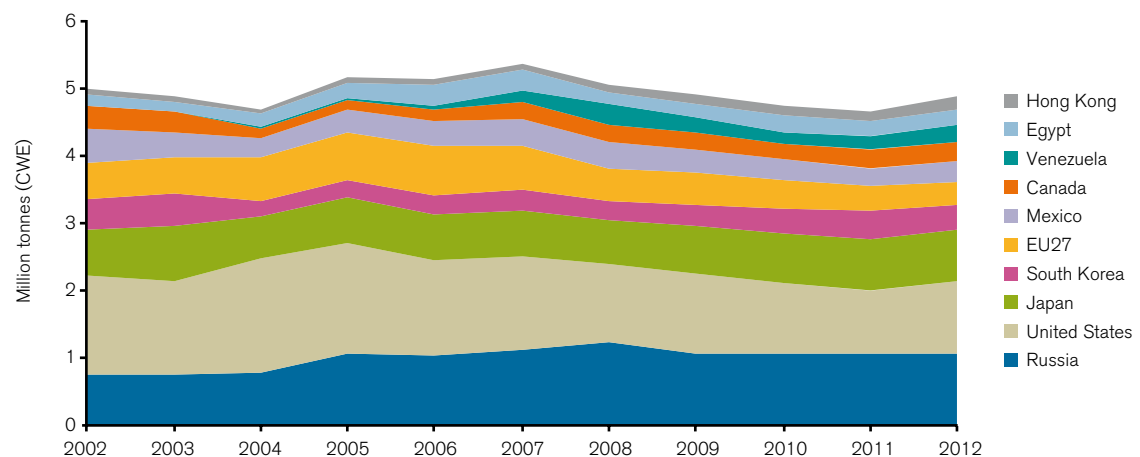
Figure A9: Top 10 beef consumers



Source: USDA-FAS.

The largest importer of beef is currently Russia. Other major importers are the United States, Japan and Korea (Figure A10). Trade in beef represents about 10 per cent of production, as the major producers are typically also major consumers.

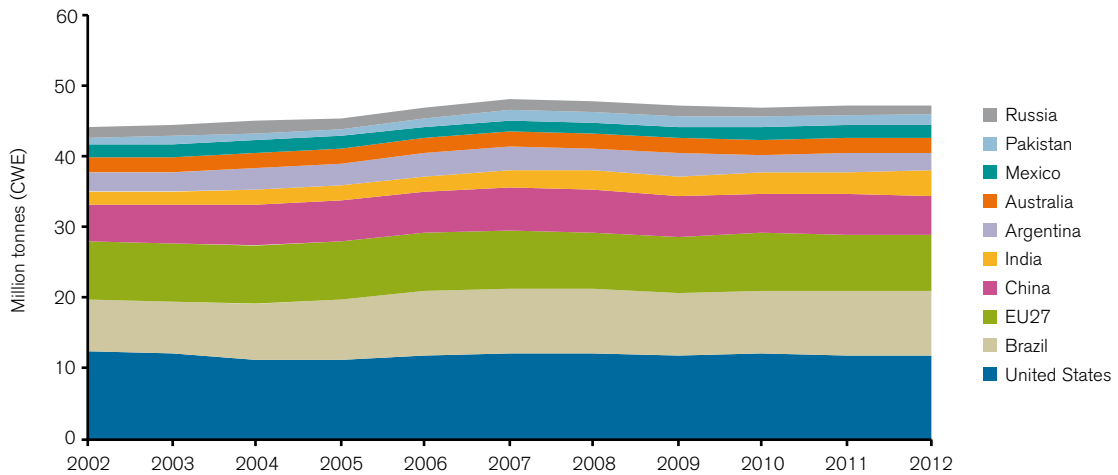
Figure A10: Top 10 beef importers



Source: USDA-FAS.

Major beef producers are the United States (21 per cent of 2012 global production on a CWE basis), Brazil (16 per cent), the EU (14 per cent), China (10 per cent), India (6 per cent), Argentina (5 per cent) and Australia (4 per cent) (Figure A11).

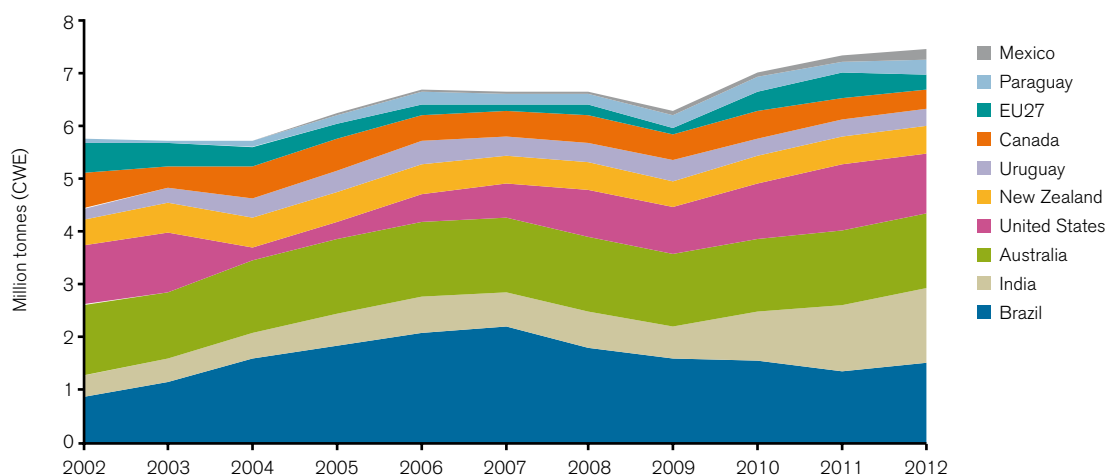
Figure A11: Top 10 beef producers



Source: USDA-FAS.

