14

Exploring the international policy dimension of sustainability in Dutch agriculture

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rapporten

WOt
Wettelijke Onderzoekstaken Natuur & Milieu

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Exploring the international policy dimension of sustainability in Dutch agriculture

This report was produced in accordance with the Quality Manual of the Statutory Research Tasks Unit for Nature & the Environment

Dit rapport is gemaakt conform het Kwaliteitshandboek van de unit Wettelijke Onderzoekstaken Natuur & Milieu.

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Wageningen, augustus 2007

Abstract
Brouwer, F.M., H. Leneman & R.A. Groeneveld, 2007. *Exploring the international policy dimension of sustainability in Dutch agriculture.* Wageningen, Statutory Research Tasks Unit for Nature & the Environment. WOt-rapport 14. 90 p. 0 Fig.; 2 Tab.;29 Ref.; 3 Annexes

The report offers an overview of experiences in France and the United Kingdom as regards efforts to promote sustainability in agriculture. It also identifies international policy constraints on national efforts to promote sustainability. In addition, it explores opportunities for and threats to the promotion of sustainability, in the context of international trends (e.g. market conditions and changes in consumer demands). A series of considerations for policy making is presented, emphasising the contribution of policy making (at national and EU levels), in an effort to promote sustainability in agriculture.

Key words: Policy development, sustainable agriculture, environment, CAP, EU policy, indicators, France, Netherlands, United Kingdom

Referaat
Brouwer, F.M., H. Leneman & R.A. Groeneveld, 2007. *De internationale dimensie van het beleid voor duurzame landbouw in Nederland*. Wageningen, Wettelijke Onderzoekstaken Natuur & Milieu, WOt-rapport 14. 90 blz. 0 fig.; 2 tab.; 29 ref.; 3 bijl.

In dit rapport wordt een overzicht gegeven van de ervaringen die in Frankrijk en het Verenigd Koninkrijk zijn opgedaan met het bevorderen van duurzame landbouw. Tevens wordt bekeken welke beperkingen internationale beleidsregels opleggen aan nationale pogingen tot duurzaamheidsbevordering. Voorts wordt onderzocht welke mogelijkheden er zijn voor het bevorderen van duurzaamheid en welke factoren deze bedreigen, een en ander in het kader van internationale ontwikkelingen (zoals marktverhoudingen en veranderingen in het consumentengedrag). Het rapport presenteert een aantal overwegingen ten behoeve van beleidsvorming, waarbij de nadruk ligt op de bijdrage die beleidsvorming (op nationaal en Europees niveau) kan leveren aan de pogingen tot bevordering van duurzame landbouw.

Trefwoorden: Duurzame landbouw, Frankrijk, Nederland, Verenigd Koninkrijk, milieu, Gemeenschappelijk Landbouwbeleid, EU-beleid, indicatoren

ISSN 1871-028X

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Inhoud

Summary

Objective and context of the report

The main objective of the report is an improved understanding of the international policy dimension of sustainability in agriculture, and its relevance to the Netherlands. The report first offers an overview of experiences in France and the UK, countries which represent different political systems with divergent approaches to public-private co-operation, as well as different agricultural systems. The report also explores opportunities for and threats to the promotion of sustainability in agriculture, in the context of international trends (e.g. market conditions and changes in consumer demands). The report offers key lessons learnt from the international policy dimension of sustainability in agriculture. The report is based on a review of the literature and publications by national ministries, farmers' organisations and NGOs involved in the promotion of sustainable development, supplemented with a number of interviews.

Agriculture and sustainable development in the Netherlands, France and the UK

Three pillars of sustainable development are important: *Profit* (the economic domain), *People* (the social domain) and *Planet* (the ecological domain). In practice, there is no single view of the importance of the economic, ecological and social dimensions of sustainability. An important dimension of sustainability is food safety, a factor that is covered by public policy. Sustainability has only recently been adopted into the French policy debate. Since 2003, the national council on sustainable development (Conseil National du Développement Durable, CNDD) has adopted some guidelines on agriculture. The principal guideline focuses on the development of environmentally friendly agricultural practices, and promotes organic farming as well as 'Agriculture Raisonnée Respectueuse de l'Environnement'. The number of people living in a region is a key indication of its viability, and a major component on the social dimension of sustainability in agriculture. In the United Kingdom, farmers are seen as guardians of the landscape and the providers of public services, a view for which there seems to be broad consensus, among both public and government. In the context of sustainability in agriculture, there is some concern about the declining share of farming in rural areas, at a time when new businesses (e.g. small high-tech companies) are increasingly relocating to the rural countryside. Many rural communities are dependent on farming, for instance in mountain farming areas. As in France and the Netherlands, long-term viability of agriculture is critically affected by the age of farmers and the prospects for continuation of farming operations. There are serious concerns among the farming community about their international competitive position, and by far the most frequent request made by farmers is to stop imposing ever more rules on their operations. The farming sector in Britain also focuses on a level playing field.

The international dimension of agriculture and sustainable development

Agriculture is increasingly responding to society's demands regarding the production methods it applies. Such societal demands might be reflected by rules on the use of inputs, set either by the food processing industry and food retailers, or by government policies. Farmers currently respond to the rules set by retailers, including conditions for the use of pesticides. In the context of the EU's Common Agricultural Policy (CAP), cross-compliance is an instrument to reinforce legislative standards, and a basis to express the social responsibilities of the agricultural sector, which not only provides food but also has the supplementary task of managing the rural countryside. Cross-compliance is part of the process to integrate environmental, food safety, welfare and nature concerns in the CAP, but is essentially intended

to maintain the status quo, rather than to promote the provision of public goods beyond what is legally required. As a part of the first pillar of the CAP, it implies that direct payments can be partly withdrawn when farmers do not respect the requirements. Rather than giving positive signals to farmers, cross-compliance is an instrument to reverse farming practices that are harmful to the environment and nature.

Consumers in Europe have become more concerned about the quality of food products, but also about the production and processing methods applied on farms and at processing plants. Food retailers have become particularly concerned about the quality of fresh produce because they either sell top quality products under their private label or they advertise their company as being an environmentally conscious food supplier. Not only fresh produce like fruit and vegetables is increasingly sold under private label; chilled foods, ready-to-eat meals, prepared vegetables and fruit salads have also become popular products within the own-brand strategy. Private label products mean that retailers take responsibility for quality, because it is their brand that is at risk if quality flaws appear.

Opportunities for sustainability and international trends

Competition on the European and global markets

Production costs and quality of produce are key factors to compete on the international market, and the agricultural sector is searching for competitive advantages by reducing costs and/or increasing the quality of produce (which allows them to generate higher revenues or enter new markets). A focus on sustainability could provide competitive advantages relative to other producers who sell on the EU market, by targeting those consumers who are prepared to pay extra for food produced with more sustainable methods and/or for higher quality of the final product. Such a strategy seems to be most viable for niche markets and for sales within the EU. Efforts to promote sustainability in agriculture might be risky for bulk products that are largely traded on the world market, mainly because such commodities face strong price competition. Across the globe, there are many different views on sustainable agriculture, and more specifically on the people and planet dimensions. Selling food commodities on the world market that are promoted as products of sustainable agriculture could be complex.

Biodiversity is a global concern

Biodiversity values are affected by aspects of land and water use, environmental pressures and nature conservation measures. These four factors are affected by various land use functions, one of which is agriculture. Conservation of biodiversity values is a major global issue. Achieving sustainable management of biodiversity requires an integrated perspective on land use and water demand, as well as on carbon and nitrogen cycles. Such a perspective would also be vital for the ecological dimension of sustainable agriculture. Therefore, local action will be essential in sustaining the global environment, and public policies could stimulate the improvement of land management practices that strengthen biodiversity values.

Societal demand subject to change?

Consumers and civil society are vital to changes in agriculture, and the social dimension therefore has a major impact on the economic conditions and environmental constraints in sustainable development. The concept of 'license to produce' justifies the existence of the agricultural sector, from an internal and external point of view. It is a challenge for the sector to anticipate changes in society, which is necessary to keep their license to produce up to date. However, the social dimensions of sustainable development need to reduce any tensions between producers and consumers (relating to, e.g., food quality and food safety issues and animal welfare concerns), and they include value judgements regarding landscape values, intensity of farm production and the economic conditions of agriculture.

Concluding remarks

Differences across countries in their focus on the three dimensions of sustainable development (people, planet, profit) at least partly reflect cultural and historical differences regarding the role of agriculture in society. Agriculture and farmers play a special role in France, where a large proportion of the population identify with farmers' interests. Farmers are very much seen as the creators and protectors of the rural landscape. Great Britain has a modern and productive agricultural sector, with a particular policy interest in the countryside. In any case, the social and institutional dimensions of sustainability in agriculture are important for the viability of rural areas. Member States of the EU have to comply with Directives and Regulations. Although this means that rules may converge, it does not necessarily imply convergence of agricultural practices. Conditions (e.g. access to markets, production costs, innovative skills of entrepreneurs, but also ecological conditions and social dimensions) may differ, leaving individual farmers room for manoeuvre in their response to the challenges.

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Samenvatting

Doel en kader van dit rapport

Het rapport heeft voornamelijk ten doel een beter inzicht te bieden in de internationale dimensie van het beleid op het gebied van duurzame landbouw, en de relevantie daarvan voor Nederland. Het rapport begint met een overzicht van ervaringen op dit gebied in Frankrijk en het Verenigd Koninkrijk. Deze twee landen verschillen wat betreft hun politiek systeem en hun benadering van publiek-private samenwerking, maar ook wat betreft hun landbouwsysteem. In het rapport wordt ook gekeken naar de mogelijkheden voor het bevorderen van duurzame landbouw en de factoren die deze bedreigen, gezien tegen de achtergrond van internationale ontwikkelingen (zoals marktverhoudingen en veranderingen in het consumentengedrag). Belangrijke lessen die kunnen worden getrokken uit de internationale dimensie van het beleid op het gebeid van duurzame landbouw worden besproken. Het rapport is gebaseerd op een literatuuronderzoek en publicaties van de nationale ministeries, agrarische organisaties en NGO's die betrokken zijn bij de bevordering van duurzame ontwikkeling, aangevuld met een aantal interviews.

Landbouw en duurzame ontwikkeling in Nederland, Frankrijk en het Verenigd Koninkrijk

Duurzame ontwikkeling kent drie belangrijke pijlers, die bekend staan als *Profit* (het economische domein), *People* (het sociale domein) en *Planet* (het ecologische domein). In de praktijk bestaat er geen gemeenschappelijke visie op het belang van de economische, sociale en ecologische dimensies van duurzaamheid. Een belangrijke dimensie van duurzaamheid is voedselveiligheid, een aspect dat een onderwerp vormt van beleidsvorming door de overheid. Duurzaamheid heeft pas recentelijk een plaats gekregen in het Franse politieke debat. Sinds 2003 heeft de nationale raad op het gebied van duurzame ontwikkeling (Conseil National du Développement Durable, CNDD) enkele richtlijnen aangenomen op landbouwgebied. De voornaamste van deze richtlijnen richt zich op de ontwikkeling van milieuvriendelijke landbouwpraktijken, en is bedoeld ter bevordering van de ontwikkeling van biologische landbouw en 'Agriculture Raisonnée Respectueuse de l'Environnement'. Het aantal inwoners van een bepaalde streek is een belangrijke indicator voor de levensvatbaarheid, en tevens een belangrijke component van de sociale dimensie van duurzame landbouw. In het Verenigd Koninkrijk worden agrarische ondernemers gezien als hoeders van het landschap en leveranciers van publieke diensten, en hierover lijkt brede consensus te bestaan bij zowel het publiek als de overheid. In het kader van duurzame landbouw bestaat er enige zorg over het dalende aandeel van de landbouw in het landelijke gebied, nu steeds meer nieuwe bedrijven (zoals kleine high-tech bedrijven) zich vestigen op het platteland. In sommige streken, bijvoorbeeld bergachtige gebieden, is de lokale gemeenschap sterk afhankelijk van de landbouw. Net als in Frankrijk en Nederland wordt de toekomst van de landbouw op de langere termijn sterk bepaald door de leeftijdsopbouw van de boerenbevolking en de perspectieven voor voortzetting van het bedrijf. Binnen de agrarische gemeenschap bestaat grote bezorgdheid over de internationale concurrentiepositie, en algemeen wordt ervoor gepleit om op te houden met het opleggen van steeds meer beperkende regels aan boeren. De agrarische sector in het VK legt ook sterk de nadruk op het voorkomen van oneerlijke concurrentie.

