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WWF-UK POLICY POSITION STATEMENT

Food

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Purpose and scope

This paper sets out WWF-UK's position on food, focusing on the issues prioritised in our One Planet Food Strategy, with additional consideration of wider food sustainability issues. The paper focuses on the global environmental implications of food consumed in the UK, taking into account the rising proportion of food we eat that originates from other countries. We believe that our approach, alongside work on other food sustainability issues being carried out by other organisations, will be able to create a more sustainable, equitable and fair One Planet Food system.

How the agricultural system works, what we eat, where we shop, what we throw away and where our food comes from are all becoming increasingly important as we aim to move towards more sustainable lifestyles. There is a growing consciousness of the need to balance the environmental, nutritional, social and economic requirements of the food system, and in doing so we can tackle climate change, biodiversity loss, rising obesity and malnutrition, and help people living in poverty move towards sustainable livelihoods.

WWF-UK Position

The One Planet Food Programme, established in January 2009, **aims to reduce the environmental and social impacts of UK food consumption.**

We focus on three key strategic objectives:

- By 2050, global greenhouse gas emissions resulting from the production and consumption of food consumed in the UK are reduced by at least 70% (based on 1990 levels)



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- By 2050, water usage in the production & consumption of food consumed in the UK has no unacceptable socio-economic or environmental impacts.
- By 2050, the major adverse socio-economic and environmental impacts of the production and consumption of food consumed in the UK is eliminated within key global ecosystems.

This position is based on the following facts:

- Food contributes some 23% of our ecological footprint in the UK. According to our latest Living Planet report (2010) we are consuming the resources equivalent to 1.5 planets globally and 2.75 planets within the UK, with key indices of planetary health (Living Planet Index) in a state of decline.
- The world food economy directly accounts for around a third of global greenhouse gas (GHG) emissions.¹
- In the UK food related emissions account for 20% of the UK's total consumption footprint (excluding land use change); livestock products account for nearly two-thirds of this – a significant proportion for any one activity.
- If we allocate emissions relating to global land use change in relation to the size of the UK food economy, the total emissions burden attributable to food increases to 30%².
- Over 70% of freshwater abstracted for human use is for irrigation.³ The food system is therefore a major contributor to water scarcity in certain regions, giving rise to negative consequences for the natural environment and human populations.
- Worldwide agriculture accounts for 38% of the ice free land surface.⁴ It is the single most important driver of habitat loss today, with some two thirds of ecosystems severely damaged or in a state of decline.
- There is a rising demand for agricultural land and livestock products; with global population expected to reach 9 billion by 2050, food demand is projected to increase by 70%.
- The UK has 1% of the world's population but accounts for 2% of the world food system.⁵

WWF-UK is working in a variety of areas connected to food. On the production side this includes work on specific commodities (soy, palm oil, wild and farmed seafood, dairy and beef) and is primarily concerned with the development and implementation of certification systems. On the consumption side this includes work on sustainable diets, reduced meat consumption, water, and waste. We work to influence government and business. The key recommendations to address these issues are:

- The UK Government commits to cut GHG consumption based emissions from the food supply chain by at least 25% by 2020 and at least 70% by 2050 (based on 1990 levels) supported by the development of a GHG route map.
- UK Government, business, industry and consumers to commit to a target of a 20% reduction in meat and dairy consumption by 2020 from 2008 levels;
- Government adopts a food strategy and action plan and this reflects WWF's key policy asks.
- The UK government states that promoting sustainable diets is a national policy objective and takes a lead on defining a sustainable diet, integrating sustainability criteria into healthy eating advice.

¹ Garnett, T (2008) "Cooking up a storm – Food, greenhouse gas emissions and our changing climate" http://www.fcrn.org.uk/frcnPubs/publications/PDFs/CuaS_web.pdf

² *ibid*

³ UNESCO –WWAP 2003

⁴ Food and Agriculture Organization (June 2006). "[Food and Agriculture Statistics Global Outlook.](#)" Rome: FAO Statistics Division

⁵ Based on analysis of FAO data

- Policy and procurement supports ecological restoration in priority biodiversity places; the sourcing of sustainably produced commodities is adopted - including palm, soy, and fish – and the water footprint is reduced.

Background

Producing food to feed the ever increasing world population (forecast to reach 9 billion by 2050⁶) has consequences that include the increased pollution of water, soil and air, the loss of wildlife habitat, soil degradation and pressure on freshwater resources. To deliver our vision for a sustainable One Planet Future, reduce global greenhouse gas emissions by 80% by 2050 (based on 1990 levels) and stop the underlying causes of the escalating rate of species decline and degradation of our key priority places, we have to reduce the environmental impact of food and reduce it fast.

Food production and consumption has a strong social dimension which we must consider to ensure the developments we foster contribute to human well-being. The primary consideration is the reality of global poverty. Increasing variety in the diet is the first step to improving living standards of the world's poor. If livestock product consumption in developing economies rose to half of the level of UK consumption today, the global demand for livestock products could increase by 70% by 2050.⁷ Given our reliance on global trade in animal feedstuffs and some livestock products, for reasons of global equity alone, there is a need to address the pattern of food consumption in developed economies such as the UK.

Food accounts directly for about one third of global GHG emissions. In the case of the UK, the food chain is directly responsible for about 17% of the UK economy's GHG emissions. About half of these emissions come from production (farming and fishing) dominated by nitrous oxide from soil and methane from cattle, sheep and manure. Precious resources are used for growing crops and raising livestock, as well as for processing, packaging, and distributing food and in travelling to shops to buy the food we eat. There are also significant indirect effects particularly through land use change primarily associated with deforestation for grazing and growing feed crops. If we allocate emissions relating to global land use change in relation to the size of the UK food economy, the total emissions burden attributable to food increases to 30%⁸.

All these environmental challenges exist against a background of increasing global demand for food. Global meat consumption has increased by 75 per cent in 20 years and the Food and Agriculture Organisation of the United Nations (FAO) predicts that between 2001 and 2050, global food demand could increase by approximately 70%⁹ This can only be achieved by either increased production efficiency or expansion of the agricultural area. This would mean further loss of forest or wetland, or expansion in irrigation.

UK food commodity consumption increased by 15% between 1990 and 2005 while UK self-sufficiency in food fell from 70% to 60%. Imports increased by 51% in terms of weight. Dairy and meat products are resource intensive. Increases in pig and poultry consumption over the last 15 years have added to forces driving land-use change, particularly in the Cerrado (Brazil) and the Amazon, through the market for soy. The UK has become a significant importer of beef from Brazil where beef production is expanding driven by exports on the basis of pasture grown on deforested land. The UK market was the destination of about 7% of Brazilian beef exports in 2005 (by weight) making the UK the largest developed country importer of Brazilian beef.¹⁰

⁶ UN <http://www.un.org/apps/news/story.asp?NewsID=13451&Cr=population&Cr1>

⁷ Food and Agriculture Organisation of the United Nations (FAO), 2006

⁸ Audsley et al (2010) How Low can we go? An assessment of the greenhouse gas emissions from the UK food system and the scope for reduction by 2050. WWF-UK

⁹ This figure is based on the UK Government's interpretation of the FAO 2006 report *World agriculture: towards 2030/2050* in 'Government response to the Committees fourth report of session 2008-9, *Securing food supplies up to 2050: the challenges faced by the UK*'

www.publications.parliament.uk/pa/cm200809/cmselect/cmenvfru/1022/1022.pdf

¹⁰ Murphy-Bokern, D (2008) "The UK Food system and the global environment." WWF-UK

The UK food economy is a significant driver behind the growth of irrigated agriculture particularly in the Mediterranean region, which suffers from water shortages for much of the year. With respect to fisheries, the UK has played a major role in the depletion of fish stocks, particularly in the North-east Atlantic. UK fish consumption patterns place pressure on resources due to reliance on resource intensive aquaculture species such as salmon, and depleted wild demersal white fish stocks.