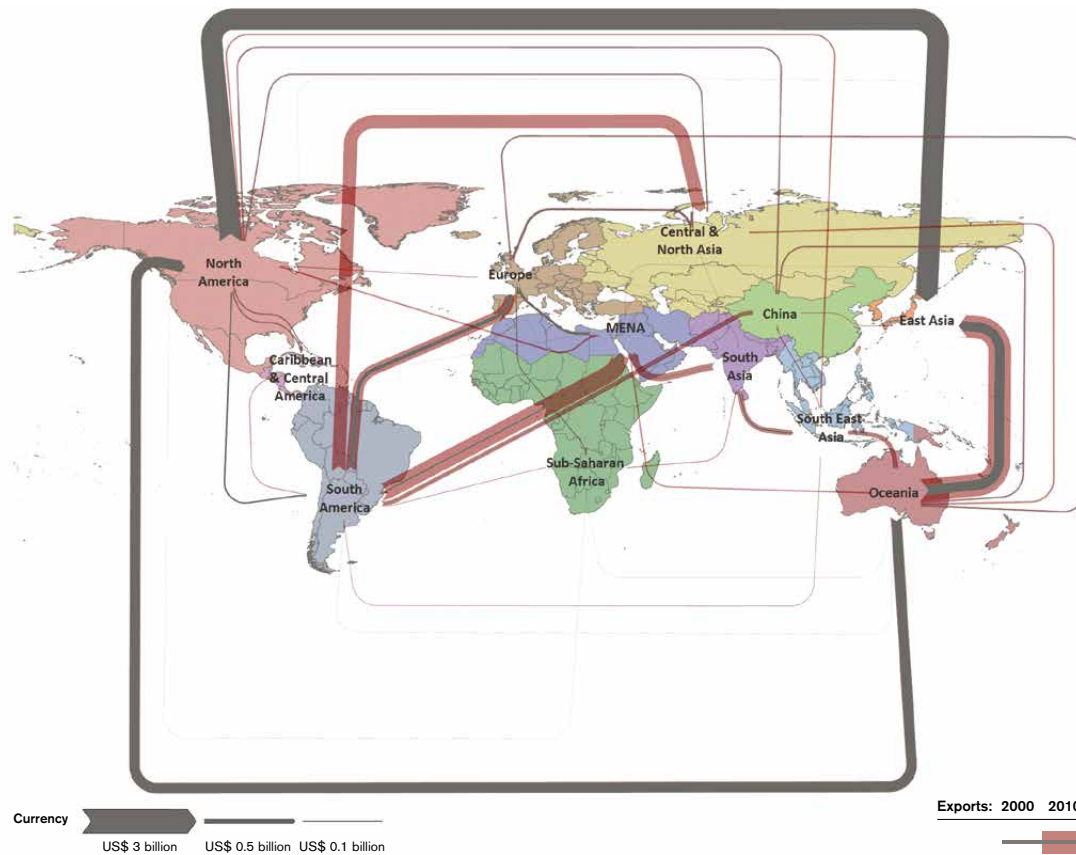
The principal exporters are Brazil (19 per cent of 2012 global exports on a CWE basis), India (17 per cent), Australia (17 per cent) and the United States (14 per cent) (Figures A12 and A13). Particularly noteworthy is India, which has increased exports significantly in recent years. Although there are restrictions on the slaughter of cattle in India, the dairy herd of buffalo yields a significant surplus of male calves that are increasingly slaughtered and exported as low-priced beef to markets in the Middle East, Africa and Asia.

Figure A12: Top 10 beef exporters



Source: USDA-FAS.

Figure A13: Global beef trade, 2000 vs 2010



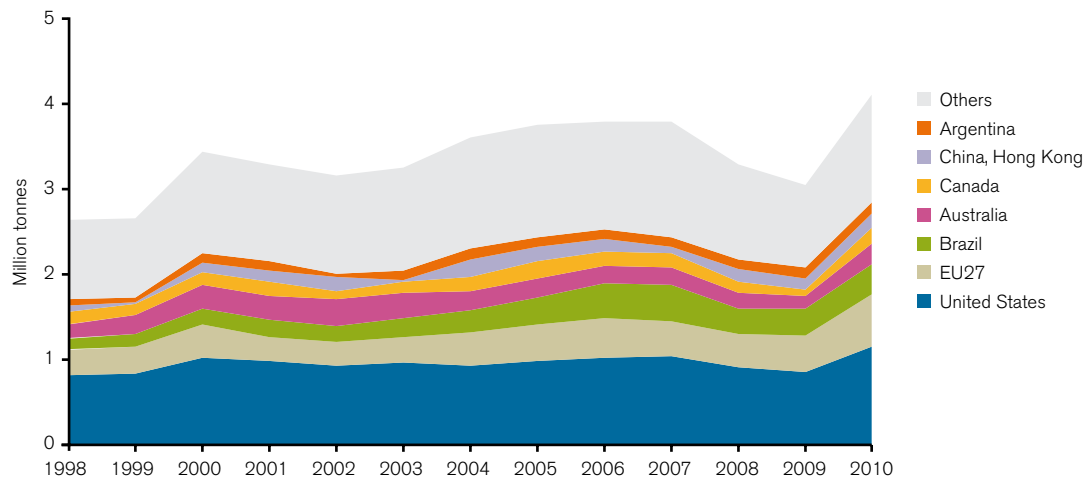
Leather

As a by-product of beef (and to a lesser extent dairy) production, leather output is largely determined by beef output. Leather accounts for about 10 per cent of the slaughter value, meaning that production is essentially inelastic and determined by the dynamics of the beef chain. It also means that the two commodities have similar production footprints in the first instance, as slaughter and hide production are coincident.¹⁴⁵ The major producers of bovine hides in 2011 were Brazil (14 per cent of worldwide production by wet salted weight), the United States (14 per cent), the EU (12 per cent), China (11 per cent), Argentina (5 per cent) and India (5 per cent).¹⁴⁶ The major exporters were the United States, the EU, Brazil and Australia (Figure A14).

¹⁴⁵ Small differences may arise depending on whether leather production is from dairy herds or from exported cattle, for example.

¹⁴⁶ Food and Agriculture Organization, *World Statistical Compendium for Raw Hides and Skins, Leather and Leather Footwear 1992–2011* (2011).

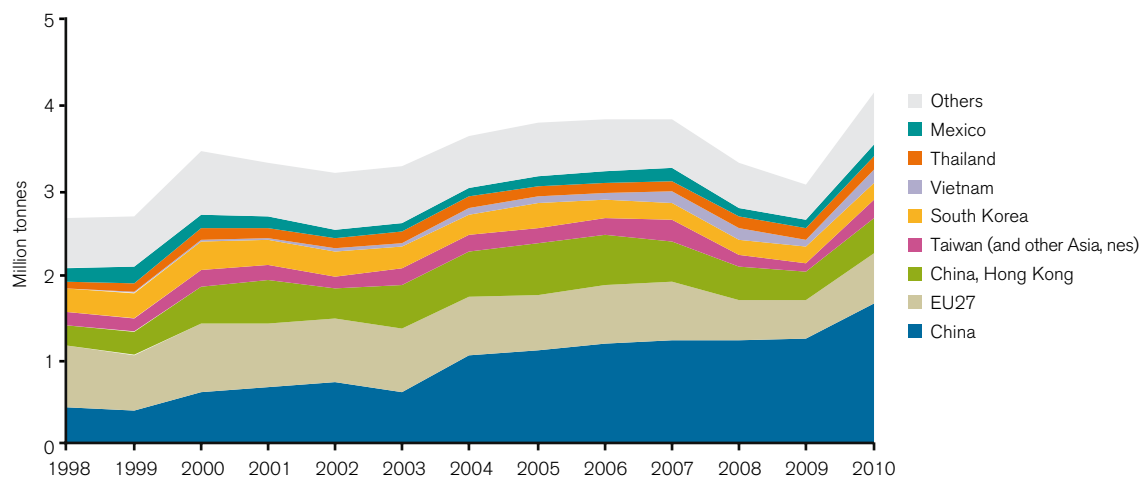
Figure A14: Major exporters of hides and leather



Sources: Chatham House Resource Trade Database, BACI, COMTRADE.