De internationale dimensie van landbouw en duurzame ontwikkeling

De landbouw speelt steeds meer in op de eisen die de maatschappij stelt op het gebied van productiemethoden. Dergelijke maatschappelijke voorkeuren zouden kunnen worden weerspiegeld in regels voor het gebruik van inputs (zoals bestrijdingsmiddelen, nutriënten, machines), die kunnen worden opgesteld door de voedingsindustrie en de levensmiddelenhandel, of in overheidsbeleid. In de huidige situatie reageren agrarische ondernemers op de eisen die worden gesteld door de handel, waaronder ook voorwaarden voor pesticidengebruik. In het kader van het Gemeenschappelijk Landbouwbeleid van de EU (GLB) kan gebruik worden gemaakt van het instrument van de cross-compliance om wettelijke normen te versterken en om de maatschappelijke verantwoordelijkheid van de landbouwsector tot uiting te brengen, wat betreft de voedselproductie en wat betreft het beheren van het landschap in het buitengebied. Cross-compliance is een onderdeel van het proces waarmee aspecten van milieu, voedselveiligheid, welzijn en natuur kunnen worden geïntegreerd in het GLB, maar is in wezen bedoeld om de status quo te handhaven en niet ter bevordering van het leveren van publieke goederen voor zover dat niet door de wet wordt vereist. Als onderdeel van de eerste pijler van het GLB betekent het dat directe subsidies ten dele kunnen worden ingetrokken als boeren zich niet aan de eisen houden. Zodoende geeft cross-compliance geen positief signaal af aan boeren, maar is het een instrument waarmee landbouwpraktijken die schadelijk zijn voor milieu en natuur kunnen worden teruggedrongen.

De Europese consument is nu meer dan vroeger geïnteresseerd in de kwaliteit van voedingsproducten, maar ook in de kwaliteit van de productie- en verwerkingsmethoden die worden toegepast op boerderijen en in de verwerkende industrie. Met name de levensmiddelenhandel is zich bewust geworden van het belang van de kwaliteit van verse producten, wat zich uit in het verkopen van topkwaliteit onder het eigen merk of het opbouwen van een imago als milieubewust voedselproducent. Niet alleen verse producten als groente en fruit worden steeds vaker verkocht onder de eigen merknaam, maar ook gekoelde voedingswaren, kant-en-klaarmaaltijden, voorbewerkte groenten en fruitsalades zijn populaire producten in de strategie voor verkoop onder eigen merk. Bij producten die onder eigen merk worden verkocht is het de detailhandel die de verantwoordelijkheid neemt voor de kwaliteit, aangezien hun merknaam geschaad wordt als de kwaliteit tekortschiet.

Mogelijkheden voor duurzame landbouw en internationale ontwikkelingen

Concurrentie op de Europese en wereldmarkt

Productiekosten en productkwaliteit zijn essentiële factoren in de concurrentie op de internationale markt, en de landbouw tracht concurrentievoordeel te behalen door de kosten te verlagen en/of de kwaliteit van de producten te verhogen (waarmee de baten kunnen worden verhoogd of nieuw markten kunnen worden aangeboord). Door de nadruk te leggen op duurzaamheid zou een concurrentievoordeel kunnen worden behaald ten opzichte van andere producenten op de EU-markt, als men zich richt op die consumenten die bereid zijn extra te betalen voor voedsel dat is geproduceerd met meer duurzame methoden en/of voor eindproducten van hogere kwaliteit. Een dergelijke strategie lijkt de meeste kans van slagen te hebben op nichemarkten en voor de verkoop binnen de EU. Pogingen om duurzame landbouw te bevorderen kunnen meer risico opleveren als het gaat om bulkproducten die voornamelijk op de wereldmarkt worden verhandeld, aangezien daarvoor een felle prijsconcurrentie bestaat. Over de gehele wereld gezien lopen de opvattingen over duurzame landbouw, en met name over de dimensies People en Planet, sterk uiteen. Het verkopen op de wereldmarkt van voedingswaren die worden gepromoot als duurzame landbouwproducten kan daarom weleens een ingewikkelde aangelegenheid zijn.

Biodiversiteit: een kwestie van wereldwijd belang
Biodiversiteit wordt beïnvloed door aspecten van grondgebruik, water, milieudruk en natuurbehoud. Deze vier factoren worden op hun beurt beïnvloed door allerlei gebruiksfuncties, waarvan de landbouw er één is. Het behoud van biodiversiteit is van wereldwijd belang. Voor de realisatie van duurzaam beheer van biodiversiteit is een geïntegreerde visie nodig op grond- en watergebruik, alsmede op koolstof- en stikstofcycli. Een dergelijk perspectief is ook van vitaal belang voor de ecologische dimensie van duurzame landbouw. Daarom is lokaal handelen essentieel voor het behoud van het milieu in de wereld als geheel. Overheidsbeleid kan als stimulans dienen voor het verbeteren van grondgebruikspraktijken die de biodiversiteit versterken.

Veranderlijke maatschappelijke eisen?
De consument en maatschappelijke instellingen zijn van wezenlijk belang voor veranderingen in de landbouw, en de sociale dimensie heeft dan ook een grote impact op de economische voorwaarden en de milieu-eisen voor duurzame ontwikkeling. Het concept van een 'license to produce' ('recht op produceren') betekent een erkenning van het bestaansrecht van de landbouwsector, vanuit zowel intern als extern perspectief. Voor deze sector is het een uitdaging om te anticiperen op maatschappelijke veranderingen om zodoende dit recht op produceren up to date te houden. De sociale dimensies van duurzame ontwikkeling dienen echter de eventuele spanningen tussen producenten en consumenten (bijv. problemen op het gebied van voedselkwaliteit, voedselveiligheid en dierenwelzijn) te verminderen, en hiertoe behoren ook waardeoordelen aangaande landschapsaspecten, intensieve landbouwproductie en de economische voorwaarden voor de landbouw.

Conclusies

De verschillen tussen landen wat betreft de nadruk op elk van de drie dimensies van duurzame ontwikkeling (People, Planet en Profit) vormen ten minste gedeeltelijk een afspiegeling van culturele en historische verschillen aangaande de rol van de landbouw in de samenleving. Landbouw en de boerenstand spelen een belangrijke rol in Frankrijk, waar een groot deel van de bevolking zich identificeert met het lot van de boeren. Boeren worden er vooral gezien als degenen die het landschap in het landelijke gebied vorm geven en beschermen. Het Verenigd Koninkrijk kent een moderne en productieve landbouwsector, waarbij het beleid zich vooral richt op het platteland. In alle bekeken voorbeelden zijn de maatschappelijke en institutionele dimensies van duurzame landbouw van groot belang voor de levensvatbaarheid van het platteland. Lidstaten van de EU moeten zich tegenwoordig houden aan richtlijnen en regelingen. Hoewel hierdoor de regels in de verschillende landen meer op elkaar gaan lijken, betekent dit nog niet dat de landbouwpraktijken ook meer op elkaar gaan lijken. Doordat omstandigheden (b.v. wat betreft de toegang tot markten, productiekosten en innovatieve ondernemers, maar ook ecologische voorwaarden en sociale dimensies) verschillen, is er manoeuvreerruimte voor individuele ondernemers die hierop willen inspringen.

1 Introduction

Background to the report

Sustainable development is an explicit objective of the European Union (EU) as mentioned in the Amsterdam Treaty, and the integration of environment into EU policy sectors is required to all relevant sectors. This also applies to the agricultural sector, and numerous proposals are developed over the past couple of years to improve the role the Common Agricultural Policy (CAP) could play in delivering obligations on the environment and sustainability, including valued habitats and landscapes throughout Europe which are dependent for their survival on specialised systems of livestock farming and/or crop production systems. Proposals for reforming the CAP have been developed by a range of organisations, including public authorities, farming sector, as well as NGO (e.g. conservation, countryside and environment agencies). Such integration of environmental concerns in the CAP is considered vital in the attempt to promote sustainable use of natural resources. This is expressed in the Sixth Environmental Action Programme (CEC, 2001), and builds on the Cardiff process. The Sixth Environmental Action Programme recommends the full integration of environmental requirements into all Community policies, giving full consideration of all options and instruments, and extensive dialogue between the stakeholders involved and sound science. Implementation of the integration process takes place through Biodiversity Action Programmes and reforms of the CAP.

Nowadays, policy proposals made by the European Commission should be accompanied by an appraisal of their environmental impact. This principle recognises that environmental policy alone cannot achieve the environmental goals that are agreed in an attempt strengthening sustainable development in society. Clearly, European policies like the CAP need to be made more consistent with the requirements for environmental protection, social development and economic viability. One of the most significant changes over the past couple of years was the introduction of a system of decoupled payments that were made conditional on recipients meeting environmental, food safety, animal and plant health, animal welfare requirements as well as standards of good agricultural and environmental practices (cross-compliance). National efforts promoting sustainability in agriculture therefore may strongly depend upon decisions taken in the European Community.

National efforts that strengthen the contribution of agriculture to the broader objectives of sustainable development interact with international policy:

- First, the international policy context might impact sustainability in agriculture.
- Second, measures undertaken by Member States that aim to strengthen sustainability in agriculture may also improve their position on the export market.

The current report explores the international policy dimension of sustainable development, focussing on both of these areas of interest.

Objectives of the report

The main objective of this report is to improve the understanding of the international policy dimension of sustainability in agriculture, and its relevance for the Netherlands. It is exploratory in nature, and does not aim for an in-depth analysis of specific parts or for completeness.

The report first offers an overview of experiences in a selected number of countries on efforts undertaken to promote sustainability in agriculture (section 2). Two countries are chosen, i.e. France and the UK. The countries selected for this study reflect different political systems with divergent approaches of public-private co-operation. Also, they face different agricultural systems. Section 3 explores international policy constraints that are placed on national efforts to promote sustainability in agriculture. In addition, we will also explore opportunities and threats of promoting sustainability in agriculture, if considered in the context of international trends (e.g. market conditions, changes in consumer demands) (section 4). The section offers key lessons learnt from the international policy dimension of sustainability in agriculture.

The report is based on a review of literature and publications from national ministries, farmers' organisations and NGOs involved in the promotion of sustainable development, and complemented with interviews undertaken in the countries.

Relevance of the work

An examination of the international dimension of sustainability in agriculture is highly urgent. The sense of urgency is caused by two arguments:

- First, efforts promoting sustainability in agriculture in the Netherlands needs to be interpreted with a focus on the international policy agenda (e.g. CAP, WTO and other international agreements, with implications for the agricultural sector). The international policy agenda (e.g. liberalisation of agriculture and reform of agricultural policy) impacts agriculture in the Netherlands, but is sometimes ignored when options promoting sustainable development are explored. However, the achievement of sustainability at national level may largely depend on this agenda. Agriculture is strongly driven by market trends and policy rules that operate at the international level. The (Dutch) agrifood chain largely operates on the international market and such trends have major impacts on agriculture at (sub) national level. In addition, public policies also are driven at least in part by international trends. Important measures include reforming the CAP, to liberalise international trade (e.g. as part of the negotiations of the WTO), as well as measures to protect the environment, food safety, animal welfare and animal health. Such changes go beyond single countries and could largely shape farming practices in the years to come, putting constraints to farmers, increasing cost prices and possibly affecting competitive position. This is further explored in section 3 of the report.
- Second, efforts promoting sustainable development trends in agriculture might be important for marketing purposes. Therefore, opportunities and threats to promoting sustainability in agriculture need to be put in an international context. Efforts promoting sustainability in agriculture could also result in the exploration of new markets. This notion is part of section 4 of the report.