The UK food economy is sophisticated, particularly in the retail sector. It is characterised by vertically integrated supply chains, many levels of which are owned or strongly influenced by a small number of dominant retailers. This has implications in terms of trade for producers but also offers opportunities for UK consumers to influence supply chains. WWF-UK seeks to exercise influence over the governance of these supply chains to promote social justice, both in the UK and in other countries.

One planet food Issues

Food is a far reaching area with many stakeholders, including farmers, processors, retailers, restaurants, local, national and international governments, health professionals, teachers, NGOs and consumers. There are a wide range of issues, of which some are misunderstood and others are especially emotive. WWF-UK has prioritised a number of issues as part of the One Planet Food Programme. Our position and reasons for some of these are detailed below.

Meat and Dairy

WWF-UK advocates a reduction in meat consumption in the UK, though WWF-UK is not advocating a move to a vegetarian or vegan diet¹¹.

Meat and dairy has the biggest impact in terms of GHG emissions. Food related emissions account for 20% of the UK's total consumption footprint (excluding land use change); livestock products account for nearly two-thirds of this – a significant proportion for any one activity. These emissions are generated during the production of animal feeds and from grazing animals, particularly cows, which emit methane, which has a warming effect 23 times that of carbon dioxide.¹²

If we allocate emissions relating to global land use change in relation to the size of the UK food economy, the total emissions burden attributable to food increases to 30%¹³. The majority of this land use change is a direct result of livestock production, either directly through land use change for the provision of grazing and crop land for animal feed, or indirectly through increasing the overall demand for agricultural land. One third of the world's cereal harvest and over 80% of soya is used for animal feed, despite inherent inefficiencies of conversion:¹⁴ it takes around 10kg of animal feed to produce 1kg of beef, 4-5.5kg of grain to produce 1kg of pork and 2-3 kg of grain to produce 1kg of poultry meat. Animal feed production, such as soy for protein, is a significant driver of the loss of high value habitats and land use climate change emissions.¹⁵

As well as contributing to climate change and habitat loss, UK livestock consumption contributes to other environmental problems at home and overseas such as soil degradation and water pollution and scarcity. A global move towards a high meat western diet is unsustainable.

¹¹ See WWF Living Forest report (2011), Living Planet Report (2010/12); The Energy Report (2011)

¹² Steinfeld H, et al. (2006) "Livestock's Long Shadow" UN Food and Agriculture Organization

¹³ Audsley et al (2010) How Low can we go? An assessment of the greenhouse gas emissions from the UK food system and the scope for reduction by 2050. WWF-UK

¹⁴ FAO 2006 Livestock's long shadow environmental issues and options

¹⁵ FAO 2006

Improvements in production methods for livestock products is key, but so is reducing the amount of meat we consume. Such calls are backed up by others including Lord Stern, the recent Foresight report on the future of food and farming and the Climate Change Committee.

Dairy

Our research¹⁶ suggests that up to 2020 the average person in the UK does not need to change the amount of dairy they consume to eat sustainably. However, post 2020 we believe that there may be a need for a reduction in the UK per capita consumption of dairy in order to meet greenhouse gas targets for 2050. Current research from government shows that people are eating about the right amount of dairy now to have a healthy diet and based on current population and emissions this is also acceptable to achieve a low carbon diet. However up to 2050 reductions in dairy consumption are likely to be needed to reduce GHG emissions from food to 70% of 1990 levels by 2050, driven by the need to meet carbon targets and increased population pressures. Direction post 2020 looks like a recipe to get the nutrition we need much more from plant-based sources. We need to work with others, including the dairy industry, governments and the research community, to understand how this can be done in a nutritionally sound manner. The yardstick in such discussions could be the nutritional benefit gained for the environmental cost incurred. The amount of required change needed in diets will depend on the types of gains made through significantly improved production efficiencies and technological progress.

Though we advocate a reduction in meat consumption, we do not advocate replacing meat with dairy, as this will not reduce footprint, rather to increase plant protein in the diet.

Key recommendations:

- UK Government, business, industry and consumers to commit to a target of a 20% reduction in meat consumption by 2020 from 2008 levels;
- The UK government states that promoting sustainable diets is a national policy objective and takes a lead on defining a sustainable diet, integrating sustainability criteria into healthy eating advice.

Greenhouse gas emissions

Worldwide, agriculture and related up stream activities such as fertiliser manufacture plus land use change are responsible for about a third of the world's greenhouse gas emissions¹⁷. Emissions of GHGs from agriculture are expected to increase considerably unless action is taken.¹⁸

One of the objectives of our One Planet Food Strategy is to reduce GHG emissions in the UK food supply chain. The key greenhouse gases arising from food consumption are nitrous oxide, methane, and carbon dioxide. We estimate that the supply of food and drink for the UK results in direct emissions (includes LCA supply chain emissions but not land use change) equivalent of 152 Mt CO₂¹⁹. A further 101 MtCO₂ from land use change is attributable to UK food. This means that emissions from the UK food system are about 20% of the currently estimated consumption emissions. When our estimate of land use change emissions is added to this, this rises to 30%.

¹⁶ MacDiarmid, J, et al (2011) "Livewell: a balance of healthy and sustainable choices"

http://www.wwf.org.uk/what_we_do/changing_the_way_we_live/food/food_publications_library.cfm?4574/Live_well-a-balance-of-healthy-and-sustainable-food-choices

¹⁷ Audsley, E et al (2009) How Low Can We Go? An assessment of greenhouse gas emissions from the UK food system and the scope for reduction by 2050. Cranfield University/ WWF UK.

¹⁸ Garnett, T (2008) "Cooking up a storm – Food, greenhouse gas emissions and our changing climate"

http://www.fcrn.org.uk/fcrnPubs/publications/PDFs/CuaS_web.pdf

¹⁹ Ibid

About half of total UK food system emissions arise outside the UK (including land use change emissions – it is about one fifth if land use change is excluded). So the food system in particular presents special challenges for climate change policy focused on domestic emissions and targets. Commentaries (e.g. CLA, NFU) on the ghg balance of UK agriculture frequently focus on the level of direct emissions from UK agriculture relative to UK emissions as a whole (i.e. 7% of all GHG emissions, 11% of carbon dioxide emissions, 37% of methane emissions and 53% of nitrous oxide emissions). Such comparisons need to be considered with caution as they do not include emissions embedded in the food that we import.

Taking the UK food chain as a whole, the supply chain emissions comprise (on a CO₂ equivalent basis) CO₂ – 102 Mt, CH₄ (methane) – 23 Mt, N₂O (nitrous oxide) – 21 Mt and refrigerants – 6Mt.