The principal importers of bovine hides are those countries with significant leather manufacturing industries (Figure A15). The two principal manufacturing centres are China and the EU – principally Italy, which is a global leader in high-value-added and luxury leather goods. China accounted for over 40 per cent of all leather shoes manufactured worldwide in 2011, and as such is not only a major producer of tanned leather, but also a major importer.¹⁴⁷ Other significant manufacturing hubs include Brazil, Mexico, India, Indonesia and Vietnam.¹⁴⁸

Figure A15: Major importers of hides and leather



Sources: Chatham House Resource Trade Database, BACI, COMTRADE.

¹⁴⁷ Chatham House Resource Trade Database, BACI, COMTRADE.

¹⁴⁸ Ibid.

Beef, leather and deforestation

It is in South America, and principally Brazil, that cattle production is most closely linked to deforestation. Since 1970, over 90 per cent of the Brazilian rainforest cleared has been to make way for cattle ranches.¹⁴⁹ In 1990, the Brazilian herd was estimated at 147 million head, but this had grown to over 200 million by 2011.¹⁵⁰ Estimates suggest that 93 per cent of this increase has occurred in the Amazon region,¹⁵¹ with pastures for ranching occupying 75 per cent of all deforested areas in the Amazon.¹⁵²

The Brazilian beef industry argues that it has achieved this growth without expansion in grazing area by increasing productivity. However, the position of ranching at the agricultural frontier in the Amazon means that rapid expansion in other agricultural sub-sectors – most notably in soybean and sugar cane – can push ranching further into the rainforest even if the aggregate grazing area is declining.

The beef and leather supply chains

Cattle production is the least concentrated stage of the beef/leather supply chain. For example, there are 850,000 beef farms in the United States managing a national beef herd of around 78 million head.¹⁵³ Most of these are small – over 500,000 have less than 50 animals. In South America, farms tend to be more expansive. Argentina has around 250,000 farms of an average size of 600 hectares. In Brazil, livestock are pasture-fed on large ranches, though industrial farming techniques – such as feed supplements during the dry season and feedlot operations – to fatten cattle before slaughter and shorten the production cycle are becoming more common. In 1991, 785,000 cattle were fed on feedlots, but by 2010 this had increased to over 3 million – still only a small percentage of the overall herd. These shifts reflect a gradual move in Brazil towards more intensive farming methods similar to those used in the United States, where cattle production is organized around three distinct stages of farm operations: cow/calf farmers, who produce and wean calves; stockers, who then raise the animals on pasture or rangeland; and, finally, feedlot operators who feed the animals grain in order to bring them to slaughter weight.

The beef and leather supply chains diverge at the point of slaughter, when the animal hide is removed for tanning and the meat is processed and packed for human consumption.

The beef supply chain

There are three elements in the beef supply chain:

- Production (ranching, feedlot operators);
- Processing and distribution (slaughter and packing, food manufacturers, wholesalers); and
- Marketing (supermarkets, restaurants).

149 Embassy of Brazil in London, 'Farming in Brazil', <http://www.brazil.org.uk/resources/documents/bs-secondary08.pdf>.

150 Associação Brasileira das Indústrias Exportadoras de Carne (ABIEC), *Brazilian Beef Profile 2011*, http://www.abiec.com.br/download/fluxo_eng.pdf.

151 Maria S. Bowman et al., 'Persistence of cattle ranching in the Brazilian Amazon: A spatial analysis of the rationale for beef production', *Land Use Policy*, Vol. 29, Issue 3 (2012).

152 P. Barreto & D. Silva, 'The challenges to more sustainable ranching in the Amazon', *State of the Amazon* (IMAZON, 2009).

153 Beef is estimated to account for about 80 per cent of the US herd, according to estimates contained in Marcy Lowe and Gary Gereffi, *A Value Chain Analysis of the US Beef and Dairy Industries* (Duke University, 2009).

Although production is highly dispersed, concentration increases significantly among meat packers – major business operations such as Tyson Foods, Cargill Meat Solutions, National Beef and JBS. These companies dominate processing in the United States, where in 2009 they accounted for 75 per cent of cattle slaughter.¹⁵⁴ If anything, concentration is likely to have increased since then following a series of major acquisitions by the Brazilian processor JBS, knocking Tyson Foods off the top spot. JBS is now the biggest meat producer in the world, with operations in key producing countries such as Australia and Canada. In its home country of Brazil, it dominates processing, alongside Marfrig and Minerva, which between them are thought to account for 35–40 per cent of meat production.¹⁵⁵

Processing and distribution activities have become increasingly vertically integrated, with meat packing companies moving into food manufacturing – for example Tyson and JBS both have their own meat ranges – and wholesaling. The marketing stage of the chain is similarly concentrated, with relatively small numbers of supermarkets and restaurant chains (such as McDonald's, Yum! Brands and Burger King) accounting for significant sales of processed beef products.

Brazilian beef production is primarily for domestic consumption; only about 15 per cent by weight is exported. In general, Brazilian beef exports tend to have lower export values (per tonne) than those of other major exporters such as the United States and Australia (though not India). This is because Brazil typically exports low-value cuts, but there are also concerns about foot-and-mouth disease and sanitary problems in the slaughter process. Principal export destinations for Brazilian beef are Russia, the Middle East, North Africa, the EU, Venezuela, Chile and Hong Kong. For the first half of 2012, Russia accounted for just under 30 per cent of Brazilian beef exports by weight, and the EU 10 per cent. There were similar figures for 2011.¹⁵⁶ On a value basis, Europe accounts for the greatest share of Brazilian exports (26 per cent in 2010 compared with 22 per cent for Russia),¹⁵⁷ indicating that Brazil exports higher quality cuts or higher-value-added beef products to the EU than to other destinations.

The leather supply chain

The leather supply chain consists of:

- Production (ranching, feedlot operators – as with beef, but also dairy);
- Slaughter;
- Processing (tanning and finishing);
- Manufacture (shoes, handbags and accessories, furniture, upholstery etc.); and
- Distribution and marketing.

¹⁵⁴ Ibid.

¹⁵⁵ 'JBS: no meat to rumoured merger with Marfrig, Minerva', Informa Economics – FNP, 3 October 2011.