The above arguments may complement each other. Efforts to promote sustainability for marketing purposes may also respond to international agreements. However, the arguments may also depend on the type of agricultural products supplied on the markets. The report will conclude with a set of considerations for policy making. Here, emphasis is given to the contribution of policy making (at national and EU-level) in an effort to promote sustainability in agriculture.

2 Experiences in France and the UK to promote sustainability in agriculture

Efforts to promote sustainability in agriculture in France and the United Kingdom are examined, on the basis of interviews, a review of literature and investigations undertaken in these countries. Such a comparison with surrounding countries supports the identification of key messages on the international dimension of sustainability in agriculture. This section provides insight in the main features of agriculture and sustainable development in these two countries. The experience in these countries focuses on:

- What definition of sustainable agriculture is adopted?
- Who took the main initiative and who else is involved (policy, private organizations, NGOs and research organizations)?
- Does the approach have an international orientation (in terms of international trade, farm support measures, energy use and usage of compound feed or north-south relations)?
- What judgements are made regarding the economic, ecological and social dimensions of sustainability in agriculture? If so, how is it done and who are involved?
- What efforts are made by public authorities to promote sustainable agriculture?

In order to do so, some main features are first presented of sustainability in agriculture in the Netherlands.

2.1 The context of sustainability in agriculture in the Netherlands

A wide range of efforts is initiated in the Netherlands to promote sustainability in agriculture, and some of the main features are summarised in the following.

2.1.1 The broader perspective of sustainability in the Netherlands

Four policy areas are defined (VROM, 2000) that face severe environmental problems and are foreseen to be resolved only through major changes in society. So-called transitions are defined for energy, agriculture, mobility and biodiversity. Important links are established in the agriculture transition with biodiversity (interdependence of land-based farming and biodiversity values) and mobility (through international transport of commodities). The four transitions all aim reaching a common understanding of the problem among the stakeholders involved, and having identified a certain focus, and the international policy agenda is part of it. The achievement of such transitions is very much dependent on international changes (e.g. economic development, international trade or multilateral agreements).

This also applies to agriculture, and the trajectory on agriculture does focus on several topics, including vital countryside, sustainable cattle farming and horticulture under glass. Focus in the transition of biodiversity is given among others on agricultural biodiversity. It is generally acknowledged in this process that government does not have all relevant knowledge or competences to achieve such transitions towards sustainability. Other actors (including the business sector, knowledge centres and interest groups) also need to contribute to the process. Cooperation among these groups is considered vital to develop common visions among all stakeholders involved. Shared visions regarding the perception and understanding

of the problem is considered important. However, differences may arise on visions of the future, which could imply differences on actors' involvement.

Public policy put constraints on production (e.g. by legislation agreed and/or implemented at EU, national and regional level). In order to reduce competitive disadvantages due to higher costs, the level-playing-field (a working environment in which all companies in a given market must follow the same rules and are given an equal ability to compete) is an important condition for the Netherlands' government. Government aims to reduce comparative disadvantages (which essentially are seen as a task for public policy). In addition, comparative advantages are promoted (and this is seen as a primary task for the business sector).

2.1.2 Sustainability in the context of agriculture

Several features are considered crucial to the achievement of sustainability in agriculture, including innovations, a long-term vision with intergenerational perspective, and actions taken in a much shorter time horizon. Also, the role of entrepreneurs is important in their efforts to shape tomorrows' agriculture. There is no single objective for sustainability in agriculture and proper evaluation of the efforts taken and learning is considered essential, without having a blueprint of possible results. Failure is seen as a possible basis for improvements, exploring new transition pathways.

Numerous initiatives have been taken so far, also covering several policy areas (including rural development, sectoral policy, environment, animal welfare, food safety). Visions on sustainability in intensive production systems (with emphasis on production) may largely differ from sustainability in the context of agriculture in rural areas (with emphasis on a mixture of production with other functions in the rural countryside).

Public policies are available to stimulate innovations in agriculture, as well as knowledge development and training of students. Sustainable development is a key phenomenon in public policy. Public policies also seriously consider the logic of rules to stimulate sustainability in agriculture. This also requires investigations to prevent rules that are internally conflicting and congruence of public policy is essential. In addition, transaction costs are vital and public policy aims to reduce the number of administrative rules for entrepreneurs by at least 25% over a period of time (e.g. Dienst Regelingen, 2004). These issues are addressed by the Ministry of Agriculture, both nationally and internationally. More recently, this is also reflected by discussions in the Agricultural Council to simplify the CAP.

Three pillars of sustainable development are important, covering three domains of sustainable development: Profit (economic domain), People (social domain) and Planet (ecologic domain). In practice, there is no unique vision on the importance of the economic, ecological and social dimensions of sustainability. The farm business sector puts economic conditions as core elements of the business, with concerns on the environment (that are increasingly seen as an economic factor) The economics of farming has gained momentum over the past couple of years because of the poor income conditions and poverty in agriculture being an issue of concern, including the decline in number of holdings and number of entrepreneurs. Different strategies might be adopted by farmers to respond to reduce cost prices, to collaborate with other primary holders or within the agrifood chain and to diversify their practices. Position of agriculture in society is changing. Food safety is an important dimension of sustainability, being a factor with public policy taking care of this issue.

2.2 France: sustainability is adopted only recently

2.2.1 Introduction

For long, intensification of production has been the mainstream model for French agriculture. In this context agricultural policy measures, extension services and research were in support of this main trend in French farming. Other types of farming (e.g. mountain farming and farming in remote areas like marshlands) were increasingly marginalised. Nowadays, the focus on the mainstream trends in agriculture has broadened. This is expressed by the efforts to promote organic farming and regional produce.

Sustainability is adopted only recently in the French policy debate. The national strategy on sustainable development (Conseil National du Développement Durable, CNDD) from 2003 has only adopted some guidelines on agriculture. The principle guideline does focus on the development of agricultural practices that are favourable to the environment, and organic farming is promoted as well as 'Agriculture Raisonnée Respectueuse de l'Environnement'. The number of people living in a region is a key indication on viability, and a main component on the social dimension of sustainability in agriculture.

France has a strong tradition of state involvement in agriculture and the agricultural sector is strongly administered. This is reflected by the Agriculture Raisonnée, aimed to standardise good agricultural practices. Regional and national committees are established to adapt national rules to local conditions with a view to test and improve them. A basic idea of Agriculture Raisonnée is to protect farmers against the consequences of contracts that are established between farmers and the agrifood sector (mainly retailers).

Agriculture Raisonnée is introduced to design a model to standardise good practices in agriculture. Almost 100 items are taken into account, and around 80 of them require farmers to respect the legal constraints, among others regarding environment, occupational health, and human and animal health issues. The approval system started during the first half of 2004 and by the middle of that year nearly 100 farmers were formally approved by the Ministry of Agriculture. Rather ambitious objectives are formulated: 50,000 farms should be approved in 2005. Eighty percent of all French farmers should qualify to meeting the requirements of Agriculture Raisonnée by the year 2008.

2.2.2 Initiatives taken by the Ministry of Agriculture: from territorial contracts to sustainable farm contracts

The French government has taken measures during the 1990s that aim at the multifunctional character of agriculture, the so-called farming territorial contract (Contrat Territorial d'Exploitation or CTE). It builds on agri-environmental measures that were implemented with the MacSharry reform of 1992 (with higher payments than those to agri-environmental programmes). It essentially includes a contract between farmers and state (through the local authorities on behalf of the Ministry of Agriculture, i.e. prefecture), aiming to shift agriculture towards practices that strengthen the multiple functions supported by farming. Such a contract is supposed to take into account production, environmental constraints and social conditions (e.g. labour conditions and efforts to promote viable rural areas). CTE is a single policy with multiple objectives:

- to maintain an agricultural sector with many farmers;
- to promote quality products and environmental services;
- to place farmers in the centre of an integrated rural policy;

- to transfer a significant part of the public support from large specialised farms towards labour intensive multifunctional farms.

Within the five year contract, the farmer is given the possibility to choose to submit either an individual or a collective project. Each CTE includes two different sections:
- the 'economic and relating to employment' section dealing with socio-economic aspects;
- the territorial and environmental section.

The social dimension of CTE regarding employment and the viability of rural areas were largely ignored by public authorities and no ceiling was introduced in the system to the upper level of compensatory payments. As a result farmers could be eligible for up to 50,000 Euro. The policy objectives are to maintain an agricultural sector with many farmers, to place the farmers in the centre of an integrated rural policy and to transfer significant parts of CAP support from large specialised farms towards holdings that strengthen multifunctionality. CTE has been signed for a period of 5 years, and they remain to be the main tool to implement the Rural Development Regulation. CTEs were rather highly appreciated by farmers, but there was scepticism on the environmental potential of the scheme (Simpson, 2005). Following an evaluation in 2002, the implementation of the CTE scheme was suspended. However, the CTE entered into the Contrat d'Agriculture Durable, CAD (Sustainable Farm Contract). Under this new scheme, farmers have the option to formalise the contract on the environmental part only, or on a mixture of economic and environmental measures. There is a ceiling on the annual payment of 37,000 Euro per holding. Also, contracts will be limited to an average maximum per region of 27,000 Euro per holding over 5 years. Essentially, the CADs aim to be better focussed on the environment, having clearer priorities that are linked to the priorities in each region, enabling better budget control and a fairer spread of support between holdings (Simpson, 2005). CAD aims at presenting a more territorially focussed approach with priority stakes defined at the territorial level and a limited number of measures. The procedures are also simplified.

The main policy perspective on sustainable agriculture is to support practices that improve the economic viability of agriculture. Quality produce – with agriculture having a firm economic basis – is linked to the social dimension of sustainability. A main criterion is that a sufficient number of people, both farmers and other inhabitants, should be in the position to sustain viability of such a region. In doing so, the social dimension of sustainability is interlinked with economic viability. Although the economic dimension seems to dominate, the environmental dimension is respected as well.

Except for CAD, the concept of sustainable agriculture is not yet implemented in France. Essentially, the meaning of sustainable agriculture is not clearly understood, and the main question is how to manage diversity in agriculture. In response, there is a tendency to privatise innovations with farmers seeking for niche markets.

2.2.3 L'appellation d'Origine Contrôlée (AOC) to promote products on the international market

AOC is an attempt to focus on quality produce in agriculture. It is recognised by consumers through a label. The environmental dimension of sustainable development is hardly addressed. However, it is very much based on the economic and social dimensions of sustainable development, focussing on the economic viability of agriculture, as well as the social dimension through employment in agriculture.

AOC was introduced in the 1940s to respond to increasing global competition on wine. A territory of origin is specified for such products and a commercial value is added through the designation of such a region. It tends to be higher priced than standardised products supplied on the world market. The approach is similar to the supply of organic food, which is however not territorially related. It does not include environmental restrictions and the social dimensions to a limited extent only. It includes production constraints on land management practices.

AOC is seen by the sector as an approach to respond to international competition, mainly in the field of wine, milk and cheese. AOC is often judged as a main option to maintain farming in a region, and therefore largely interpreted as the social dimension of sustainability. Also, farmers increasingly also prefer a way of living that allows for leisure activities. Especially in mountain regions, AOC allows to combine economic and social dimensions of sustainability. Recently, farmers also increasingly suffer from new emerging markets in wine production (e.g. Australia, Latin America and the USA). AOC covers only 4-5% of total milk production, but it is important for cheese because of its role in international trade, but a considerable part of cheese is produced under AOC, largely in mountain areas (e.g. Roquefort in remote areas of France, Camembert in Bretagne). Also, there is concern among producers that CAP reform and measures to liberalise international trade will reduce gross margins in agriculture. CAP reform does not have direct effects on AOC.