In primary agricultural production the majority of GHG emissions come from nitrous oxide and from methane. Nitrous oxide (N₂O) is a product of the nitrogen cycle. In natural ecosystems there is a high degree of internal nitrogen cycling with minimal losses. In agri-ecosystems large inputs of reactive nitrogen lead to greater nitrification and large losses of N₂O. Emissions of N₂O originate mainly from high soluble nitrogen levels in the soil from synthetic and organic nitrogen sources (fertilizers) and manures. Atmospheric N₂O concentrations have increased from a pre-industrial level of 270 parts per billion by volume (ppbv) to a current level of 319 ppbv. A systems approach that addresses leakage of reactive nitrogen (nitrous oxide, ammonia and nitrate) from the nitrogen cycle will be crucial. Closing nutrient cycles, particularly by reconnecting resource use in plant and animal production is key, together with efficient animal and plant production overall.²⁰

The main sources of methane emissions are enteric fermentation by ruminant livestock (cows, sheep and goats), anaerobic turnover in rice paddies and manure handling.

Carbon dioxide arises from a number of sources in the UK food chain. The manufacture of nitrogen fertilisers represents the major fossil energy input into agriculture accounting for 1.2% of the world's energy consumption in 1998. In the food chain as more broadly, carbon emissions arise from manufacturing processes, transportation, cooking and a whole host of other sources. And carbon emissions occur due to land use change, principally deforestation overseas, for commodities such as soya (animal feed) and palm oil.

Key recommendations

The UK government should:

- commit to cut GHG emissions from the food supply chain by at least 25% by 2020 and at least 70% by 2050;
- include farming in national GHG targets;
- should show leadership and lobby for international agreement to do the same;
- explore use of tax system to incentivise adoption of healthy and sustainable foods; and
- catalyse the reform of farming to support GHG reduction and sustainability, including acceleration/refinement of environmental stewardship under the Common Agricultural Policy and the setting of a clear direction and vision for farming of the future.

Palm oil

Palm oil is used in a wide range of consumer products, from margarine to lipstick and detergent and increasingly as a biofuel. Palm kernels are also used extensively in animal feed and for co-

²⁰ Murphy-Bokern, D (2008). *An assessment of the environmental impacts of UK food consumption*

firing in energy generation. The global demand for palm oil is rising particularly in Asia India, China, Indonesia and the EU accounting for half of global demand.

The UK imported almost 650 000 mt (metric tons) of palm oil in 2009 for food and personal goods, which was about 1.2% of total global production at the time. The UK imported a further 660 000 mt of palm kernel meal, approximately 10% of the global total, for use in animal feed and power stations. The UK also imported between 200 and 400 000 tonnes of palm oil already incorporated into manufactured goods²¹. In countries such as Indonesia and Malaysia, millions of hectares of rainforest have been cleared to plant this crop. Forest conversion is continuing, destroying the habitat of highly endangered species such as the Asian elephant, the Sumatran tiger and the orang-utan.

Despite there being as much as 20 Million hectares of available land in South East Asia alone that has already been cleared or been degraded through the invasion of grass species, regional governments and the palm oil industry persist in targeting forests for conversion – with more than half of palm oil expansion being at the expense of forests in Indonesia and Malaysia. An intact and extensive forest habitat is essential to the well-being of local communities that depend on it for food, fuel and shelter. Forest are also needed for the survival of wildlife in the region – not only for iconic and endangered species like the orang-utan, the tiger, elephants and rhinos – but for the whole ecosystem. Research shows that in Malaysia healthy forest supports up to 80 species of mammals, whereas disturbed forest carries only 30 – but palm oil plantations allow as few as 12 to thrive.

Fragmentation of the forest by plantations not only destroys core habitats but also leads to greater conflicts between people and nature – elephants are killed because they can feed on palm fruits and orang-utan are hunted widely for meat by plantation workers.

Forests and peatlands are not only key wildlife habitats but they are also massive stores of carbon. Felling and burning them releases huge volumes of carbon dioxide driving climate change – globally almost 20% of emissions are from deforestation – mostly in Indonesia and the Amazon.

Palm oil cultivation is also a major cause of pollution. Burning of land to prepare it for palm oil causes huge smog clouds in South East Asia and the use of pesticides against rats in particular damages soils and water resources. In 2001 Malaysia's production of 7 million tonnes of palm oil generated 10 million tonnes of solid oil wastes, palm fiber, and shells, and 10 million tonnes of palm oil mill effluent, a polluted mix of crushed shells, water, and fat residues that has been shown to have a negative impact on aquatic ecosystems as well as emissions of methane a powerful GHG when it decomposes.

WWF is a founder member of the Roundtable on Sustainable Palm Oil (RSPO) which aims to ensure that production and use of palm oil is carried out in a sustainable manner based on economic, social and environmental viability. Ecologically-friendly palm oil plantations must not replace forests of high conservation value or deep peat soils, should have management practices that minimize pollution, and must include measures to protect biodiversity such as wildlife and forest corridors. This helps to protect highly endangered species of animals, such as the Asian rhino, that currently faces losing habitat to palm oil plantations as well as reducing the climate impacts from converting forests and peatlands.

Progress within the RSPO has been good. Currently almost 5 million tonnes or 10% of global palm oil is being produced sustainably. Unfortunately the demand for this is still lagging behind supply and to date only half of the available certified sustainable palm oil has been sold. In the UK many major companies have made commitments to using CSPO and in fact to date about 24% of the palm oil used in food and consumer goods manufacture in the UK is already CSPO. This is a great start but more needs to be done.

²¹ ProForest (2010). Mapping and Understanding the UK Palm Oil Supply Chain. http://randd.defra.gov.uk/Document.aspx?Document=EV0459_10154_FRA.pdf

Key recommendation

- All UK companies using palm oil should make public commitments to only using RSPO certified sustainable palm oil by 2015 at the latest. This should not only be food and cosmetics companies but also users of palm oil in animal feed, biofuels and energy generation;
- Once commitments have been made companies need to demonstrate real progress year on year in reaching those targets.

Soy

WWF is concerned about expanding soya production that has led to the dramatic loss of natural habitats, especially forests and savannahs, in South America, and with these, the loss of biodiversity and ecological functions that these ecosystems provide. For example, in Brazil the richly diverse savannah habitat of the Cerrado alone, is home to 5% of life on earth and is experiencing habitat destruction at a faster rate than that currently experienced in the Amazon²². Around half of it has already gone and less than 3% is strictly protected²³. Expanding soya production is a key cause of the problem

Soya is in great demand worldwide both as a protein-rich livestock feed and as vegetable oil²⁴. For producer countries it is an important source of foreign currency. Available forecasts indicate that worldwide demand for soya will continue to increase and consequently soya production is likely to grow. By 2020 it is estimated that globally demand for soya will have increased by nearly 700% since 1970.^{25 26}. 80% of soya is used for animal feed worldwide²⁷.

Impressive yield increases have not been sufficient to meet the exponential growth in demand. As China and the US have little arable land reserves, future expansion will be accommodated primarily in South American producer countries: Brazil, Argentina, Bolivia, and Paraguay.

There is no silver bullet to this problem and the scale and pace of the problem is such that it is likely we will need a variety of solutions such as changing diets, legislation, land-use planning, alternatives to soya and much improved soya production practices.

WWF is one of the founding members and supporters of the Roundtable on Responsible Soy. This is a multi-stakeholder initiative involving producers and companies in the soy supply chain, and social and environmental NGOs, working together to define global standards for responsible soy production.