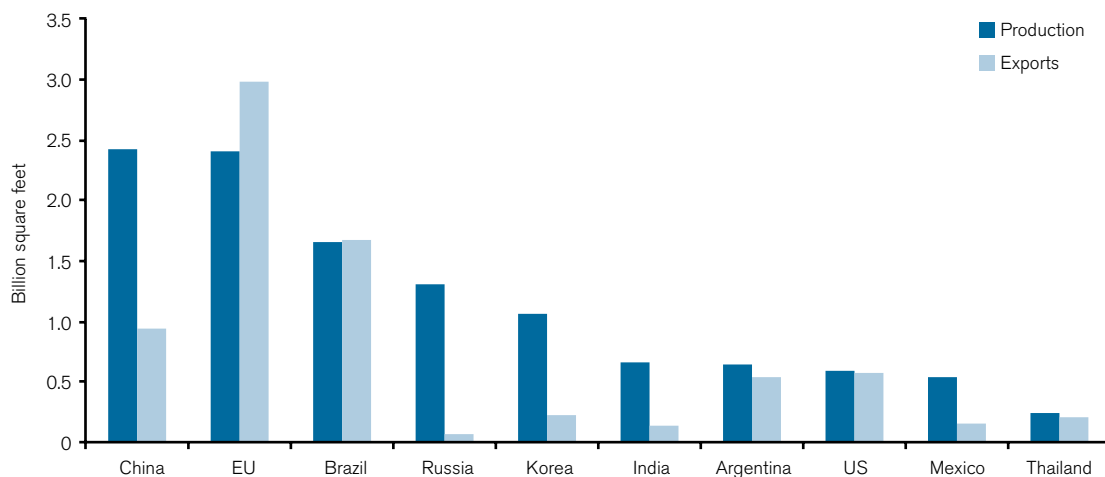
¹⁵⁶ United State Department of Agriculture, *Brazil Livestock and Products Annual, Annual Livestock Report 2012*, GAIN report number BR 0819 (2012).

¹⁵⁷ Chatham House Resource Trade Database, BACI, COMTRADE.

Brazil is a major player in the first three stages, accounting for 14 per cent of hide production on a volume basis (number one in the world), and 12 per cent of light leather production on a volume basis (third, behind China and the EU).¹⁵⁸ Up until this point, there is close alignment between the leather and beef value chains in Brazil, as the main meat packers such as JBS, Minerva and Marfrig also run major tannery operations. Brazil tends not to export lower-value-added hides for tanning overseas (China, for example, has significant tanning operations), which accounted for only 0.3 per cent of export volumes for bovine hides in 2010. Instead, nearly all hides produced in Brazil are processed domestically and exported as leather.¹⁵⁹ The beef and leather supply chains therefore differ significantly in the degree to which they extend beyond Brazil's borders. Whereas only about 15 per cent of beef is exported, the vast majority of leather is shipped overseas. Other major leather exporters are the EU, China, the United States and Argentina.

As noted above, the two principal manufacturing centres are China and the EU (mainly Italy). Manufacturing increasingly takes place under contract arrangements with branded footwear or leather goods companies that also undertake branding, marketing and distribution. These arrangements are often triangular: developed-country brands contract companies in Hong Kong or Taiwan which then carry out production in affiliated factories in lower-wage centres such as mainland China or Vietnam.¹⁶⁰ These countries feature heavily in the list of principal destinations for Brazilian export of non-beef cattle products (essentially leather, which comprises over 99 per cent of the value of this category). The main export destination is the EU (Figure A16).¹⁶¹

Figure A16: Light leather production and exports, 2011



Source: Food and Agriculture Organization, *World Statistical Compendium for Raw Hides and Skins, Leather and Leather Footwear 1992–2011*.

158 Food and Agriculture Organization, *World Statistical Compendium for Raw Hides and Skins, Leather and Leather Footwear 1992–2011*.

159 Ibid.

160 Andrés López et al., *A Study of the Impact of China's Global Economic Expansion on Argentina: Leather Value Chain Analysis* (CENIT, 2008).

161 Chatham House Resource Trade Database, BACI, COMTRADE.

Certification initiatives

Beef

Despite beef's significant deforestation impacts in the Amazon region, a multi-stakeholder certification initiative has been relatively slow to emerge. The Global Roundtable on Sustainable Beef (GRSB) was officially announced in February 2012.¹⁶² Membership is limited: the GRSB website lists 24 bodies (as of September 2013), of which five are non-profit organizations, five meat packers (including JBS, Cargill and Marfrig), four national producer associations, six technology and services companies, three retailers or restaurant chains (including McDonald's and Walmart) and one a financial services company.

GRSB is not working towards a global certification scheme, but aims to operate as an umbrella organization to harmonize and promote regional and national initiatives and certifications.¹⁶³ (The beef industry is reportedly concerned that certification is, however, the long-term objective of the roundtable, a fear not allayed by WWF's membership.¹⁶⁴) GRSB has provided support to the development of national roundtables in Argentina and Australia and is developing links with the Consumer Goods Forum.

One of the GRSB's members is the Brazilian Sustainable Livestock Roundtable, a national multi-stakeholder initiative formalized in 2009. This has a larger membership, drawn from Brazilian ranchers, national civil society organizations, meat packers, service companies, financial services companies and government. As with the GRSB, it is still in its early stages but aims to work to develop social and environmental criteria and traceability systems, although, as with the GRSB, certification is not an objective.¹⁶⁵

Outside the GRSB, a cattle certification standard has been developed by the Sustainable Agriculture Network and certified by the Rainforest Alliance (see above).¹⁶⁶ The SAN standard for cattle production covers integrated cattle management systems, sustainable range and pasture management, animal welfare, reducing the carbon footprint, and additional environmental requirements.¹⁶⁷ It operates as an addition to SAN's Sustainable Agriculture standard, which includes comprehensive criteria relating to deforestation (see above). Certification of beef to SAN standards is, however, still relatively uncommon; the latest (July 2013) list of farms certified to SAN standards contains just two for cattle, out of a total of about 1,500.¹⁶⁸

Leather

The Leather Working Group (LWG) was formed in 2005 and audits about 20 per cent of the footwear leather supply chain (or around 10 per cent of global leather production) for compliance with its environmental protocols, which include a requirement that tanneries do not source hides from any farms involved in deforestation since October 2009. Over 140 companies from 21 countries participate in the scheme. This includes numerous major brands from the footwear manufacturing and retail sectors such as Dr. Martens, Adidas, M&S, Nike, Clarks, H&M,

162 For further information, see <http://grsbeef.org>.

163 Proforest, *Agricultural Roundtables and Sustainability Initiatives*, p. 21.

164 'Cattle Council joins global beef sustainability roundtable', *Beef Central*, 7 March 2013.