2.2.4 Two approaches for sustainability in agriculture

Two approaches are presented that incorporate sustainability in agriculture. The CTE (that was replaced by the Sustainable Farm Contract, CAD) include a contract between farmers and state to adopt more sustainable farming practices. In addition, the AOC is an attempt of the agricultural business sector to seek for the designation of products that add a value to produce from a region. It is a private initiative that is overlooked by public authorities. Both approaches seek for strategies to strengthen viability of agriculture, also considering the social dimensions of sustainable development.

2.3 United Kingdom: many actors involved in promoting sustainable agriculture

2.3.1 Introduction

In the United Kingdom (UK) farmers are seen as guardians of the landscape and the providers of public services. There seems to be broad consensus on this view, both by the public and government. In the context of sustainability in agriculture, there is some concern on the declining share of farming in rural areas, at a time when new businesses (e.g. small high-tech companies) increasingly move into the rural countryside. Such changes in the rural countryside may largely change rural areas in the coming decade. Many rural communities are dependent on farming in some areas, among others in mountain farming areas. Relative to other countries, the Department for Environment, Food and Rural Affairs (DEFRA) is in a unique position with agriculture and environment to be placed in the same department.

Similar to France and the Netherlands, long-term viability of agriculture is critically affected by the age of farmers and the perspective for continuation of farming. There is serious concern by the farming community on the international competitive position and the overwhelming argument provided by farmers is to stop adding more rules on their practice. The farming sector in Britain also aims to focus on the level playing field. There is concern by the farming

community on the implementation of the EU Water Framework Directive, and the possible high costs involved for meeting its requirements. Specific products like organic produce and regional products are not seen as the main trend for the future. The Sustainable Development Strategy is currently being reshaped, essentially aiming to develop a toolkit for sustainable development. Focus is also on sustainable land use, and critical to the achievement is how environmental targets are delivered in agriculture.

Public authorities are keen to make operational the degree of integration of the environment in agricultural practices. Rather than developing a set of indicators of sustainability that lack data, emphasis is given to indicators that can be operationalised. Measures on rarity of flora and fauna were designed, and gradually moved into the establishment of management agreements. The importance of this trend is also reflected since 'agricultural birds' is a key indicator of DEFRA in their attempt to operationalise sustainability. It was chosen because it is perceived as a good measure of sustainability in agriculture. Birds are sensitive indicators of the health of the environment and sustainability, being responsive to change, high in food chains, inexpensive to survey and widely known component of Europe's wildlife (RSPB, 2003). Populations of farmland birds have nearly halved since the late 1970s, and modern farm management practices have contributed to the decline. The index of farmland birds stabilised since the mid 1990s.

2.3.2 Efforts taken by food-processing industry

Food-processing industry depends on the availability of resources from land and water. Pressures on ecosystems may pose a risk to the long-term supply of raw materials for food suppliers. One of the main food-processing industries in the world – Unilever – began an initiative in 1998 to address some of the main pressures facing agriculture. The initiative has a global perspective, focussing on the main regions across the globe where the company operates, and aiming to ensure the availability of key crops by defining and adopting sustainable agriculture practices in the supply chain. Together with external stakeholders the following definition of sustainable agriculture was adopted:

> 'Sustainable agriculture is productive, competitive and efficient while at the same time protecting and improving the natural environment and conditions of the local communities'.

The involvement of stakeholders is an important part of the approach to develop market mechanisms. Unilever has established a Forum for Sustainable Farming in the south-western part of the country (e.g. land futures project) and a farm network in England and Wales. There are three sustainability initiatives to respond to the business priorities:

- Fish, with a Marine Stewardship Council that is formulated with WWF to purchase only sustainable fish from 2005 onwards;
- Water, with Unilever being a sponsor of Living Lakes, an undertaking to reduce business impacts on water;
- Agriculture. Sustainable agriculture standards are developed for key crops, based on working with external stakeholders to promote sustainable agriculture standards around the world.

A factor critical on the success of the company is the institutional setting of the societies in which the business operates. In order to secure future supply of raw material, there is an attempt by food-processing industry also to focus on the long-term development of a region. Five key crops are identified for further elaboration, including peas, spinach, oil palm, tea and tomatoes. Guidelines on Good Agricultural Practice are developed for the cultivation of each of

these crops and stakeholders and opinion leaders have participated in this effort, and published on www.growingforthefuture.com. Essentially, stakeholders are engaged at every phase. Ten indicators are developed to monitor progress on achieving sustainable agriculture:

1. Soil fertility and health
2. Soil loss
3. Nutrients
4. Pest management
5. Biodiversity
6. Product value
7. Energy
8. Water
9. Social/human capital
10. Local economy

Data are collected for all indicators and published on www.growingforthefuture.com. In 2002, the Sustainable Agriculture Initiative (SAI) Platform was launched by Unilever, Nestlé and Danone (www.saiplatform.org). The objective of this partnership is to promote implementation of standards for sustainable agriculture, contribute to the development of sustainable practices, support other research programmes in this area and communicate key stakeholders and consumers about this work.

Indicators are important tools to provide evidence on improvements achieved in production methods. Stakeholder engagement (private industry co-operating with public authorities, extension service, NGOs and experts) is considered vital to the success of implementing sustainable practices. The Sustainable Agriculture Initiative has projects on tea, vegetables, palm oil and tomatoes. Projects on vegetables focus on peas (UK) and spinach (Germany and Italy) and focus on stakeholder engagement and consultation through national research institutes and universities, as well as national NGOs and farmer groups. Similarly, the tomatoes projects in Europe focus on Greece (starting in 2003). The vegetables project (peas in the UK and spinach in Germany and Italy) has a monitoring system in place since 1998. It includes stakeholder engagement and consultation of the national research institutes, universities, national NGOs (e.g. Forum for the Future) and farmer groups. The tomatoes projects (that are operational in Australia, Brazil, USA and Greece) also has monitoring systems in place, as well as stakeholder engagement and consultation by international research institutes, government research boards, industry groups, universities and NGOs.

2.3.3 Local initiatives delivering viable rural areas

Forum for the Future is a charity that mainly operates in partnership with others. The so-called Rural Economy Programme was set in 2001 to build on the special role agriculture is playing with land being the capital asset of the rural economy. Farmers remain as food producers, with additional services provided through carbon sequestration, biodiversity enhancement and the production of bio-energy. Such initiatives are supported by the involvement of public authorities (e.g. DEFRA), farmers and food processors (e.g. Unilever). Three projects are part of the Rural Economy Programme:

1. The Forum Farm Network – using detailed sustainability appraisals of UK farming businesses to assess how farmers and landowners can derive sustainable livelihoods;
2. Landcare South West – a regionally based initiative investigating what a sustainable approach to land use management may actually mean in practice at the regional level and working with partners and key delivery agents within the South West to realise it;

3. Farm Waste UK – developing an organisational level mass balance/resource flow accounting tool for application at the farm level. Focus is on the management of farm waste.

The Forum has defined a Five Capitals Model that is considered vital for the viability in the long-rum, including:
- Natural capital;
- Human capital;
- Social capital;
- Manufactured capital;
- Financial capital.

Here, natural capital and human capital are the main sources of wealth, with the others (finances, institutions and machinery) to result from these two primary sources of wealth (Forum for the Future, 2003). This organisation views land as the capital asset of the rural economy, and farmers could deliver more than the supply of food. Other services include carbon sequestration, biodiversity and bio-energy.

2.4 Conclusions

In France, sustainable agriculture is a relatively new concept, largely initiated by public authorities. The country has a strong tradition of state involvement in agriculture, and the agricultural sector is administered by public authorities with limited focus on liberalisation of the market conditions. Sustainable agriculture aims to strengthen the economic viability of agriculture. In doing so, the social dimension of sustainability is interlinked with economic viability.

In the UK, stakeholder engagement (private industry co-operating with public authorities, extension service, NGOs and experts) is considered vital to the success of implementing sustainable practices. Economic factors are considered critical in achieving sustainable agriculture; socio-cultural factors are vital in understanding consumer behaviour, cultural dimensions of agriculture, food and the farming community.

3 National efforts promoting sustainability in agriculture in the European Union

National efforts to stimulate sustainable farming practices need to be seen in the context of international trends. Such international trends interact with national efforts of promoting sustainable development in agriculture. A transition strengthening sustainability in agriculture needs to seen in the context of changes in the CAP, liberalisation of world trade and the agrifood chain that operates on the international market. This contribution essentially aims to identify key trends beyond single countries that could largely shape sustainable practices in the years to come.

3.1 Main trends in European agricultural policy and markets

Two dominant trends in current farming practices are i) intensification, concentration and specialisation in some areas, and ii) marginalisation and abandonment in others. They both involve a move away from traditional forms of low-input, labour-intensive crop and livestock production, which have characterised most of Europe for many centuries. Efforts that stimulate sustainable practices in agriculture need to be placed in that context:

First, *intensification and specialisation* involves the development of capital-intensive and geographically specialised farming, which is mainly observed in regions where agriculture is most productive. Competitive advantages may arise in some regions near to consumer markets. Other main drivers could include better biophysical conditions, more rationalised farm structures, and the integration of primary production with food processing industries and well developed farm extension services. Here, sustainable farming practices emerge to better respond to changes in consumer demand (in terms of quality and diversity of food) and meeting environmental constraints. Ambitions for sustainable agriculture are linked to the long-term economic viability of agriculture and strengthening the competitive position on export markets.

Second, *marginalisation and large-scale abandonment* of agricultural land tends to occur in remote areas with unfavourable economic or social conditions, or on less fertile land where traditional extensive agriculture is threatened by its inability to compete effectively with intensive production in other regions. Abandonment, degradation and economic decline currently threaten the extreme north and south of Europe (but also the central part of Europe), where harsh natural conditions, poor soils, long distances to markets or poorly developed infrastructures increase the costs of agricultural production and rural populations show a declining trend. Ambitions for sustainable agriculture could be linked to strengthen multifunctionality in an effort to cope with marginalisation in agriculture.

Societal debate on nitrates and pesticides in water that started in the 1980s has given incentives to better control the environmental effects of farming practices, especially in regions in the EU with intensive farming practices. Since then, the interest moved towards a more targeted and rationalised use of inputs. Mandatory measures are introduced to enhance farm management practices that better respect the environment. More recently, environmental quality measures are linked with food safety aspects.

The farming community increasingly responds to the societal demands regarding production methods applied in European agriculture. Such societal demands might be reflected by rules

on the use of inputs, put either by food processing industry and food retailers, or by public policies. Farmers currently respond to the rules put by retailers, including conditions regarding the use of pesticides. Codes of Good Agricultural Practice are important in the attempt to clarify the responsibilities in managing environmental resources by farmers. This is important since European agriculture is an important producer of food in the world.

3.2 The CAP and sustainable agriculture

The ambition of European agricultural policy, as expressed with the reforms of the CAP over the past years, is to enhance a sustainable and viable agricultural sector. This is supported by policies, which acknowledge the wide diversity of farming systems. Market and price support measures for dairy products, beef, sheep and cereals are important to provide incentives for sustainability in agriculture.

In addition, the public increasingly demands healthy and safe food. The agrifood sector plays a vital role in the attempt to meet environmental requirements, to produce safe food and to improve animal welfare as well as human and animal health. Retailers and food processing industry, for example, are demanding better and audited farming systems in response to changed consumer demands. In doing so, they promote sustainable practices in agriculture. Therefore, agriculture must respond to and work with others in the agrifood chain. Public-private partnerships may be the way forward for meeting societal demands to the agricultural sector. The incorporation of environmental concerns in marketing strategies from retailers could change farming practices and also contribute to reduce efforts needed for meeting public policy objectives.