The RTRS has developed a set of Principles and Criteria for responsible production that include environmental and social safeguards aimed at halting conversion of native forests and of areas

²² Plano de Ação para Prevenção e Controle do Desmatamento e das Queimadas no Cerrado – PPCerrado. Brazilian Environmental Ministry. September 2009. (Official plan for reducing deforestation and fires in the Cerrado. Portuguese only)

²³ Conservation of the Brazilian Cerrado 2004/2005, Carlos A Klink and Ricardo B Machado, Conservation Biology June 2005

²⁴ Here is a more comprehensive list of soy uses: http://www.soystats.com/2010/page_06.htm

²⁵ FAOSTAT 2010.

²⁶ Dros, J.M. Managing the soy boom: Two scenarios of soy production expansion in South America. AID Environment, Amsterdam, June 2004.

with high conservation value, promoting best management practices, ensuring fair working conditions, and respecting land tenure claims. These criteria should be standard practice with as many soy producers as possible in order to limit negative impacts on biodiversity. There are more than 140 members in 20 countries ranging from major players in the soya industry and NGOs to smallholder farmers and retailers.

Key recommendations

- UK companies using soya should join the Roundtable on Responsible Soy and should make time bound commitments to sourcing only RTRS soy e.g. 100% RTRS soya by 2015
- The UK government needs to take action to define a sustainable diet and incorporate these principles in to healthy eating advice. This includes reducing our consumption of livestock in the UK by 20% by 2020

Sugarcane

The full impact that conversion of land to sugar plantations has had on natural environments will never be known because it happened hundreds of years ago. In all likelihood many species of animals and plants, unique to the thousands of islands on which sugar was planted, were lost. The cultivation of sugar results in soil erosion and degradation, and uses chemicals to correct the resulting problems. As a consequence, sugar cultivation has an important impact on other ecosystems. For example, siltation from soil erosion clogs coral reefs and seagrass beds, which are important habitats for a wide range of species.

To address the impacts of sugar production, WWF is working on several scales. At the farm level, WWF is encouraging improvements to irrigation systems. Up to 50% of the water used could be saved using a technique called drip irrigation²⁸, which also significantly reduces the problem of polluted run-off water. WWF helped to set up the Better Sugarcane Initiative and international dialogue along the sugarcane supply chain.

Key recommendation

- Major UK companies using sugarcane should join the Better Sugarcane Initiative and commit to sourcing only sustainable sugar.

Wild-caught Seafood

UK fish consumption and production for export has a major impact on fisheries, particularly in one of WWF's priority biodiversity places, the North East Atlantic.

WWF was instrumental in setting up the Marine Stewardship Council (MSC), alongside Unilever. The MSC standard is consistent with the 'Guidelines for the Eco-labelling for fish and fish products from marine wild capture fisheries', adopted by the FAO in 2005. When buying seafood choose MSC-certified fish products whenever you can. Some big North Sea fisheries around the UK are already MSC-certified and more are working towards certification. You can get products as diverse as Scottish haddock, mackerel, scallop and Dover sole. There are major

²⁷ Nieremberg D. Rethinking the global meat industry. In: Starke, L. (ed). State of the World 2006: A Worldwatch Institute Report on progress Toward a Sustainable Society. New York: W.W. Norton & Company; 2006, pp-24-40.

²⁸ POSTEL, S. Last oasis: Facing water scarcity. New York, Norton, 1997. p. 17-191

supermarkets and foodservices providers have committed to sell nothing but MSC-certified fish in the future, so the choice will expand rapidly over the next few years.

Key recommendations

- Retailers to source 100% of seafood from MSC certified fisheries;
- Seafood industry such as retailers, processors and foodservices providers to support Fisheries Improvement work to help fisheries to meet MSC standards.
- Government procurement and advice to consumers reflect the call for the use of MSC as the best indicator of sustainable seafood

Farmed seafood - Aquaculture

Carnivorous farmed fish require a proportion of fish meal and fish oil in their diet. Most of this comes from wild fisheries that are not presently certified as sustainable and the remainder is from trimmings (the waste products from processing of fish for human consumption). The majority of fish oil produced in the world as well as relatively high quantities of fish meal are used for farmed salmon feeds. If the main industrial fisheries are certified as sustainable and WWF is comfortable with the certification process (e.g. MSC) then the use of fish meal to feed fish would be acceptable although an expanding industry will have to make better use of this limited resource by using more trimmings and alternative ingredients.

The most sustainable aquaculture species are farmed shellfish such as mussels and home grown vegetarian fish such as carp and tilapia. Although vegetarian fish are less healthy than oily carnivorous fish they are healthier than beef or pork as they contain less saturated fats. Production of these species in the UK is small but expanding. The source of feeds for herbivorous fish is a potential issue as soy for instance, can result in rainforest damage among other things unless it is from certified sources such as RTRS. There is also a question of food security i.e.: should plants that we could eat directly be fed to fish? However, the conversion rates of plant to animal protein are better with fish than for any other animal. There is an issue of food miles for aquaculture fish imported mainly from the tropics such as prawns, catfish and tilapia.

Organic fish are better than non-organic mainly because of more sustainable sourcing of feeds. WWF-UK is involved in setting up the Aquaculture Stewardship Council (ASC), so as soon as certified fish become available these should be recommended and supported by the FSA.

Key recommendations:

- Retailers to demand that all farmed fish they sell be fed on sustainable feeds; and
- retailers to commit to the ASC and to sourcing all farmed fish and shellfish from ASC certified producers by 2016.

Public Procurement

According to DEFRA the public sector spends £2 billion on food and catering services.²⁹ The public sector accounts for 70% of the cost-based catering sector in the UK and 30% of meals eaten outside the home. The largest 5 catering companies control 85% of the market. The Public Sector Food Procurement Initiative (PSFPI) has worked since 2003 to:

²⁹ DEFRA: <http://www.defra.gov.uk/farm/policy/sustain/procurement/>

- promote food safety;
- increase the consumption of healthy and nutritious food;
- improve the sustainability and efficiency of food procurement catering services;
- improve sustainable performance at each stage of the food chain in support of the Sustainable Farming and Food Strategy;
- mainstream good practice in food procurement and supply; and
- to improve efficiency and realise savings that can be ploughed back into improving catering services.

Other important objectives cover consumer behavior, organic food, animal welfare, fair treatment of suppliers and catering for ethnic minority, cultural and religious groups.

WWF UK cautiously welcomes the new Government Buying Standards (GBS), they are a move by the UK government to encourage greener eating and send a strong public message on the need to look at food consumption patterns. The government has said that is committed to buying food that meets the UK farming industry's high standards and the all seafood will be 100% sustainable, both of which we fully support.

However the GBS, which are mandatory only for central government, would have a higher impact if they extended to all public institutions, reducing the footprint of up to a billion meals a year, and offering the opportunity to communicate and engage with millions of consumers about environmental issues. The standards are not consistent with government's own policy commitments, including under the fourth carbon budget. To comply with the advice of the Committee on Climate Change on how to reduce emissions within the targets set by the Climate Change Act, the GBS need not only to encourage the sourcing of resource-efficient ingredients, but also to ensure that menus are balanced to be sustainable.

The present GBS include a best practice standard that are based solely on nutrition, the standards should be developed to require that menu cycles are also analysed to meet sustainability standards.

WWF UK recognises the standards commit the UK government to meet UK or equivalent standards but is concerned about the caveat "subject to no overall increase in costs". This potentially could lead to little change in the sourcing as it might be used as an excuse for inaction and not as a change to explore new ways of sourcing and new menu options. The ambition should be that changes to menus are cost-neutral, potentially providing producers with a higher return per unit volume.