165 For further information, see GTPS website, <http://www.pecuariasustentavel.org.br/gtps/index.php?idioma=2>.

166 See full standard at <http://sanstandards.org/sitio/>.

167 Sustainable Agriculture Network, *Standard for Sustainable Cattle Production Systems* (July 2010).

168 Full list of certified farms available at <http://sanstandards.org/sitio/subsections/display/16>.

Timberland and Puma. Among the major tanners, Minerva is absent.¹⁶⁹ Critics of the LWG point out that auditors are as yet unable to trace leather beyond the farm supplying the slaughterhouse, so operations involved in earlier stages of cattle production, such as calving farms or intermediate stockers, go unchecked.¹⁷⁰

Rather than providing certificates of compliance, the LWG auditing process scores tanneries according to environmental criteria, allowing tanneries to benchmark themselves against their peers and allowing brands to incorporate this into their sourcing policies. Summary results of the audits are made available on the LWG website, with companies rated gold, silver, bronze or 'audited'.

Private-sector initiatives

Private-sector voluntary initiatives for beef and leather have tended to follow on from NGO action, principally that of Greenpeace, which has published two reports linking deforestation to beef and cattle production in the Amazon. In response to the first of these, *Slaughtering the Amazon* (2009), major brands such as Timberland, Clarks, Nike, Adidas and supermarkets including Walmart and Carrefour announced deforestation pledges, meaning they would cancel contracts with suppliers implicated in deforestation. This led the major Brazilian beef and leather processors JBS, Minerva and Marfrig to agree on a moratorium on the purchase of cattle from ranches on recently deforested and indigenous lands in the same year – the G4 agreement (the fourth member, Bertin, has since been acquired by JBS). A subsequent Greenpeace report in 2011, *Broken Promises*, detailed how JBS had continued to purchase cattle from ranches occupying indigenous lands in contravention of the agreement.

In March 2013 the Brazilian Association of Supermarkets, a group representing 2,800 supermarkets, effectively joined the moratorium, agreeing to bar from their shelves beef linked to deforestation in the Amazon rainforest. Meat from unknown origins is also to be rejected.¹⁷¹

Also in March 2013, Gucci announced a line of 'deforestation-free' handbags, each coming with a 'passport' providing the history of the product's supply chain going back to the ranch that produced the leather. The new line uses only leather sourced from ranches that have been certified by the Rainforest Alliance (and also only organic cotton).¹⁷²

Cocoa

Cocoa is a relatively minor contributor to deforestation on a global scale, though like the other commodities considered here, its production is highly concentrated in a few countries that do experience significant impacts. Like palm oil and soy, cocoa is relatively heavily traded, and the EU provides the major import market. According to the European Commission study on the impact of EU consumption on deforestation, cocoa accounted for about 6 per cent of the deforestation embodied in EU imports between 1990 and 2008.¹⁷³

169 See Leather Working Group website for all details, <http://www.leatherworkinggroup.com/index.htm>.

170 Doug Boucher et al., *Grade A Choice? Solutions for Deforestation-free Meat* (Union of Concerned Scientists, 2012).

171 'Brazilian supermarkets ban beef linked to Amazon deforestation', mongabay.com, 27 March 2013.

172 'Gucci launches "zero deforestation" handbag', mongabay.com, 7 March 2013.

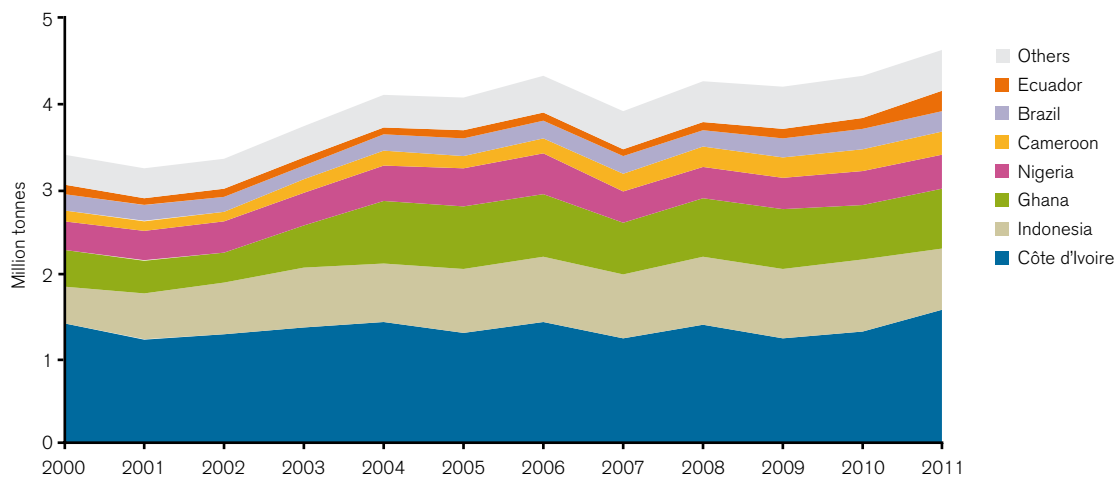
173 European Commission, *The Impact of EU Consumption on Deforestation: Comprehensive Analysis*, p. 81.

The cocoa tree (*Theobroma cacao*) is a tropical plant that grows in hot, rainy climates mainly in the tropics. Native to South America, it was named after the Mayan word for ‘food of the gods’, and its earliest known cultivation occurred in about 1100 BC. Introduced into Europe in the 16th century, it enjoyed steadily growing popularity, first as a drink and later as confectionery (Fry launched the chocolate bar in the United Kingdom in 1847; milk chocolate was first marketed in Switzerland in 1875). This resulted in growing demand and its introduction to various European colonies.

Global cocoa production is growing in response to rising consumer demand for chocolate. Cocoa demand has been increasing by an average of 3 per cent a year for the past 100 years, and is projected to carry on rising. Industry representatives estimate that the sector will need annual production of at least 4.5 million tonnes by 2020 to satisfy growing demand, driven primarily by rising incomes in emerging economies.¹⁷⁴

Today West Africa dominates cocoa production, accounting for three of the four biggest producers in 2011: Côte d’Ivoire (31 per cent of the global total), Ghana (14 per cent) and Nigeria (8 per cent). Indonesia (14 per cent) was the second largest, just ahead of Ghana (Figure A17).