Cross compliance is an instrument to reinforce legislative standards related to environment, nature and landscape. It is a basis to express social responsibility of the agricultural sector that provides food and has a supplementary role to manage the rural countryside. Cross compliance is part of the process to integrate environmental, food safety, welfare and nature concerns in the CAP, but is essentially meant to maintain the status quo and not meant to promote the provision of public goods beyond what is legally required. Being part of the first pillar of the CAP, it implies direct payments might be withdrawn in part when farmers do not respect the requirements. Of the 19 pieces of legislation, five are environmental and have been applicable since 2005, including the Birds and Habitats Directives. Rather than giving positive signals to farmers, cross compliance is an instrument suitable to reverse farming practices that are harmful for the environment and nature.

3.3 The agrifood sector and sustainable agriculture

Major structural changes are taking place in the European agrifood sector. Processes of concentration and internationalisation have given food retailers substantial market power vis-à-vis their suppliers. This in turn has triggered a process of consolidation among food processing industry, wholesalers and even farmers. All firms participating in a production and distribution chain for agricultural and food products – farmers, processing industry, wholesalers and retailers – are increasingly working together to gain efficiencies in logistics and information exchange and to set up quality monitoring and control systems throughout the food chain.

Consumers in Europe have become more concerned about the quality of food products, but also about the quality of production and processing methods applied on the farm and in the manufacturing plant. Such consumer concerns relate to food safety and quality, environmental

sustainability and ethically appropriate methods of production. As a result, farmers, food processing industry and retailers have initiated efforts to guarantee safe products produced in a sustainable way. The environmental issue has even become part of the competition strategy of farmers, food processing industry and retailers.

Food retailers have become particularly concerned about the quality of fresh produce because they either sell top quality products under private label or they advertise their company as being an environmentally conscious food supplier. Not only fresh produce like fruit and vegetables are increasingly sold under private label, also chilled foods, ready-to-eat meals, prepared vegetables and fruit salads are popular products within the own-brand strategy. For private label products, retailers take responsibility for quality, because it is their brand that is at risk if quality flaws appear.

These structural changes in food processing and in food retailing lead to more elaborate quality control systems throughout the whole agrifood chain. Quality control at the point of purchase is no longer sufficient, as some quality characteristics cannot easily be measured and as the cultivation methods used on the farm have become part of the quality characteristics of the final product. Food processing industry and retailers set strict requirements for sustainable cultivation practices by their suppliers. Quality monitoring and control systems also give food processing industry and retailers more insight in the primary production parameters, and thus more options for (re) directing cultivation decisions. Once measurable sustainable agriculture indicators have been established, it becomes possible to select and reward suppliers on the basis of their score on these indicators.
Food processors that largely supply frozen food differ from the retail sector focussing on the supply of fresh food. Differences among them are important in the context of the report.

- Global versus regional operations. Food processors tend to focus on sustainability throughout the food chain and establish contracts with farmers throughout the globe. In contrast, the retail sector is very much dependent on quality, food safety and freshness of food supplied. In order to meet such demand, they tend to establish contracts with farmers in a country they operate (where relevant with surrounding countries as well).
- Long-term perspective on sustainability (by food processors) versus quality and freshness of retailers.
- Gradual changes and improvements over time (e.g. regarding social capital and regional cohesion) are promoted by the food processors versus strict requirements regarding food safety matters in the retail sector.

Such differences also are a basis for different responses to the demand for sustainability in agriculture.

3.4 Indicators for the integration of environment in agriculture

Numerous efforts have been developed over the past decade to monitor progress on the integration of environmental concerns in agriculture. Criteria for choosing agri-environmental indicators (Commission of the European Communities, 2001) are:

- Policy relevance. Do they address the key environmental issues?
- Responsiveness. Are changes sufficiently quick in response to the action taken?
- Analytical soundness. Is the indicator based on sound scientific efforts?
- Measurability. Is operationalisation feasible in terms of data availability?
- Ease of interpretation. Does an indicator allow communicating a key message in a way that is easy to understand?
- Cost effectiveness. What are costs involved relative to the information derived.

In total 35 indicators are defined in the context of the IRENA Project (Indicator reporting on the integration of environmental concerns into agricultural policy). They are classified by the linkages to their linkage to the DPSIR (driving forces, pressure, state, impact, responses) framework and by specific theme.

Theme: Response by public policy (Response indicators)

Indicator 1: Area under agri-environment support
Indicator 2: Regional levels of good farming practice
Indicator 3: Regional levels for environmental targets
Indicator 4: Area under nature protection

Theme: Responses by market signals (Response indicators)

Indicator 5: Market signals: organic producer price premiums
Indicator 6: Technology and skills: holder's training level
Indicator 7: Area under organic farming

Theme: Input use as driving forces (Driving force indicators)

Indicator 8: Quantities of nitrogen and phosphate fertilisers used
Indicator 9: Consumption of pesticides
Indicator 10: Water use intensity
Indicator 11: Energy use

Theme: Land use as driving force (Driving force indicators)

Indicator 12: Land use: topological change
Indicator 13: Land use: cropping/livestock patterns

Theme: Management as driving force (Driving force indicators)

Indicator 14: Management practices

Theme: Trends as driving force (Driving force indicators)

Indicator 15: Trends: intensification, extensification
Indicator 16: Trends: specialisation, diversification
Indicator 17: Trends: marginalisation

Theme: Pressures (pollution) (Pressure indicators)

Indicator 18: Soil surface nutrient balance
Indicator 19: Methane emissions
Indicator 20: Pesticide soil contamination
Indicator 21: Water contamination

Theme: Pressures (resource depletion) (Pressure indicators)

Indicator 22: Ground water abstraction
Indicator 23: Soil erosion
Indicator 24: Land cover change
Indicator 25: Genetic diversity of species

Theme: Benefits (resource depletion) (Pressure indicators)

Indicator 26: Area of high nature value, grassland, etc.
Indicator 27: Production of renewable energy sources

Theme: State (biodiversity) (State indicator)

Indicator 28: Species richness

Theme: State (natural resources) (State indicators)

Indicator 29: Soil quality
Indicator 30: Nitrates/pesticides in water
Indicator 31: Groundwater levels
Indicator 32: Landscape state

Theme: Impact (habitats and biodiversity) (Impact indicators)

Indicator 33: Impact on habitats and biodiversity
Indicator 34: Share of agriculture in emission, nitrate contamination, water use

Theme: Impact (landscape diversity) (Impact indicator)

Indicator 35: Impact on landscape diversity

The indicators themselves do not directly link to specific environmental themes, but rather are aimed to reflect on the extent to which environmental concerns are integrated into the CAP. Indicators 8-11 specifically link to the control of agricultural pollution on nitrates, pesticides, water and emissions of greenhouse gases.

In addition, thirteen priority areas are defined by OECD, for which relevant indicators are being developed:

- nutrient use
- pesticide use
- water use
- land use and conservation
- soil quality
- water quality
- greenhouse gases
- biodiversity
- wildlife habitats
- landscape
- farm management
- farm financial resources
- socio-cultural issues.

The IRENA set of indicators aim to identify the key factors behind the environmental impacts of agriculture in the context of the European Union (EEA, 2006).

3.5 Implementing EU directives and regulations

European agriculture faces a myriad of measures that draw from EU legislation. The means to implement EU measures may differ largely from the type of policy instruments. In order to clarify this, we distinguish Directives that currently are operational and other policies that are initiated by the EU or other international bodies (e.g. agreements on greenhouse gas emissions and the protection of biodiversity). Council Directives with relevance to sustainable agriculture are presented in Annex 1. The directives focus on water, air and soil quality, animal health, animal welfare and food safety. When applicable, a timetable is presented and the key agricultural sectors that might be affected most are indicated. In some cases information has been added about the consequences for these sectors. This paragraph gives some general observations, resulting from the investigation. Two notions need to be taken into account:

- First, an examination of council directives might be insufficient to provide a clear picture on the consequences of EU measures and their teethes on agriculture. Regulations of the European Parliament and Council Decisions are relevant as well. Usually the latter have

more detail. Directives may largely differ in the level of detail, which is at least in part due to the fact that Member States can have a certain degree of freedom with regard to the way to implement them. An example is the Water Framework Directive. In contrast, directives that include measures to secure animal welfare tend to include very detailed measures that also are aimed at specific sectors. The available evidence from monitoring or research on the consequences of specific Directives for the farming sector remains poorly developed.

- Some directives are closely linked in terms of their impacts on agriculture. Among others, this is the case with the Nitrate Directive and the Water Framework Directive. However, the consequences of the latter for the agricultural sector across the EU may largely depend on the way it is implemented. But they both will mainly affect animal production. Another relationship is between Bird and Habitat directives, and the emission ceilings directives, through ammonia emission. Dutch government is preparing legislation to combine these two directives into spatial planning policy. For large farms, also the IPPC is included.

Policies that have been implemented enter a stage of monitoring and evaluation; this again can initiate amendments made and changes in the rules to be adopted. An example in the Dutch context is the Nitrate Directive. Evaluation of its implementation has caused several policy changes during the last decade. A major part of the current EU regulations in Annex 1 are aimed at a specific sector. This is likely to change in the future, at least for environmental regulation.

Additional EU regulations on environmental issues will result from seven thematic strategies, as mentioned in the Sixth Environmental Action Programme, including pesticide use, urban environment, natural resources, waste, soil, air quality and marine environment. The same applies to the implementation of policies on 'environment and health' and biodiversity. Taking a strategic approach means using a whole range of instruments and measures to influence decisions made by business, consumers, policy planners and citizens. It proposes five priority avenues of strategic action:

1. improving the implementation of existing legislation;
2. integrating environmental concerns into other policies;
3. working closer with the market;
4. empowering people as private citizens and helping them to change behaviour; and
5. taking account of the environment in land-use planning and management decisions.

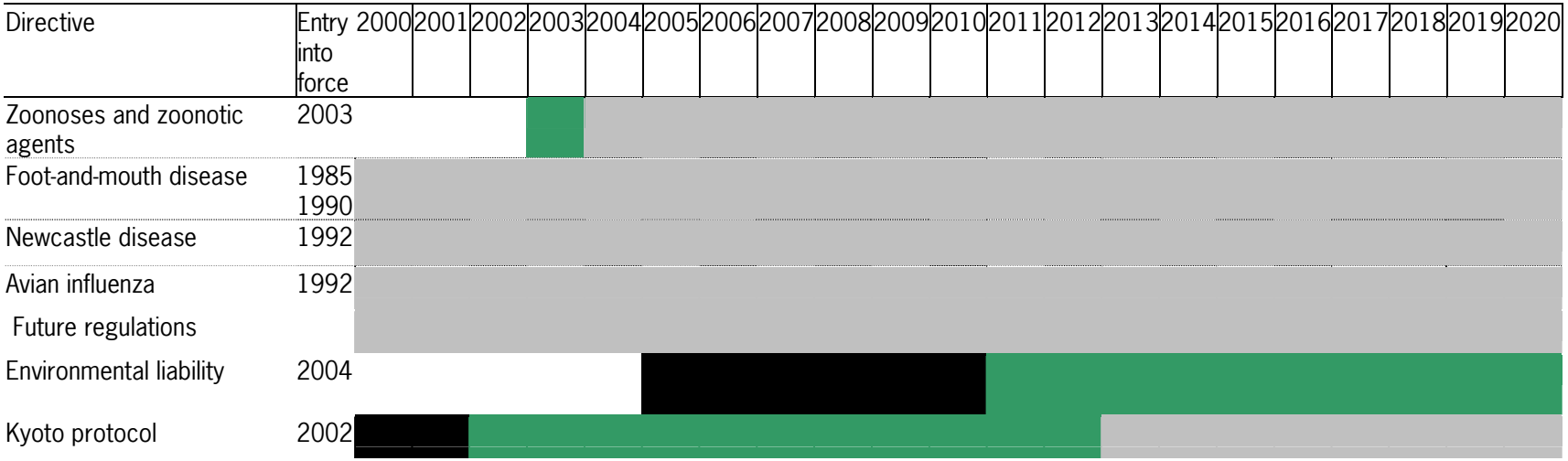
Specific action is proposed for each of these avenues. This fits into a general EU objective of enhancing non-legislative modes of governance and reducing and simplifying EU laws (RIVM, 2004).