Key recommendations:

- All government departments to source 100% sustainable food by 2015 – MSC, ASC, RSPO, RTRS;
- Extend to all areas of public sector purchasing as a mandatory standard
- Commit to reducing meat and dairy consumption
- Integrate advice on health and environment
- Establish targets for reducing the amount of waste in the public sector

Water

70% of global freshwater abstracted by humans is used in agricultural irrigation³⁰ but this does not take into account water stored in soil from rainfall. In the UK the agriculture, food and drink

³⁰ UNESCO –WWAP 2003

sectors are all high consumers of water. WWF is undertaking a considerable amount of work on 'virtual' water i.e. the water used in the production of goods, to help build up a water footprint. Water footprints have potential to be a powerful communications tool through the food supply chain including retailers etc, but perhaps more importantly, they help producers and retailers to understand where their produce is coming from, and the water related risks in these areas. The Mediterranean region is of particular interest: we know UK food consumption has a direct impact on the Mediterranean which is a water scarce area and agriculture has a major impact on this WWF Priority Place through water use. Consumption of vegetables, fruit and olives has been highlighted in particular.

The Food Industry Sustainability Strategy³¹ looks at the amount of water used by companies in their operations, which is usually only a fraction of the overall use, and does not look at the much larger embedded water component of produce. There is a strong policy focus on improving aquatic ecosystem condition. The main policy drivers come from Europe, such as the Water Framework Directive and the Nitrates Directive. In the UK one of the main impacts aquatic ecosystems are water quality problems associated with agricultural practice. Defra, the devolved administrations the Environment Agency and Scottish Natural Heritage are the main responsible bodies for implementing aquatic ecosystem policies in the UK. To improve the sustainability of agricultural production systems main priority is to reduce diffuse pollution (The 2008 Water strategy – Future Water (Defra) - sets out the government's long term vision for water and water management).

Water and meat consumption are indelibly linked. The livestock water footprint shows that beef has the largest footprint, then milk, pig and poultry.³² However, a recent report from Water Footprint Network shows that a large part of the water footprint of livestock products is from the use of soil moisture maintained by the rainfall, also called green water. Depending upon where the feed has been grown and the animals are raised, the share of green, blue and grey water footprints vary considerably. [Reference: Mekonnen, M.M. and Hoekstra, A.Y. (2010) The green, blue and grey water footprint of farm animals and animal products, Value of Water Research Report Series No.48, UNESCO-IHE.]

The amount of water needed to produce 1 kg of various foodstuffs is as follows: maize 900 litres, rice 3,000 litres, chicken 3,900 litres, pork 4,900 litres, beef 15,500 litres.³³ Though these numbers are only global average, the virtual water content of the product (water used in the production) varies both temporally and spatially. A recent study by WFN has done more detailed analysis of water footprint of crop and livestock products at much finer resolution and the results are now available for more than 400 major river basin units around the globe [Reference: Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: the green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No.50, UNESCO-IHE.]. Moreover, it is important to note that the total water footprint of the product has a completely different relevance depending on where it is sourced from. One kg of Dutch beef with a water footprint of 10,000 litres is very different to one kg of beef from Argentina with the same water footprint. Firstly, it does not explicitly say the kind of feed used and the locations where it is sourced from. Secondly, it does not differentiate the kind of impacts on water resources in these production regions. For example, feed for Dutch beef might come from regions where these crops are grown with effective use of rainfall, whereas the feed for Argentinean beef can be based on feed grown using scarce surface or ground water resources. This highlights the limitation of water footprints if they are simply given as volumetric 'impact'.

The vegetarian diets of Africa and Asia use about 2,000 litres a day, whereas the meat based diets of Europeans require around 5,000 litres of water a day to produce (for comparison,

³¹ Defra (2006) Food Industry Sustainability Strategy

³² Chapagain, A, Orr, S. 2008 UK Water Footprint: the impact of the UK's food and fibre consumption on global resources

³³ Hoekstra, A., Chapagain, A. 2007 Water footprints of nations: Water use by people as a function of their consumption pattern. *Water Resources Management* 21: 35-48.

Westerners use just 100-250 litres a day in drinking and washing). Moving from a vegetarian diet to a meat-based one has important implications for water. In 1985 Chinese people ate, on average, 20kg of meat; this year, they will eat around 50kg. This difference translates into 390km³ (1km³ is 1 trillion litres) of water, almost as much as total water use in Europe.³⁴ The shift of diet will be difficult to reverse since it is a product of rising wealth and urbanisation. However, changing the source of production, making products less water intensive by increasing production efficiency or working to improve water management in the wider river basin can greatly reduce the impacts. In general, water intensity in diet increases fastest as people begin to climb out of poverty. In order to achieve an equitable distribution of resources, the onus is on the rich world to reduce its water footprint impacts.

Key recommendations:

- Retailers in the UK start to identify products with a high Water Footprint impact – i.e. products requiring a lot of water and coming from water stressed/scarce regions of the world;
- by 2012, retailers in the UK should start reducing their supply chain Water Footprint impacts and their associated business risk by encouraging higher standards of water efficiency in production, by engaging with efforts to improve management of water resources in places from which they source ‘thirsty’ products, or – as a last resort – by sourcing from regions in which pressure on water resources and freshwater ecosystems is less acute; and
- any reduction in carbon footprint (GHG emissions) should be done in conjunction with related impacts on water footprints or vice versa.

One Planet Diet - Livewell

WWF-UK is working on a programme called One Planet Diet. The western diet is typified by being high in salt, sugar and saturated fats all of which are associated with ill health: high blood pressure, strokes, diabetes, cancer and obesity. In addition there is a large amount of packaged food and meat consumed alongside inadequate amounts of fresh fruit and vegetables. This results in an unsustainable, resource intensive diet resulting in generations of people unable to prepare basic meals, disassociated from where food comes from and the natural environment and beset by ill health.

Our One Planet Diet programme will look at how consumers can adopt an eating regime that will be sustainable, affordable and healthy. As part of this we have developed the Livewell Plate which defines what a sustainable diet looks like.

Key recommendations:

- Defra to lead on defining a sustainable diet;
- the DoH to strengthen and update nutritional guidelines;
- five key priorities for retailers - viable alternatives; overarching transformation to low carbon sustainable farming through their supply chains; and sourcing 100% MSC certified fish; promoting seasonal, local and fair-trade food; and to offer and promote sustainable food products and cooking methods
- UK Government to explore the use of taxation to incentivise adoption of healthy and sustainable foods.

³⁴ The Economist (April 8th 2009) Better management can help solve growing water problem <http://www.peopleandplanet.net/doc.php?id=3559>

Other emblematic issues (on which WWF is not leading)

Food waste and packaging

Food waste is already at the top of the political agenda and we believe other organisations are better placed to deal with the issue. One Planet Food will endorse the work of others who aim to drive down food waste³⁵. This area is being led by WRAP who work with local authorities, businesses and individuals to reduce waste and recycle more. The main types of waste in the food change are food and packaging. Millions of tonnes of both are produced annually, much of which could be avoided with the rest needing to be better managed.

The four priority areas identified by WRAP are packaging, food waste, collection systems, quality of materials. While WWF-UK may not work specifically in these areas it supports WRAP in its work to meet and tackle the problem of waste. According to WRAP every ton of food wasted 4.5 tonnes of CO2 equivalent could be saved. The Courtard Commitment is a voluntary agreement between WRAP and UK retailers aimed at reducing less packaging and food going into household bins.