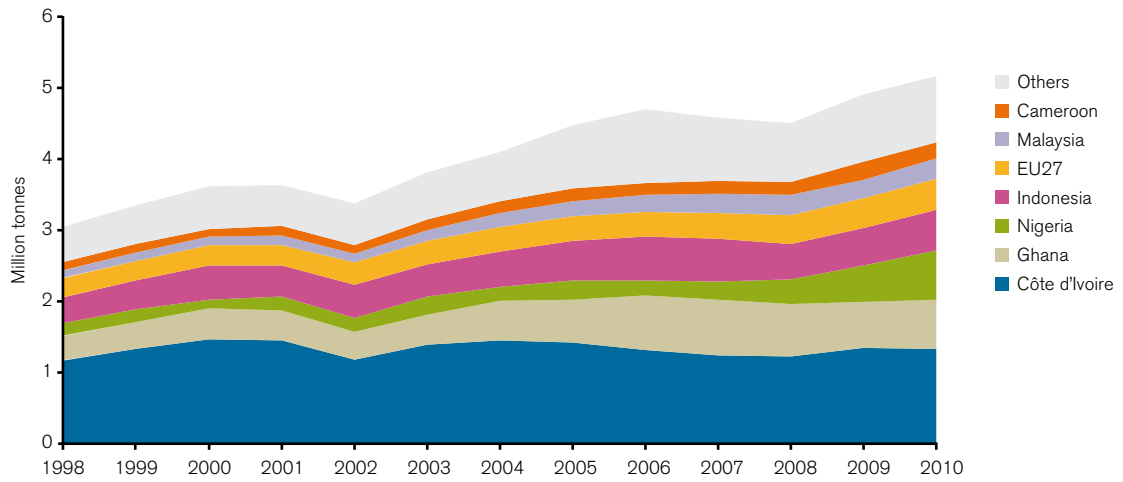
Figure A17: Major cocoa producers



Source: FAOSTAT.

The bulk of production is destined for export, particularly from West Africa, where domestic consumption is very small – in 2010 the three largest exporters were all West African countries (Figure A18).

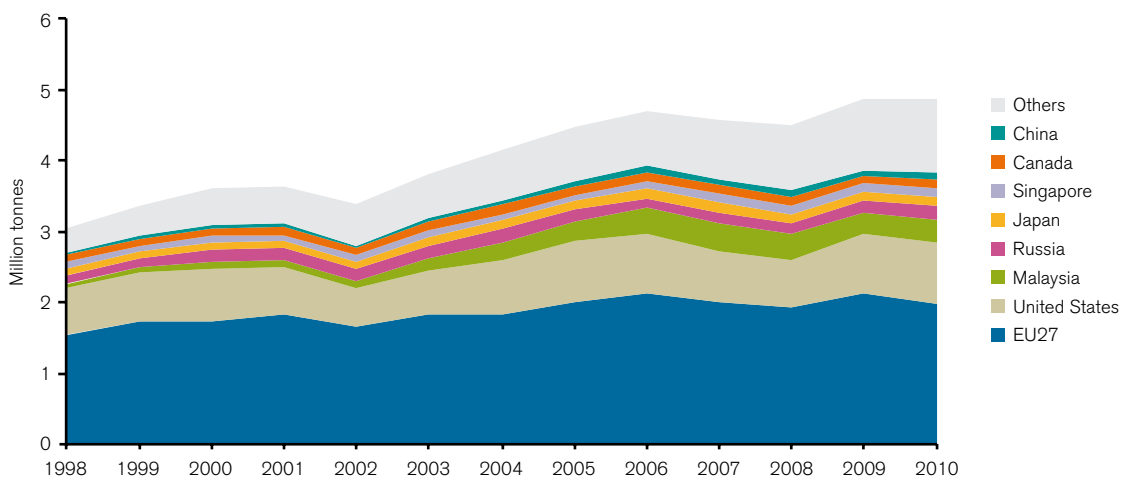
Figure A18: Major cocoa exporters



Sources: Chatham House Resource Trade Database, BACI, COMTRADE

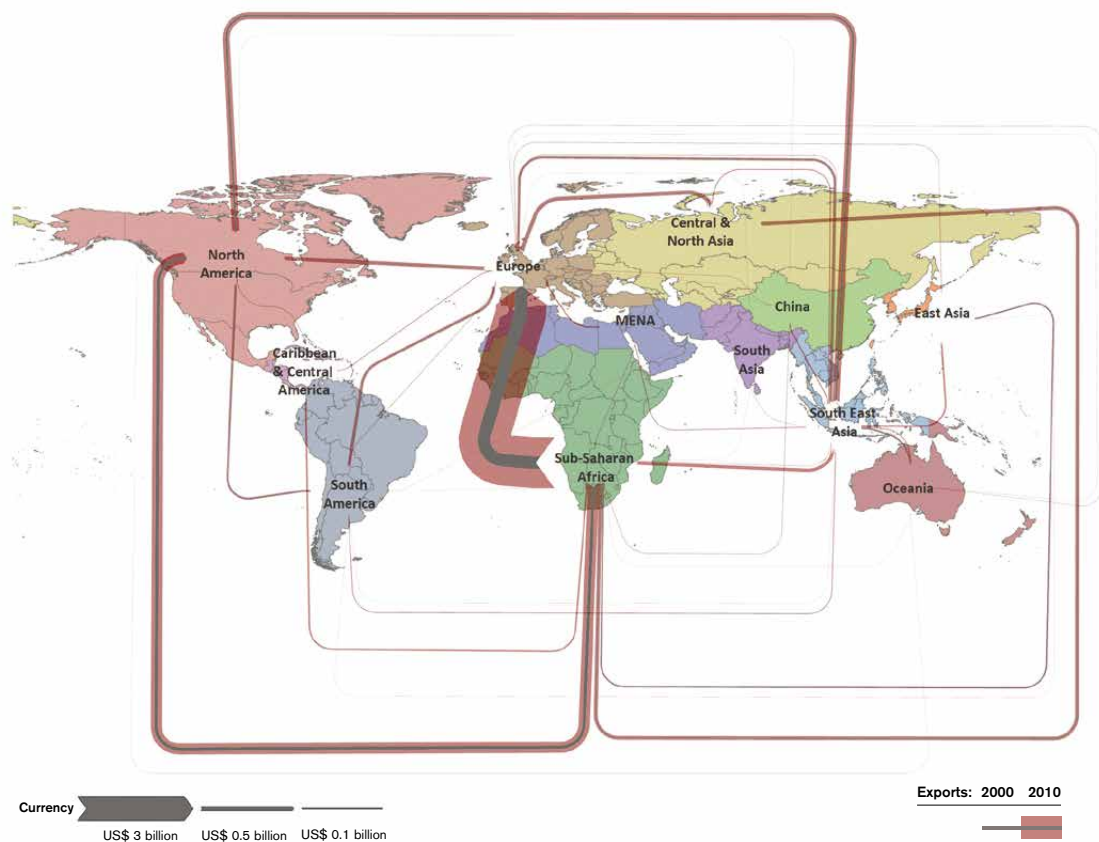
EU member states account for the highest proportion of global cocoa imports (Figures A19 and A20).

Figure A19: Major cocoa importers



Sources: Chatham House Resource Trade Database, BACI, COMTRADE.