A timetable visualizes the status and progress of implementation of several EU directives with impact on agriculture (Table 1). Three stages are distinguished:

1. Preparation, with gradual implementation in the next couple of years; implementation remains and the conditions that are put on the agricultural sector may tighten over time. This applies to the Water Framework directive, several directives on animal welfare, as well as rules regarding environmental liability.
2. Implementation of rules that may become stricter over time. Environmental legislation is at the stage of implementation for Green house gas emission trading, animal welfare and the implementation of the Kyoto protocol
3. Monitoring and evaluation which may still result in rule to tighten in case the original policy targets are not achieved by the instruments implemented so far.

Table 1 Timetable of EU directives relevant to agriculture for implementation by Member States

Directive	Entry into force	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Water Framework Directive	2000																					
GHG emission allowance trading	2003																					
IPPC	1996																					
Bird and habitat Directives	1979 1992																					
Plant protection products on the market	1991																					
National emission ceilings	2001																					
Hormones and beta-agonists	1996																					
Nitrates from agricultural sources	1991																					
Protection of pigs	1991 2001																					
Protection of calves	1991 1997																					
Protection of farming animals	1998																					
Protection of laying hens	1997																					
Protection of animals during transport	1998																					
Additives in Feedings-stuffs	1970																					
Animal products for consumption	2005																					


Directive
Entry into force
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Zoonoses and zoonotic agents
2003
Foot-and-mouth disease
1985
1990
Newcastle disease
1992
Avian influenza
1992
Future regulations
Environmental liability
2004
Kyoto protocol
2002
Preparation
Implementation
Monitoring and Evaluation

Some examples on the time table implementing Directives are presented in Table 2. It indicates the long period for implementation of policies in the coming years, and the various steps from preparation, implementation, monitoring and evaluation.

Table 2 Timetable[1] relevant to the implementation of the Water framework directive (WATER) and the Greenhouse Gas emission trading directive (GHG)

dd/mm/yyyy	What
22/12/2003	**WATER**: A competent authority will be designated for each of the river basin districts
31/12/2003	**GHG**: Notify provisions on rules and penalties to the Commission
31/12/2003	**GHG**: Bring into force laws, regulations and administrative provisions necessary to comply with this Directive
31/03/2004	**GHG**: Publish and notify national allocation plan to the Commission and to the other Member States
22/12/2004	**WATER**: Analysis of characteristics of each river basin district, review of impact of human activity, economic analysis of water use and register of areas requiring special protection.
2005	**GHG**: May under the same conditions apply emissions allowance trading to installations carrying out activities listed in Annex I below the capacity limits referred to in that Annex.
01/01/2005	**GHG**: Ensure that no installation undertakes any activity listed in Annex I resulting in emissions specified in relation to that activity unless its operator holds a permit
30/06/2005	**GHG**: Submit first report on the application of Directive to Commission.
22/12/2006	**WATER**: Monitoring programmes are operational
2008	**GHG**: May apply emission allowance trading in accordance with this Directive to activities, installations and greenhouse gases which are not listed in Annex I, provided that inclusion of such activities, installations and greenhouse gases is approved by the Commission
22/12/2009	**WATER**: Establish management plan and programme of measures produced for each river basin district
2010	**WATER**: Ensure that water pricing policies provide adequate incentives for users to use water resources efficiently and that the various economic sectors contribute to the recovery of the costs of water services
22/12/2011	**WATER**: Measures made operational
22/12/2015	**WATER**: Review and update programme of measures and river basin management plans
22/12/2015	**WATER**: Environmental objectives have to be achieved

3.6 Impact of international legislation on agriculture and sustainability

We will now elaborate possible impacts of the European measures on agriculture and sustainability. Emphasis is given to measures that are important for agriculture in the Netherlands. We do not claim to present a complete overview, as major gaps remain in our understanding on the consequences of the measures at sectoral level. Also, several directives have not been fully implemented in the Netherlands, or are still in discussion. Moreover, it is a difficult area, because empirical evidence remains limited.

[1] Only dates which require action from the member states

3.6.1 Accumulation of rules

Numerous measures that result from a wide diversity of Directives impact sustainability in agriculture, including Directives, as well as other international agreements, like the Kyoto-protocol. Farmers may face the accumulation of rules, which again may lead to a more than proportional increase in cost for farms or for society to comply unless benefits could be achieved in mutually agreeing with certain rules.

An example of accumulating rules can be found in the sandy areas in the Netherlands. In these areas regional spatial policy is aiming to combine implementation of the IPPC directive, regional ammonia policy and the implementation of the Bird and Habitat directives. Part of the plans is based on the 'Law on Reconstruction of the Concentration Areas' (2002). The plans provide for spatial partitioning of land-use functions. The proposed zoning is small-scaled; however, this type of zoning can be made more effective by choosing larger areas. Realizing fewer small-scaled nature areas in the National Ecological Network is a precondition (Van Wezel et al., 2004). Implementing this law might lead to relocation of farms. Vogelzang et al. (2005) estimated the number of farm relocations to be about 170 in the next few years. It is still uncertain what the actual number will be, due to farm factors and financial consequences.

On the other hand, an accumulation of rules can lead to less than proportional increase in costs ("kill two birds with one stone"). The nitrate directive and the Kyoto protocol are a good example. They are both aiming at reducing emissions of nitrogen-related gases. In the Netherlands the dairy sector, pig farms and poultry farms are facing costs in reducing nitrogen emissions to comply with the Nitrate directive. As a result, targets of the Kyoto protocol may be achieved at least in part when the required of the Nitrates Directive are met. The additional costs of reducing greenhouse gas emissions from land-based activities could be limited in case the requirements of the Nitrates Directive are met.

3.6.2 Implementation gap

Because of the number of rules and the differences in implementation a mismatch in time is possible. Such a mismatch can lead to disinvestments at farm level. The example of the EU water Framework directive and the Nitrate directive is suitable with respect to manure (i.e. nitrogen and phosphorus). It is still unclear which of these two directives will have the most far-reaching consequences for agriculture.

The Nitrate directive is being implemented at this moment. This directive has an effect on the dairy sector, pig farms and poultry farms, as well as on arable farms. Implementation will lead to lower incomes in all sectors (De Hoop et al., 2004). Moreover, the intensive livestock farming will have to decrease their number of animals to meet to the restrictions, as the costs will be too high to cope with the requirements of the directive. RIVM (2005) states that it is still unclear if this implementation will lead to the required groundwater quality in 2009.

Van der Bolt et al. (2003) have studied the implementation of the EU Water Framework directive. They conclude that its implementation can have huge consequences, as far as almost the disappearance of the dairy and arable farming systems. With regard to manure the main relevant sector is probably dairy farming. The impact on agriculture might vary per area due to spatial variance in water quality. More problems are expected in the lower part of the Netherlands than in the rest of the country. RIVM (2004) adds that the decision on the definitive goals will be made in 2009. It is obvious that the Netherlands do have a great economic interest in choosing the best possible way of implementation, from an agricultural point of view (CPB, 2004).

Another example of potential time inconsistency is the acidification policy of the EU, related to nature conservation. Hoogeveen et al. (2003) looked at the ammonia emissions from agriculture. They conclude that the Netherlands will be able to reach the limit (national ceiling) set by the EU for 2010, give the current situation and new policies to come. Costly additional measures at farm level (stables) are not necessary. RIVM (2005) states that new technical information might change this conclusion and that these measures could be necessary to comply with the 2010 limits. Furthermore, from an ecological point of view, ammonia emissions should decrease further to reach goals for nature protection (NMP4).

3.6.3 Impact on society

So far, we have only discussed aspects that are mainly relevant for the agricultural sector. However, some effects go beyond the agricultural sector, and address issues related to sustainable development at large. They are experienced by society as a whole. The foot and mouth-disease crisis in 2001, for example, has had such broader consequences. In veterinarian terms the size of the outbreak of foot and mouth disease in The Netherlands was small. However, its consequences in social, psychological and ethical terms were large, within the agricultural sector and in society as a whole (Huirne et al., 2002; Haaften and Kersten, 2002). The eradication measures (closing of areas, killing and slaughtering and destroying a large number of animals) caused commotion in society. These consequences gave cause to a new discussion on the EU policies to eradicate. In 2003 a new EU directive has been accepted and the initiator was the Netherlands.

Farming practices that contribute to the provision of public goods (e.g. nature management, access of land to the public, biodiversity values or landscape features) could be a basis to value societal interests in agriculture. New markets could be achieved, and numerous attempts have been developed during the past decade. Societal interests in the three countries examined in the report vary and public demands from agriculture differ as well.

3.7 Concluding remarks

The integration of public concerns (e.g. food safety, environment, animal welfare, climate change and biodiversity) in farming practices is a key phenomenon to promote sustainable agriculture. Efforts to promote such practices are taken by the agrifood sector as well as in public policies. They put constraints to farmers, increasing cost prices and possibly affecting competitive position. However, such efforts could also be an important area to explore new markets.

Nowadays, CAP promotes the integration with environment, and increasingly encourages the agricultural sector to respond to changes in public demand. The second pillar of the CAP promotes the transformation of agriculture into sustainable practices. Measures developed in the context of the Rural Development Programme (RDP), for example, embrace both farm and non-farm developments, as well as agri-environment measures. RDP aims to (1) support a viable and sustainable agriculture and forestry sector, (2) develop the territorial, economic and social conditions necessary for maintaining the rural population on the basis of a sustainable approach; and (3) maintain and improve the environment, the countryside and the natural heritage of rural areas.

The agrifood sector promotes uniform standards. Codes of Good Agricultural Practices, for example, are established by the agrifood sector (e.g. retailers and food processing industry through the market standards they introduce). Such Codes of Good Agricultural Practices that

are beyond legal standards reduce the possibility for compensatory measures from the CAP. Such Codes include measures to control the physical environment. In addition, economic and social indicators are included as well.

The interpretation of sustainable agriculture is perceived differently, but long-term economic viability seems to be a common thread through the various examples examined. The social, cultural and institutional dimensions also seem to be of considerable importance since they reflect the diversity of agriculture and the different approaches of involving partners in efforts for sustainable farming practices. The terminology of transitions for sustainable agriculture does not seem to be adopted widely. However, the long-term perspective of agriculture, managing the integration of economic ambitions, environmental constraints and social demands is a major concern to agriculture, at least in the developed countries. Agricultural sustainability could also be an option to farmers in developing countries. Pretty et al. (2003), for example, present empirical evidence on the adoption of more sustainable practices and technologies with substantial benefits for the local poor.

4 Opportunities of sustainability in agriculture in the context of international trends

This chapter explores opportunities and threats to promoting sustainability that is put in the context of international trends. In order to make this operational, a distinction is made to the three dimensions of sustainability (economics, ecology and socio-cultural). This distinction could help making sustainable development operational. The economic dimension of sustainable development is also integrated with ecological constraints and includes choices made by society on environmental quality. The three dimensions of sustainability include profit (e.g. market access), people (e.g. labour quality and interest of the consumers) and planet (e.g. phytosanitary measures).

4.1 Economics: competitiveness in the context of the European and global market

Competitiveness is a key phenomenon to understanding the economics of agriculture on the international market. The EU is the home market for Dutch agriculture and agribusiness. Around 80% of agricultural export is exported to other Member States of the EU (Berkhout and Van Bruchem, 2004), and there is increasing debate about import from emerging economies (e.g. Brazil). The agricultural sector seeks to respond to efforts promoting sustainability in agriculture throughout all Member States of the EU. Both market incentives and public policies promote such farming practices that meet changes in societal demand. As a result, sustainability in agricultural production could be improved, and this might benefit from reforms of the CAP and rural areas that transform into multifunctional areas. Nevertheless, products will have their main market within the EU.