Household waste is being tackled in WRAP's Love Food Hate Waste Campaign, which is concentrating on behaviour change and WRAP are working with the UK grocery sector, food industry, Government and organisations such as the Food Standards Agency to develop practical solutions and improved communications to make it easier for consumers to get the most from the food they buy and waste less of it.

WRAP's next project will be to investigate the retail industry's waste and to publish the results. WWF-UK will monitor this and respond appropriately.

- WWF-UK will support WRAP in its work on consumer waste and retailer waste

Fair trade

WWF supports the aims and principles of fair trade – that international trade should be based on a more equitable, transparent and sustainable relationship³⁶ between small-scale producers and the buyers, processors, retailers and consumers of their produce.

WWF recognises that fair trade and the FAIRTRADE mark represent a well trusted and well recognised 'brand' amongst sections of the community that are concerned about the global implications of their patterns of consumption. Although fair trade's main focus is about poverty

³⁵ At least 30% of all food produced is wasted – This waste directly impacts GHG emissions, priority places and water. There is scope for significant reductions in food waste which can send signals right through the food supply chain – it has the potential to affect production of basic inputs (fertilisers & feedstuffs) whilst reducing consumption of food commodities considerably. Our Food Impact Studies report (Donal 08) highlighted waste is a particular feature of fruit and veg with significant impacts, particularly in relation to water scarcity, within the Mediterranean.

³⁶ From the perspective of fair trade a 'sustainable relationship' includes paying producers a price that reflects the true costs of production and provides them with a reasonable livelihood. A fair trade relationship also aims to strengthen the capacity of producers to produce goods to high labour, health and safety, ethical and environmental standards as well as to invest in their own and their communities' development. This is achieved through the payment of a Social Premium that is invested in local development as well as through the development of long-term, equitable and more transparent business relations between producers, merchants and consumers.

alleviation rather than the environmental sustainability of trade there is a very close link between the audiences identified by fair trade and those important to WWF.

WWF is keen to see what can be done to increase the proportion of certified products, such as organic and fair trade, on the market by supporting the growth of such markets by an order of magnitude in the coming 5-10 years. However we also recognize that there is a much greater volume of commodities that are not certified which as a result have a greater environmental and social impact. WWF pursues strategies to address the impacts of conventionally produced commodities for which solutions in the conventional market are required. WWF is doing such work on palm oil, soya, sugar and cotton with industry partners and other NGOs.

Since verifiable environmental data is largely missing at present WWF encourages fair trade organisations to collect the information needed to show the measurable improvements in sustainability achieved as a result of their systems.

- WWF supports the aims and principle of fair trade
- WWF will buy and use Fairtrade goods where they are available

Trade and governance

As a result of our analysis of resource flows, we recognise trade as an important lever of change within the food supply chain. Food trade has direct environmental and social impacts and is a critical sector in terms of people's livelihoods and the environment. National and international markets have an enormous influence on countries' production patterns and resource use more generally, particularly as they move (or are moved) towards more export-oriented strategies. Market expansion has caused major shifts in the composition and location of production and consumption activities, and has reshaped the way millions of people earn their living and the way societies are organised. These have serious consequences for the environment.

- The One Planet Food team will work with WWF-UK's Government Partnerships team to explore how we can support their work with reference to the role of multilateral organisations such as the WTO.³⁷

Human rights impacts of UK food consumption

WWF-UK recognises that our One Planet Food work cannot ignore human rights issues in relation to UK food consumption. We would support the work of the [Human Rights Council](#) to ensure that states to build national strategies on the right to adequate food, taking into account the need to strengthen the protection of the human rights of land-users and of women. We will also contribute to the discussions of any future global partnership on agriculture and food, ensuring it includes attention to their human rights dimensions.

One Planet Food will also need to influence governments in key producer ecoregions (like Brazil and Indonesia) to strengthen land use governance and planning. Without this the individual commodity initiatives will fail to deliver.

³⁷ International politics and trade make food policy a complex issue. The General Agreement on Trade and Tariffs (GATT) for the first 40 years of world trade rounds did not include agricultural Support or food trade. Food trade is one of the major sticking points for the currently stalled Doha Development round of talks, with competing demands from the US striving to be the breadbasket of the world, the EU arguing for continued producer supports (to deliver environmental and wider social and economic sustainability), and the key focus on this round – developing countries seeking to get a foothold in global market to trade out of poverty.

Intensive livestock farming

Worldwide 2 billion people live on an animal based diet and 4 billion on a plant based one. During the second half of the 20th Century the world population doubled while meat consumption quadrupled³⁸. According to the FAO annually 60 billion animals are used to produce food and this number is predicted to double by 2050, with the majority coming from intensive systems³⁹.

WWF is a biodiversity conservation organisation whose core mission is to create a planet where humans can live in harmony with nature. We focus on finding solutions to key environmental issues such as climate change and biodiversity loss. Although we are not an animal welfare organisation, we believe farming systems should not compromise an animal's welfare as defined by the Five Freedoms⁴⁰. Issues of animal welfare in farming are complex and for this reason we would not reject 'factory farms' or confinement systems outright. We do not have the expertise to judge this and so defer to the RSPCA on these issues.

We have developed a set of principles that would define the direction in which we would like to see all farms improve. This includes our key concerns of greenhouse gas emissions, water footprint and biodiversity impact as well as other wider social, economic and animal welfare issues.

Illegal trade in wildlife for UK consumption

Some of our main issues in relation to over-exploitation for food are:

- i) Illegal bush meat (most popular species listed under CITES Appendix I);
- ii) other endangered wildlife species eaten as delicacies and/or because they are thought to have medicinal properties, etc, e.g. shark fin soup, tiger bone wine, turtle meat, abalone, sea cucumber, bear paws (mixed listing on CITES Appendix I and II depending on species); and
- iii) caviar (listed under CITES Appendix II)

This issue only fulfils on a small part of one of our strategic goals around priority places⁴¹.

³⁸ De Boer J, Helms M, Aiking H, (2006) Protein consumption and sustainability: Diet diversity in EU 15. *Ecological Economics* 59 (2006) 267-274

³⁹ FAO (2009) FAOSTAT online database <http://faostat.fao.org/default.aspx>

⁴⁰ The Five Freedoms underpin EU policy on animal welfare and the RSPCA Freedom Foods standard. See <http://www.fawc.org.uk/freedoms.htm>

The five freedoms are:

1. Freedom from Hunger and Thirst - by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from Discomfort - by providing an appropriate environment including shelter and a comfortable resting area.
3. Freedom from Pain, Injury or Disease - by prevention or rapid diagnosis and treatment.
4. Freedom to Express Normal Behaviour - by providing sufficient space, proper facilities and company of the animal's own kind.
5. Freedom from Fear and Distress - by ensuring conditions and treatment which avoid mental suffering.