Figure A20: Global cocoa trade, 2000 vs 2010



In 2009, the Netherlands was the world's largest importer of cocoa beans by value (\$2.08 billion), while Germany, France, Belgium, the United Kingdom, Spain and Italy also featured in the list of the 10 largest importers. Non-European countries in the list were the United States (second, with \$1.23 billion of imports), Malaysia (fourth, \$0.77 billion) and Singapore (ninth, \$0.21 billion). For chocolate preparations, the same seven European countries again featured in the list of the 10 largest importers, by value: France was first (\$1.60 billion), Germany second (\$1.47 billion) and the United Kingdom third (\$1.42 billion). The United States was fourth (\$1.41 billion), Canada sixth (\$0.68 billion) and Japan tenth (\$0.48 billion).¹⁷⁵

Cocoa and deforestation

Cocoa farming has shifted from one country to another. It spread from Mexico to Central America in the 16th century, through the Caribbean in the 17th, Venezuela in the 18th followed by São Tomé in the 19th century and Brazil, Ghana, Nigeria and Côte d'Ivoire in the 20th century, finally arriving in Southeast Asia. Because cocoa trees require shade, cocoa production seeks forest. Consequently it has driven deforestation, as forest provides income from logging in addition to shade. However as cocoa trees age, their productivity declines, while the ecological impacts of mass clearance – including lower soil moisture content, lower soil fertility, erosion and disturbed rainfall patterns – reduce yields further. Replanting in these circumstances is less attractive than opening up new forest. This contributes to a pattern in which cocoa production migrates from one forest region to another, clearing forest as it goes.¹⁷⁶

¹⁷⁵ World Cocoa Foundation, *Cocoa Market Update* (March 2012).

¹⁷⁶ François Ruf and Honoré Zadi, *Cocoa: From Deforestation to Reforestations* (CIRAD, 1998).

Cocoa expansion has been a primary driver of deforestation in West Africa. Only small remnants of forest remain in Ghana and Côte d'Ivoire, and the principal Guinean rainforest had lost 18 per cent of its original area by 2000. Brazil's cocoa boom of the 1970s was responsible for extensive clearance of its Atlantic forest. More recently, cocoa production has been responsible for the opening up of large tracts of forest on the island of Sulawesi in Indonesia.

The cocoa supply chain

Cocoa is produced overwhelmingly by smallholder farmers. Farmers in West Africa typically work plots of a few hectares, while those of Indonesian farmers may be as small as 0.5 hectares.¹⁷⁷ Consequently production is highly fragmented; it is estimated that there are around 720,000 cocoa farmers in Ghana, 800,000 in Côte d'Ivoire and a similar number in Indonesia.¹⁷⁸

The cocoa tree's fruit pods contain 30–40 seeds that are extracted, usually by machete, before being fermented and dried in the sun, so becoming cocoa beans. These are then sold on through local intermediaries for export and processing.

Several steps of processing (known as grinding) are required before cocoa can be made into chocolate. Once the beans have been roasted and shelled, the nib is ground into a paste known as cocoa liquor, which is then pressed to extract the cocoa butter. This leaves a mass known as cocoa cake which is ground into fine cocoa powder. The largest grinders are Cargill, Barry Callebaut and ADM, which between them are estimated to grind 40 per cent of the world's cocoa. Grinding tends to be located in consumer countries; for example, although in 2010 African countries produced 70 per cent of the world's cocoa, only 18 per cent was processed in Africa, compared with 41 per cent in Europe.¹⁷⁹ Amsterdam is home to many of the major processing installations (explaining the large volumes of cocoa beans imported by the Netherlands and large volumes of cocoa paste, cocoa powder and cocoa butter exported).

Processing may also occur locally, however, and encouraged by government tax breaks, foreign-owned companies are investing heavily in cocoa-processing facilities in Côte d'Ivoire to reduce costs and ensure consistent supplies; by 2011–12 the country was the fourth largest grinder in the world, behind the Netherlands, Germany and the United States.¹⁸⁰ Indonesia's Petra Foods is one of the largest grinders worldwide while Cargill has recently invested in a \$100 million grinding operation in Indonesia to supply the growing Asian market. Cargill, ADM and Barry Callebaut all maintain processing operations in West Africa in addition to a number of local grinders.

Grinding operations are often vertically integrated with manufacturing. Barry Callebaut is the world's biggest manufacturer of industrial chocolate, while consumer businesses such as Mondelez, Nestlé, and Mars also run grinding operations, although a number of these appear to be exiting this activity and entering into supply agreements with processors.¹⁸¹

Cocoa powder is mainly used in the baking and confectionery industries or sold as a consumer product. Cocoa liquor and cocoa butter are blended with ingredients such as milk and sugar and processed into liquid chocolate for these industries or converted into bars for the consumer market. Cocoa butter is also used by as an ingredient in beauty products such as soaps and

177 Jan Capelle, *Towards a Sustainable Cocoa Chain* (Oxfam International, January 2008).

178 Ibid., and Indonesian Ministry of Agriculture.

179 Fairtrade Foundation, *Fairtrade and Cocoa*, p. 7.

180 World Cocoa Foundation, *Cocoa Market Update March 2012*, p. 3.

181 Capelle, *Towards a Sustainable Cocoa Chain*.

moisturizing creams. Consumer chocolate sales are dominated by five companies – Mars, Nestlé, Hershey, Mondelez (formerly Kraft, and including Cadbury-Schweppes, among others) and Ferrero. Combined, these companies accounted for 57 per cent of sales in 2007.¹⁸² In the United States in the same year, 80 per cent of the market was controlled by Hershey, Mars and Nestlé.¹⁸³

Certification initiatives

Concerns about cocoa production have been raised for many years, focusing mainly on the low income levels of cocoa farmers and the incidence of child, and sometimes slave, labour. According to a recent report, 50 per cent of the children living in agricultural households in Côte d'Ivoire and Ghana work in agriculture, with 25–50 per cent of those working in cocoa.¹⁸⁴

As a consequence, several private-sector and multi-stakeholder initiatives have been launched, and three certification schemes are in use, though their main focus has tended to be labour and trading conditions rather than environmental issues or deforestation. An estimated 275,000 tonnes of cocoa were certified in 2010, for a market share of 6 per cent (up from 3 per cent in 2009), though this is probably an overestimate, as some cocoa will be certified under more than one scheme.¹⁸⁵

Fairtrade

An estimated 150,000 tonnes of cocoa were Fairtrade-labelled in 2011, up from 106,000 tonnes in 2010.¹⁸⁶ Growth in the UK market has been particularly strong, with Fairtrade sales now making up over 10 per cent of chocolate confectionery products.