Production costs and quality of produce are key criteria to compete on the international market, and agriculture searches for competitive advantages, either by reducing costs and/or increasing quality of produce (that allows generating higher revenues or enter new markets). A focus on sustainability in the Netherlands may offer new opportunities. It could provide competitive advantages relative to other producers, who sell in the EU market, by targeting at those consumers who are prepared to pay a bonus for food with more sustainable production methods and/or higher quality of the final product. Such a strategy seems to be most viable for niche markets and targeted on sales within the EU. Another opportunity might be knowledge-export of sustainable practices. Pretty (2002), for example, commented on new systems of sustainable development that offer new means to reduce dependency on externally derived goods with better connections to consumers.

Efforts to promote sustainability in agriculture might also be risky for bulk products that are largely traded on the world market. This is mainly because such commodities face strong competition of prices. Across the globe, there are many different views on sustainable agriculture, and more specifically on the dimensions people and planet. Selling food commodities on the world market, that are promoted as sustainable agriculture could be complex. “Profit” (e.g. price) will be more decisive than within the EU. This can be explained by differences related to both “people” and “planet” aspects. Different countries could have a wide range of views on labour conditions and on poverty (dimension people). Another example is the use of GMOs. The EU has only recently lifted a ban on the use on GMOs in food and

feed, whereas for example genetically modified soybeans have become widely accepted in Argentina and the USA (Wolf et al., 2003). Also, restrictions with respect to the environment differ from region to region (Brouwer et al., 2000). Non-food products like flowers and plants include specific areas of relevance to sustainability in agriculture.

4.2 Biodiversity: an issue of global concern

Biodiversity values are affected by land use, water, environmental pressures and nature conservation measures (RIVM/DLO, 1997). Different use functions act on those four factors; agriculture is one of these use functions. In most of the developed countries land use by agriculture tends to decline. In contrast, agricultural land use is increasing in Africa. Although both trends could be beneficial for the production of food and the viability of rural areas, they could also threaten biodiversity worldwide. Water use is increasing, partly due to the agricultural production, which accounts for 70 percent of the worldwide use. Global population is growing faster than the use of water and the available amount per capita has decreased.

Another important environmental issue is nitrogen (RIVM, 2004). Chemical fertilizers have contributed significantly to the rise in food production worldwide, but their use has cause environmental problems (acidification, eutrophication), directly related to nature and biodiversity losses. In conclusion, conservation of biodiversity values is a major global issue. In order to achieve a sustainable management of biodiversity values, an integrated view on land use and water demand, as well as on carbon and nitrogen cycles would be required. Such a perspective will also be vital for the ecological dimension of sustainable agriculture. Therefore, local action will be vital sustaining the global environment, and public policies could stimulate improving land management practices that strengthen biodiversity values.

In conclusion, the achievement of biodiversity policies very much depends on environmental issues, but also link to processes in water and land. Complex problems need to be made tangible towards a range of threats to the environment. Public awareness of biodiversity values might still be far behind the ecological threats that are signalled.

4.3 Societal demand is subject to change?

Consumers and civil society are vital to changes in agriculture, and the social dimension would therefore have major impact on the economic conditions and environmental constraints of sustainable development. A 'license to produce' is defined as 'the specifically stated conditions from outside and within agriculture, which determine the boundaries for agricultural activity'. So, the concept of license to produce indicates the existence right of the agricultural sector, from an internal and external point of view (Mureau, 2000; after definitions adopted from Shell).

Currently, grazing dairy cows in Dutch meadows are part of the license to produce in dairy farming. They can be considered an icon of rural (farming) life and the accompanying landscape. Citizens associate them with romantic impressions of agriculture. They consider it important for animal health and also landscape matters (Van den Pol-van Dasselaar et al., 2002). But it remains unknown how viable such systems are over time. Increasingly, dairy cows are kept inside the stables. This trend is mainly to further rationalise production and costs per unit of output. Rationalisation of production relates to structural changes in agriculture (larger holdings with more cows per farm and a reduction in the number of holdings), technological progress (milking robot) and environmental regulations (De Bont and

Van Everdingen, 2004). We see responses in society in some regions where a local premium if offered to the supply of milk from animals grazing outside (CONO kaasmakers, Beemster). Wakker Dier launched a campaign in which they asked municipalities to obligate local farmers to graze their cows. Civil servants tend to claim they are willing to pay a bonus for additional quality. However, the cooperatives find that usually the cheapest milk is best sold in the supermarket.

Question remains whether this discussion about grazing the cows is temporary or a permanent one. Will consumers accept the loss of such an icon? Fact is that other changes regarding our landscape have occurred during the last century. The adaptive capacity of citizens seems to be rather large. There is no guarantee that the next generation will have the same concerns about grazing cows. Preferences on sustainable production are subject to continuous change, and grazing cows might not remain part of the license to produce in the long run.

Can the agricultural sector benefit from this discussion on an international level? It remains uncertain whether such a license to produce could strengthen the agriculture sector by promoting recreational activities. Can they sell Grazing cows in Holland, like wooden shoes of tulips (Keukenhof and Koeienhof). This remains uncertain. A certain challenge is to anticipate on the changes in society, necessary to keep their license to produce op to date. However, the social dimensions of sustainable development need to safeguard any tensions between producers and consumers (e.g. food quality and food safety issues and animal welfare concerns), and they include value judgements regarding landscape values, intensity of farm production and the economic conditions of agriculture.

5 Concluding remarks

The report offers an inventory of key processes of change relating to the international dimension of agriculture in the context of sustainable development. Some concluding remarks result from the current status of work:

- Efforts promoting sustainability in agriculture are common throughout the world. However, the interpretation given to sustainability, and the emphasis towards their dimensions, may differ largely across countries. The three countries examined (France, UK and the Netherlands) already show the wide range of examples to focus on sustainability in agriculture. Many cases that are promoted by public policies tend to focus on a rural development perspective of sustainability and put in a regional context. Policies focus on the creation of regional markets, and public policies play a major role in the attempt for equal treatment and access to such markets (including both consumers and producers of food). Incentives throughout the agrifood chain seem to be rather crucial in the cases examined.

- Efforts promoting sustainable development are observed in the Netherlands, France and the UK. Although similar trends (initiatives are supported by farmers and other groups at local level) are observed, considerable differences may remain in terms of the interpretation of sustainable agriculture and the judgements made by society. Countries may put their own priorities in the triple P triangle (economy, ecology and social). The role of public policies is important in the attempts to the regional context of sustainable development. The Netherlands has an approach to facilitate sustainability in agriculture by taking care that societal interests are met. In contrast, a rather hierarchical approach is adopted in France, with a strong involvement by state, and an approach based on co-operation is adopted in the UK.

- Although European legislation puts considerable pressure on the farming community to meet legal requirements, environmental quality is not a topic that is central in the debate of sustainable agriculture in the UK and France. Of similar importance to the debate in the countries examined are economic conditions (e.g. economic viability of agriculture in the rural countryside) as part of the 'profit' dimension. Economic conditions are considered to be a basis that is critical in achieving sustainable agriculture. In addition, the social dimension of agriculture (e.g. employment in agriculture to maintain viability of rural areas) is a key area of policy and societal importance in France. Socio-cultural factors are vital in understanding consumer behaviour, cultural dimensions of agriculture, food and the farming community. The social dimension of sustainable agriculture has a range of interpretations, including viability of regions. Nature and landscape are main items in the UK. It remains uncertain to what extent such differences on the values of sustainable agriculture depend on the interpretation of the three dimensions (people, profit, and planet) by civil society, and the judgements made of the economic, ecological and socio-economic dimensions of sustainability.

- Public policies largely address planet and people dimensions of sustainable development. Recently, the Lisbon strategy (and the long-term economic viability of sectoral development) has gained importance, and this may reflect the increasing interest in the economic dimension of sustainable development.

- The majority of rules and decision making processes on the 'planet' dimension of sustainability depend on rules agreed in the EU. Public policies play a major role of agricultural products that are traded on the world market, largely through the development of a level-playing field in the area of environment, food safety and animal welfare. In addition, public policies could largely contribute to focus on innovations that either reduce costs or improve the quality of produce.

- Farmers need to respond to a vast number of requirements and rules, and they face a large number of Directives and regulations they need to implement in their practice. The European perspective gives incentives towards achieving a level playing field in Europe. There is some concern among policy makers about the accumulation of rules. Sustainability in agriculture is very important from an international policy perspective. The Water Framework Directive is considered a main threat to the farming community in the UK, and there is considerable pressure from farmers' organisations not to tighten constraints that are put on farming.

- A long-term perspective on the changes in agriculture seems to be hardly developed in the public policy debate. This is also an area of major importance for public policy since long-term ambitions need to be reflected in policy measures taken in the short- and long-term.

- Bottom-up approaches seem to be the motor to strengthen the rural countryside. Rural Development Programmes often complement such approaches, allowing for a mixture of public and private support programmes. Unilever for example, also contributes largely to support such initiatives that improve long-term viability of farming. Similarly, promoting quality of agricultural produce is important in the context of international trade facing global competition. AOC is adopted in France as a strategy to cope with global competition and improve the quality of wine and cheese. Efforts from Unilever are taken to secure the provision of resources for the food industry in the long run.

- Differences across countries in their focus on the three dimensions of sustainable development (people, planet, profit) at least in part reflect cultural and historical differences regarding the role of agriculture in society. Agriculture and the peasantry play a particular role in France, where a large share of the population identified themselves with the interest of the farmers. Farmers are largely seen as the creators and protectors of the rural landscape. In contrast, Great Britain has a modern and productive agricultural sector, with particular policy interest in the countryside. In all cases, the social and institutional dimensions of sustainability in agriculture are important through the viability of rural areas.

- Member States of the EU has to comply with Directives and Regulations (including CAP measures). Although rules may converge, this does not necessarily imply convergence of agricultural practices. Conditions differ (e.g. access to markets, production costs, innovative skills of entrepreneurs, but also ecological conditions and social dimensions), leaving rooms for manoeuvre for individual farmers to respond.

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Annex 1 Key features of Council Directives and the constraints they put on farming

Directives selected

Ch	Number	Directive	Theme
0	2000/60	Water Framework Directive	W
0	2003/87	GHG emission allowance trading	A
0	1996/61	IPPC	A/W/S
0	1979/409, 1992/43	Bird and habitat Directives	N
0	1991/414	Plant protection products on the market	S
0	2001/81	National emission ceilings	A
0	1996/22	Hormones and beta-agonists	H
0	1991/676	Nitrates from agricultural sources	W
0	1991/630, 2001/88, 2001/93	Protection of pigs	AW
0	1991/629, 1997/2	Protection of calves	AW
0	1998/58	Protection of farming animals	AW
0	1997/74	Protection of laying hens	AW
13	1998/58	Protection of animals during transport	AW
0	70/524	Additives in feeding-stuffs	H
0	2002/99	Animal products for consumption	H
0	2003/99	Zoonoses and zoonotic agents	H
0	1985/511, 1990/423	Foot-and-mouth disease	H
0	1992/66	Newcastle disease	H
0	1992/40	Avian influenza	H

W = Water; A = Air; S = Soil; N = Nature; AW = Animal welfare; H = human and animal health.

Water Framework Directive

Purpose

To establish a Community framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater, in order to prevent and reduce pollution, promote sustainable water use, protect the aquatic environment, improve the status of aquatic ecosystems and mitigate the effects of floods and droughts.

Restrictions

Under this Directive, Member States have to identify all the river basins lying within their national territory and assign them to individual river basin districts. River basins covering the territory of more than one Member State will be assigned to an international river basin district. By 22 December 2003 at the latest, a competent authority will be designated for each of the river basin districts.