⁴¹ Illegal Trade in wildlife for UK food consumption in the UK creates a number of problems:

- i) Bush meat – A 2004 govt report cautiously estimated 4,000 - 29,000 tonnes of illegal meat enters the UK each year. Proportion of CITES listed endangered species in bush meat imports is unknown as any illegal meat is destroyed for health reasons before testing. CITES prosecutions for meat imports are rare.
- ii) Caviar - has been identified as a priority within the National Wildlife Crime Unit for CITES enforcement. Can be legally sold with correct labelling, and 125g is allowed to be imported for personal use, yet 26 tonnes of caviar were seized by UK customs between Apr 2006 and Mar 2007.
- iii) Future work in years to come with Operation Charm, a partnership combating illegal wildlife trade in London, will likely focus on bush meat and caviar, but nothing is being acted upon now or planned for the immediate future.

Omni-standards

Currently food businesses are attempting to address nutritional goals as outlined by the Department of Health and the FSA. This has led to environmental objectives being compromised. Other issues are often pushed to one side, such as the social impact of changes in demand on rural communities in the UK and the economic impact of changes in supply of some produce to developing countries. The industry views these as competing demands and works on the basis of a trade-off. Instead it is vital now to focus on all the elements of the food system as a whole, focusing on win-wins. We advocate moving towards a truly holistic approach and a One Planet Diet. This could be linked to the idea of Omni-standards, as advocated by Professor Lang at City University. These are the standards by which a sustainable food system should be judged:

- Quality –fresh, local, seasonal,
- Social Justice – animal welfare, fair trade, working conditions, cost, availability, affordability, acceptability,
- Environment – climate change, water, land, biodiversity, sourcing,
- Health – safety, nutrition, cultural, inequality reduction.

All of these are values for food, and unlike earlier ideas on sustainability and the environment, they are not about trade-offs but about adding value to each one.

Food security

This is a very topical issue nationally and internationally with both DEFRA and the All Party Parliamentary Group (APPG) holding inquiries on it, both of which WWF-UK responded to.

Self-sufficiency of around 70% for indigenous foodstuffs and about 58% overall suggests that in terms of global supplies the UK food system is resilient in relation to necessities to all but the most disruptive supply shocks. This however masks reliance on imported farm inputs such as animal feed, fertilisers, fuel, pesticides and animal health-care products. Moreover, there has been a decline in the production of a wide range of agricultural commodities in the UK since 1990. Production of beef, fruit, vegetables, pig, sheep and potatoes has declined, typically by 20–30%. Total self-sufficiency is declining faster than self-sufficiency in indigenous food reflecting the increase in the consumption of non-indigenous food products. The UK's fisheries and fishing capacity are in long-term decline due to the decline in fish stocks. Reflecting increased consumption and decreasing domestic production, imports of almost all food commodities rose between 1990 and 2005. This has 'exported' the consequences of our buying habits to other countries. GHG emissions, water impacts in vulnerable areas and biodiversity impacts in key ecoregions (for example from palm oil production in South East Asia, soy/sugarcane in Latin America) generate environmental burdens shifted away from the UK. We currently we rely on Brazil for 80%⁴² of our soy for animal feed and WWF's research shows that up to 2006, the UK was responsible for 7 – 10% of the growth of the Brazilian beef industry, which in turn is a very significant driver behind Amazon deforestation⁴³.

Through our other work on One Planet Food WWF-UK will be addressing some of these issues and will be monitoring food security as it develops.

⁴² Van Gelder, J.W., Kammersaat, K., Kroes, H. (2008) Soy consumption for feed and fuel in the European Union, Report for the FOE Netherlands.

⁴³ Murphy-Bokern, D. (2008). The UK food system and the global environment. A report for the WWF-UK. www.murphy-bokern.com

Biofuels

Details can be found in WWF's biofuels policy here:

http://www.wwf.org.uk/research_centre/?5912/WWF-Policy-on-Bioenergy

Food miles

The food miles debate has become increasingly questioned in recent years by various organisations and academics. Food miles are about more than how food reaches a retailers shelf. There are many differing elements to be taken into account making the subject complex. It is not only how far food has travelled that needs to be taken into account. The benefits of a product being grown organically can be lost if they are transported long distances. A tomato grown in Spain and transported to England may have a lower footprint than one grown in England, out of season, in heated greenhouse.

If people decided to only buy food produced in the UK the implications on the welfare and economies of people in the developing world would be catastrophic. These countries have created agriculture tailored to grow food for the UK through our demand choices and through the policies of the Common Agricultural Policy. By stopping buying food from these places, the UK would marginally reduce its footprint while have a huge negative impact on lives and communities.

The majority of GHG from food does not come from food miles, it comes from how food is grown, what is used in the soil and to feed the livestock. There are also the impacts of how it is stored, used and what happens to the waste. How food is transported is only a small percentage of the emissions, and on average the largest amount of these come from people going to the shops to buy food.

Food miles, especially airfreight, and how food will get transported in the future is something we need to be aware of and to follow. Up to 1.5 million people depend on export horticulture in Sub Saharan Africa⁴⁴. Policy will need to achieve maximum development for minimum GHG costs.

That said, WWF's work shows that choosing in-season food grown as locally as possible can be a significant step to minimising the environmental impact of our diet.

While WWF-UK recommends that UK consumers should try to buy local and seasonal produce where possible, we recognise that there are many foods and products, such as coffee, cocoa and bananas that do not grow in the UK but will always be part of a shopping basket. If a food can not be grown in the UK, WWF-UK advocate buying responsible sourced foods from other countries, while trying to ensure the majority of food and drink bought is seasonal and local.

Genetically modified organisms (GMOs⁴⁵)

Although the world's population has doubled since 1960, so far food production has kept up. But pressures are mounting on the land and water resources we need to feed the planet. The UN

⁴⁴ MacGregor, J, Vorley, W, (2006) 'Fair Miles? The concept of "food miles" through a sustainable development lens', London: IIED.

⁴⁵ The WWF position on GMOs is currently being reviewed (Jan 12). Please contact Lucy Young for further information.

estimates that we will need 60% more food to meet the needs of the world's growing population in the next 30 years.

While some people think that GM technology is the answer, WWF has always believed in a strong precautionary approach to this technology. WWF believes that it is possible to feed a growing world population without GMOs by altering farming systems, food distribution and consumption habits. The solution to hunger does not lie with a GM technical fix but with changes such as:

- Reducing consumption of meat, dairy, grains and soya, which are all resource-intensive;
- creating markets for environmental services and providing farmers with financial incentives to produce in environmentally-sympathetic ways;
- establishing management of water at the catchment scale and encouraging tradable water rights and equitable decision-making over water allocation;
- encouraging equitable international trade; and
- changing diets so that people consume in-season, unprocessed foods produced as locally as possible.

We do not know the unintended side effects of some new GM modifications in crops and so WWF chooses to act with a strong precautionary approach to GM technology. There is a need to maximise the efficiency of farming in any area but efficiency can be achieved by a variety of methods other than GM, such as using land to grow edible crops rather than to raise livestock. However, if it was possible to resolve the serious concerns about the unknown impacts of GM, it could have a role to play in increasing the productivity of cultivated land, thus reducing the pressure for clearing more land for farming.

Pragmatically, WWF recognises that for some commodities, such as soy, the use of GM is widespread and established particularly in key regions like Latin America where habitat loss and pollution from agric chemicals are of huge concern. As such it is not possible to ignore companies involved in GM production. Instead WWF seeks to engage them in a process of addressing the key environmental impacts of commodity production irrespective of the technologies used.