The main purpose of the International Fairtrade Certification Mark, administered by Fairtrade Labelling Organizations International (FLO), is to tackle poverty and empower producers. Fairtrade certification for cocoa producers is open only to small-farmer organizations that are owned and governed by the farmers themselves. The scheme possesses comprehensive standards for labour conditions (e.g. no discrimination, forced or child labour; freedom of association; minimum wages; occupational health standards, etc.) and for workers' benefits. Buyers must pay the Fairtrade minimum price (currently \$2,000/tonne) to farmers, if the market price is lower, to protect them from price fluctuations, together with a fixed premium (currently \$200/tonne, or \$300/tonne for certified organic cocoa) to support investment in social, environmental or economic development projects identified by the farmers.¹⁸⁷

The scheme also aims to encourage agricultural practices that are safe and sustainable, including the protection of biodiversity, as well as avoidance of negative impacts on natural ecosystems and areas of high conservation value, minimal use of pesticides and agrochemicals, measures for sustainable water use and efficient use of energy, and the replacement of non-renewable sources by renewable ones whenever possible in the processing facilities. There are no specific criteria relating to forests or deforestation.

182 Ibid., p. 15.

183 Ibid., p. 18.

184 Tulane University Payson Center for International Development, *Final Report on the Status of Public and Private Efforts to Eliminate the Worst Forms of Child Labour (WFCL) in the Cocoa Sectors of Côte d'Ivoire and Ghana* (2011).

185 KPMG, *Cocoa Certification: Study on the Costs, Advantages and Disadvantages of Cocoa Certification Commissioned by the International Cocoa Organisation (ICCO)* (October 2012).

186 Ibid., p. 17.

187 See Fairtrade Foundation, *Fairtrade and Cocoa*; and the Fairtrade standard for small producers, http://www.fairtrade.net/fileadmin/user_upload/content/2011-12-27_SPO_EN_FINAL.pdf.

Sustainable Agriculture Network/Rainforest Alliance

An estimated 98,000 tonnes of cocoa were Rainforest Alliance-certified in 2011, up from 56,000 tonnes in 2010.¹⁸⁸ As noted above, Rainforest Alliance certifies to the Sustainable Agriculture Network standard, which for cocoa covers ecosystem conservation, wildlife protection (including prohibiting logging and other deforestation), water conservation, working conditions, occupational health and safety training, community relations, integrated crop management (including the safe and minimal use of chemicals), soil conservation and integrated waste management. It has specific requirements for farmers to maintain existing shade trees or plant new ones, and farmers also need to have plans in place to reduce their carbon emissions or increase carbon sequestration. Management systems must be compliant with national laws

UTZ Certified

The UTZ programme was founded in the 1990s by a Belgian-Guatemalan coffee grower and a Dutch coffee roaster. The name is derived from *utz kapeh*, the Mayan for 'good coffee'. After its market launch in 2002, UTZ Certified grew to be one of the leading sustainable coffee programmes worldwide, and subsequently developed sustainability models for cocoa, tea and rooibos; it also provides traceability services for RSPO-certified sustainable palm oil. An estimated 119,000 tonnes of cocoa were UTZ-certified in 2012, up from 43,000 tonnes in 2011.¹⁸⁹ The products are sold in more than 50 countries.

UTZ certifies against its code of conduct, a set of social and environmental criteria for responsible agricultural practices and efficient farm management, based on International Labour Organization conventions and good agricultural practices and developed through a broad multi-stakeholder process. The certification system does not require producers to comply with the full code of conduct standards from the start, but is based on a model of 'continuous improvement'. Producers have to comply with core safety and quality standards immediately, and additional controls are added in following years. Specific criteria relating to forests include a requirement for farmers to maintain existing shade trees, or plant new ones, and also for no deforestation of primary forests.

Private-sector initiatives

As noted above, a wide range of private-sector and multi-stakeholder initiatives have been launched, some aiming to improve labour standards, some aimed at sustainability more widely. The International Cocoa Initiative, for example, was established in 2002 to urge the chocolate industry to ensure child and forced labour were not used in production.

The **World Cocoa Foundation** was set up in 2000 by Nestlé, among others, and is now an international membership organization representing more than 100 member companies across the cocoa value chain.¹⁹⁰ It aims to build partnerships with cocoa farmers, producer governments and NGOs, work with international donors, support and apply research to improve crop yield and quality, and support training and education to improve the well-being of cocoa-farming families.

The **Roundtable for a Sustainable Cocoa Economy** was established by the International Cocoa Organization in 2007 to promote dialogue and sustainability among stakeholders in the cocoa

188 KPMG, *Cocoa Certification*, p. 17.

189 Information derived from <https://www.utzcertified.org/en/newsroom/utz-in-the-news/26582750-increase-in-utz-certified-volumes-in-2012>.

190 For further information, see <http://worldcocoafoundation.org>.

economy.¹⁹¹ The organization's website and its meetings provide a platform for the exchange of best practice and discussion on key topics.

Most of the major companies in the cocoa and chocolate industry have adopted their own sustainability targets: Mars, Hershey, Ferrero and Unilever have all announced a target of using only certified sustainable cocoa in their products by 2020; some have interim targets as well. Mars expected to achieve 20 per cent by the end of 2012, and Hershey managed 10 per cent during 2012, one year ahead of its interim target.¹⁹² Nestlé does not set a global target for sustainable cocoa, though it does have some national targets (Nestlé UK, for example, aims to source 100 per cent certified sustainable cocoa by 2015¹⁹³), and its zero-deforestation target of course applies to cocoa. The only remaining big player not to have announced a target is Mondelez, although it is the biggest buyer of Fairtrade cocoa and one of the biggest buyers of Rainforest Alliance-certified cocoa as well. All the companies source a mixture of Fairtrade, Rainforest Alliance and UTZ Certified products, and some have expressed an interest in working with other certification programmes.

Concern has been expressed about the ability of the market to supply the volumes of certified cocoa likely to be demanded – an estimated 55 per cent of total production to meet the requirements of the six companies mentioned above (assuming Mondelez adopts the same 2020 target), compared with about 6 per cent now. Investment in sustainability cocoa programmes, by these companies and the big processors, such as Blommer and Cargill, is currently increasing sharply.¹⁹⁴

191 For further information, see <http://www.roundtablecocoa.org/>.

192 'Mars to become the world's largest user of certified cocoa', *Candy Industry*, 31 May 2012; 'Over to Mondelez for certified cocoa goals', *Confectionery News*, 8 October 2012; 'Hershey's unveils "roadmap" for sustainable cocoa', *Candy Industry*, 21 March 2013.

193 Nestlé, *Building a Sustainable Future: Nestlé UK & Ireland Creating Shared Value Plan 2012* (2012), http://www.nestle.co.uk/asset-library/Documents/CreatingSharedValue/CSV2012-Brochure_Linked.pdf.

194 'Will we have enough certified cocoa by 2020?', *Candy Industry*, 17 October 2012.



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