Organic farming and food

Organic farming systems aim to produce food with as few inputs as necessary, and avoid using artificial chemical fertilisers, as few pesticides as possible and do not use GM crops. One of the key tools many organic farmers use is crop rotation, which makes the soil more fertile and in order to avoid parasite problems in animals, preventative measures, such as regularly moving to new pasture, are employed which reduces the need for drugs. Organic farming aims to minimise the environmental costs of conventional and intensive farming in areas such as soil degradation and biodiversity loss. However in other areas it may have adverse impacts on the environment, for example WWF is aware that in Donana in South West Spain there are many organic farms producing strawberries for the UK market which are using water unsustainably and have resulted in the draining of the aquifer.

As regards direct greenhouse gas emissions from the farm, organic systems are generally less efficient because they produce less food over a given area of land. However savings are made where they do not require energy intensive inputs and they provide benefits such as carbon sequestration. We estimate that a complete conversion to organic farming in the UK with corresponding changes in diet would reduce supply chain emissions by (only) about 5%⁴⁶.

⁴⁶ Audsley et al. Ibid.

There are a variety of other benefits attributed to organic food including health benefits, employment opportunities from more labour-intensive production methods and better tasting produce. Although a recent study by the Food Standards Agency⁴⁷ suggests there is no conclusive evidence that organic food is more healthy, the Soil Association has pointed out weaknesses in the study including the failure to address the long-term effects of pesticides, herbicides and insecticides on human health.⁴⁸ Organic crops suffer more from extreme weather than conventional crops, as noted by the Soil Association. Organic yield in 2006 dropped 30%. The overall drop in harvests in 2006 and 2007 led to the food price spike of 2008, which led to increased hunger and civil unrest. This situation may have been exacerbated if more of the global food system had been organic. A food system needs to be resilient - something that is more likely in a diverse system in which risk is dissipated.

Agricultural systems need to be developed that are a lot less dependent on fossil fuels. At the same time we need to develop sustainable systems of production and consumption that tackle the rising demand for food, and this will entail a change in diets. Organic agriculture and utilisation of organic wastes (including human, livestock and food waste) will be needed alongside enhanced soil management and lower energy production systems and better water management.

Local food initiatives

If your aim is to reduce your food Footprint, you don't have to spend more. Choosing local food that is in-season could well be cheaper and reducing your meat intake may save money too. There's always an option to grow what food you can. Whether it's in window boxes, containers in a yard, your garden or an allotment, growing your own food is a cheap way to get healthy food to your plate.

A vibrant and sustainable food system provides employment, encourages healthier lifestyles and a cleaner environment. Local food initiatives have the potential to improve the lives of all those involved, they can provide income and employment, allow traceability and can be more sustainable due in part to the food coming from the immediate area, not trucked around the country, which reduces transport emissions. By meeting the producer or the stall holder it is possible to learn about the produce, thus providing invaluable educational opportunities.

Local food initiatives are often not organic and some of the produce is not locally sourced but used as ingredients for the locally produced finished item. Choosing local food is a vital way of supporting local businesses, reducing some of the impacts of your diet and re-engaging with agriculture and food. WWF-UK supports local food initiatives and recognizes the vital role they play in the global food chain.

EU Common Agricultural Policy

WWF believes that farmers and environmentalists must work together to safeguard a sustainable future for European agriculture. Only by taking steps to ensure the long-term, sustainable management of natural resources on which agriculture relies, can other current concerns such as food security, biodiversity conservation and pollution be addressed. Agriculture policy has a major role to play in achieving sustainable agriculture in the EU. Successive reforms of the Common Agricultural Policy (CAP) have started the process of encouraging more sustainable forms of agriculture but much remains to be done. The time is

⁴⁷ Food Standards Agency (2009) Organic nutrient content and health effects

⁴⁸ Soil Association (2009) Response to FSA research

<http://www.soilassociation.org/Whyorganic/Health/tabid/59/Default.aspx>

now right to consider what further, progressive changes are needed in agriculture policy over the coming decade or more.

WWF has a vision for a new Common Environment and Rural Policy (CERP) to replace the old and increasingly outdated CAP. CERP is based on the principle of 'public payments for public goods' where the tax payer is not paying for food production, the beef or wheat, but for the goods and services required by society as a whole but which are not efficiently delivered via market mechanisms. These include the regulation of water, flooding and soils or the maintenance of landscapes and wildlife and carbon sequestration and need to be achieved through targeted payments to farmers or other direct interventions. It recognises the need to financially support those land managers who produce these goods for the benefit of society as a whole. This should be linked to the polluter pays principle, and payments would be linked to the delivery of clear objectives and targets. Information on payments made to all beneficiaries should be in the public domain.

The Future CAP must be based on 4 key principles to ensure it is inclusive and does not result in greenwashing

1. Public payments for public goods. Most goods and services that are produced by farmers can be fully paid for by the market. But there are some public benefits that will not be paid for that way, and must therefore be paid for collectively. These benefits include environmental functions such as sustainable water management, the preservation of biodiversity and the maintenance of valued cultural and historic landscapes; as well as some non-environmental benefits such as public access and enjoyment, rural employment and the socio-economic viability of rural areas.

2. Payments linked to clear objectives and targets. One of the greatest failures of the present agricultural policy is its inability to show how existing subsidies lead to their intended effects. No subsidies should be provided without a clear definition of what that specific subsidy is intended to provide. There should, for each subsidy, be a thorough evaluation of how well these objectives are being met.

3. The Polluter Pays Principle. All public payments should be underpinned by a strong regulatory floor and the application of the 'polluter pays' principle. All the more, all beneficiaries in receipt of public payments should be able to demonstrate compliance with standards established by EU and national legislation such as the Nitrates Directive.

4. Fair and transparent distribution of funding. The existing division between agriculture in old and new Member States must be abandoned. The distribution of funds should be questions of where benefits are being provided to the European Society, rather than based on historical entitlements. Farmers who contribute public goods should receive the same relative amount of compensation, only adjusted for differences in purchasing power, regardless of which part of Europe they operate in.

Rio + 20

WWF are in the process of developing food related policy for Rio + 20 (Jan 12). Please contact Lucy Young for more information/ updates.

Why is WWF-UK concerned with this issue?

WWF's mission is to stop the degradation of the planet's natural environments and to build a future in which humans live in harmony with nature by: conserving biodiversity; ensuring the sustainable use of renewable resources; and reducing pollution and wasteful consumption. As discussed in this position paper, the transition to a more sustainable food system will be central to the achievement of this mission.

We recognise there is much debate about food in the UK. While much of it is focused on issues that are important in their own context, a great deal does not address the big issues of the day. With One Planet Food we can make a valuable and high profile contribution by focussing on the relationships between the food system, the global environment and biodiversity. We will link the protection of the environment and biodiversity with the need to improve human wellbeing and health. A focus on these issues will reduce UK food-related impacts on the environment.

We recognise that these issues are important in their own right and will be part of a larger vision for a sustainable food system but what really matters is a more equitable food distribution system within environmental limits. This will require fostering sustainable consumption patterns, improving our governance and financial institutions, increasing the resource use efficiency of food production, increasing the efficiency of nutrient use in agricultural systems and reducing deforestation and other forms of land use change to agriculture.

Feedback

We are keen to receive your views and comments in response to this Policy Position Statement which we will be updating on a regular basis. There may also be gaps within the current position which we may not be aware of and which you may wish to highlight for any future review. Please click [here](#) to email your feedback. Please ensure you state which Policy Position Statement you are referring to.

Contact	Lucy Young
Email	lyoung@wwf.org.uk
Date	March 2012
Review date	March 2013