At the latest, four years after the date of entry into force of this directive, Member States must complete an analysis of the characteristics of each river basin district, a review of the impact of human activity on the water, an economic analysis of water use and a register of areas requiring special protection. All bodies of water used for the abstraction of water intended for human consumption providing more than 10 m^3 a day as an average or serving more than 50 persons must be identified.

Nine years after the date of entry into force of the Directive, a management plan and programme of measures must be produced for each river basin district, taking account of the results of the analyses and studies provided for in point 2. The measures provided for in the river basin management plan seek to:

- prevent deterioration, enhance and restore bodies of surface water, achieve good chemical and ecological status of such water and reduce pollution from discharges and emissions of hazardous substances;
- protect, enhance and restore all bodies of groundwater, prevent the pollution and deterioration of groundwater, and ensure a balance between abstraction and recharge of groundwater;
- preserve protected areas.

The abovementioned objectives have to be achieved at the latest fifteen years after the date of entry into force of the Directive, but this deadline may be extended or relaxed, albeit under the conditions laid down by the Directive.

Temporary deterioration of bodies of water is not in breach of the requirements of this Directive if it is the result of circumstances which are exceptional or could not reasonably have been foreseen and which are due to an accident, natural cause or force majeure.

By 2010, Member States must ensure that water pricing policies provide adequate incentives for users to use water resources efficiently and that the various economic sectors contribute to the recovery of the costs of water services including those relating to the environment and resources.

The Commission submitted a list of priority substances selected amongst those which present a significant risk to or via the aquatic environment. Measures to control such substances, as well as quality standards applicable to concentrations thereof, will also be proposed. The aim

of such measures is to reduce, stop or eliminate discharges, emissions and losses of priority substances. This list forms Annex X to the present Directive.

The Directive lays down that Member States will determine penalties applicable to breaches of the provisions adopted which are effective, proportionate and dissuasive.

Time table

dd/mm/yyyy	What	Who
22/12/2000	Entry into force	-
22/12/2002	Publish a proposal with specific measures to prevent and control the pollution of groundwater.	Commission
22/12/2003	A competent authority will be designated for each of the river basin districts	Member states?
22/12/2004	Review the adopted list of priority substances	Commission
22/12/2004	Analysis of characteristics of each river basin district, review of impact of human activity, economic analysis of water use and register of areas requiring special protection.	Member states
22/12/2006	Monitoring programmes are operational	Member states
22/12/2007	Repeal Directives 75/440 and 79/869 and Decision 77/795	Commission?
22/12/2009	Establish management plan and programme of measures produced for each river basin district	Member states?
2010	Ensure that water pricing policies provide adequate incentives for users to use water resources efficiently and that the various economic sectors contribute to the recovery of the costs of water services	Member states
22/12/2011	Measures made operational	Member states
22/12/2012	Publish report on implementation of the Directive	Commission
22/12/2013	Repeal Directives 78/659, 79/923, 80/68, 76/464	Commission?
22/12/2015	Review and update programme of measures and river basin management plans	Member states?
22/12/2015	Environmental objectives have to be achieved	Member states
22/12/2018	Publish report on implementation of the Directive	Commission
22/12/2019	Review the Directive	Commission
22/12/2024 (etc)	Publish report on implementation of the Directive	Commission

Relevant sectors

With regard to manure the main relevant sector is probably cattle (dairy) farming (our interpretation). According to van der Bolt et al. (2003) the impact on agriculture might vary per area due to spatial variance in water quality. More problems are expected in the lower part of the Netherlands (van der Bolt et al., 2003) than in the rest of the country.

With regard to pesticides van der Bolt et al. (2003) only mentions potato growers and particular substances.

Consequences for agriculture

The objectives set out in the Water Framework Directive regard the quality of surface and groundwater, without explicitly mentioning sectors involved or means necessary to achieve the objectives. It is likely, however, that the objectives can only be met by reducing discharge and loss of manure, fertilizers and pesticides.

GHG emission allowance trading

Purpose

The purpose of the Directive is to establish a scheme for greenhouse gas emission allowance trading within the Community (hereinafter referred to as the 'Community scheme') in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner.

Restrictions

This Directive establishes a Community greenhouse gas emission trading scheme from 1 January 2005. In this context, "allowance" means the entitlement to emit a tonne of carbon dioxide or an amount of any other greenhouse gas with an equivalent global warming potential during a specified period. So far agriculture is not one of the targeted industries, although this might change in 2008 when Member states can apply the Directive to other sectors than those mentioned in the Directive.

With effect from 1 January 2005, all installations carrying out any of the activities listed in Annex I to this Directive (activities in the energy sector, iron and steel production and processing, the mineral industry and the wood pulp, paper and card industry) and emitting the specific greenhouse gases associated with that activity must be in possession of an appropriate permit issued by the competent authorities.

Each Member State will draw up a national plan complying with the criteria set out in Annex III to this Directive, indicating the allowances it intends to allocate for the relevant period and how it proposes to allocate them to each installation. The plans covering the initial three-year period specified in this Directive (1 January 2005 to 1 January 2008) should be published by 31 March 2004 at the latest, and those relating to subsequent periods should be published at least eighteen months before the beginning of the relevant period. When drawing up the plans, Member States should take due account of comments from the public. If a plan does not comply with the criteria in Article 10 or Annex III to this Directive, the Commission may reject it within three months of notification.

Time table

dd/mm/yyyy	What	Who
30/09/2003	Adopt guidelines for monitoring and reporting of emissions resulting from the activities listed in Annex I of greenhouse gases specified in relation to those activities	Commission
25/10/2003	Entry into force	-
31/12/2003	Notify provisions on rules and penalties to the Commission	Member states
31/12/2003	Develop guidance to describe the circumstances under which force majeure is demonstrated	Commission
31/12/2003	Bring into force laws, regulations and administrative provisions necessary to comply with this Directive	Member states
31/03/2004	Publish and notify national allocation plan to the Commission and to the other Member States	Member states
31/12/2004	May make a proposal to the European Parliament and the Council to amend Annex I to include other activities and emissions of other greenhouse gases listed in Annex II.	Commission
?/?/2005	May under the same conditions apply emissions allowance	Member states

dd/mm/yyyy	What	Who
	trading to installations carrying out activities listed in Annex I below the capacity limits referred to in that Annex.	
01/01/2005	Ensure that no installation undertakes any activity listed in Annex I resulting in emissions specified in relation to that activity unless its operator holds a permit	Member states
30/06/2005	Submit first report on the application of Directive to Commission.	Member states
30/06/2006	Submit report on application of Directive to EP	Commission
31/12/2007	End date of temporary exclusion of installations	-
?/?/2008	May apply emission allowance trading in accordance with this Directive to activities, installations and greenhouse gases which are not listed in Annex I, provided that inclusion of such activities, installations and greenhouse gases is approved by the Commission	Member states

Relevant sectors

So far agriculture is left out so far, but may be added in 2008. This Directive may particularly affect greenhouse horticulture (our interpretation).

Consequences for agriculture

Sectors added to the Directive (probably greenhouse horticulture, if any) will need a permit to undertake activities listed in the Directive. Because at least 90% of the permits allocated in 2008 must be allocated free of charge, it is unlikely that farmers have to buy the permits in the initial allocation. They may, however, have to buy additional permits, but they will also have the opportunity to sell them.

IPPC (Integrated Pollution Prevention and Control) Directive

Purpose

To prevent or minimise emissions to air, water and soil, as well as waste, from industrial and agricultural installations in the Community, with a view to achieving a high level of environmental protection.

Restrictions

This Directive defines the basic obligations to be met by all the industrial installations concerned, whether new or existing. These basic obligations cover a list of measures for tackling discharges into water, air and soil and for tackling waste, wastage of water and energy, and environmental accidents. They serve as the basis for drawing up operating licences or permits for the installations concerned. Accordingly, the Directive:

- lays down a procedure for applying for, issuing and updating operating permits;
- lays down minimum requirements to be included in any such permit (compliance with the basic obligations, emission limit values for pollutants, monitoring of discharges, minimisation of long-distance or transboundary pollution).

These permits must contain conditions based on best available techniques (BAT) as defined in the Article 2.11 of the Directive, to achieve a high level of protection of the environment as a whole.

Time table

dd/mm/yyyy	What	Who
30/10/1996	Entry into force	
30/10/2007	Repeal Directive 84/360	
30/10/1999	Adopt laws, regulations and administrative provisions necessary to comply with this Directive	Member states
30/10/2004	Take the necessary measures to ensure that the competent authorities see to it that existing installations operate in accordance with the requirements of Articles 3, 7, 9, 10, 13, the first and second indents of 14, and 15 (2)	Member states

Relevant sectors

According to the Directive installations for the intensive rearing of poultry or pigs with more than (a) 40 000 places for poultry; (b) 2 000 places for production pigs (over 30 kg), or (c) 750 places for sows.

Consequences for agriculture

The farms that fall under the IPPC Directive require a permit in order to undertake their activities. By these permits, the farms are obliged to apply the technologies laid down in the BAT (Best Available Technology) References (BREFS) (source: www.infomil.nl, not clear whether this is in the Directive, subsequent EC communications or national law).

Bird and Habitat Directives

Purpose

The Birds Directive relates to the conservation of all species of naturally occurring birds in the wild state in the European territory of the member states to which the treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation. The aim of the Habitats Directive is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.

Restrictions

The Habitats and Birds Directives have in common the establishment of protected areas that serve as habitat to endangered species and wild birds.

The Birds Directive obliges the Member States to conserve, maintain or restore the biotopes and habitats of wild birds by:

- creating protection zones;
- maintaining the habitats;
- restoring destroyed biotopes;
- creating biotopes.

Special measures for the protection of habitats are adopted for certain bird species identified by the Directives (Annex I) and migratory species. Directives establishing a general scheme for the protection of all bird species. The following are prohibited:

- to deliberately kill or capture the bird species covered by the Directives. However, the Directives authorise the hunting of certain species on condition that the methods used comply with certain principles (wise use and balanced control, hunting outside the period of migration or reproduction, prohibition of large-scale or non-selective killing or catching methods);
- to destroy, damage or collect their nests and eggs;
- to disturb them deliberately;
- to detain them.

Apart from a number of exceptions, in particular for certain species that may be hunted, the following are not permitted either: the sale, transport for sale, detention for sale and offering for sale of live and dead birds or of any part of a bird or any product produced from it.

The Member States may on certain conditions derogate from the provisions on protection laid down in the Directives. The Commission will ascertain that the consequences of such derogation are not incompatible with the Directives.

The Member States must encourage research and activities conducive to the protection, management and exploitation of the bird species covered by the Directives.

The Habitats Directive establishes a European ecological network known as "Natura 2000". The network comprises "special areas of conservation" designated by Member States in accordance with the provisions of the Directive, and special protection areas classified pursuant to the Birds Directive.

Annexes I (Natural habitat types of Community interest) and II (Animal and plant species of Community interest) to the Habitats Directive list the habitats and species whose conservation requires the designation of special areas of conservation. Some of them are defined as "priority" habitats or species (in danger of disappearing). Annex IV lists animal and plant species in need of particularly strict protection.

Special areas of conservation are designated in three stages. Following the criteria set out in the annexes, each Member State must draw up a list of sites hosting natural habitats and wild fauna and flora. On the basis of the national lists and by agreement with the Member States, the Commission will then adopt a list of sites of Community importance. No later than six years after the selection of a site of Community importance, the Member State concerned must designate it as a special area of conservation.

Member States must take all necessary measures to guarantee the conservation of habitats in special areas of conservation, and to avoid their deterioration. The Directive provides for co-financing of conservation measures by the Community. Member States must also:

- encourage the management of features of the landscape which are essential for the migration, dispersal and genetic exchange of wild species;
- establish systems of strict protection for those animal and plant species which are particularly threatened (Annex IV) and study the desirability of reintroducing those species in their territory;
- prohibit the use of non-selective methods of taking, capturing or killing certain animal and plant species (Annex V).

The Member States and the Commission must encourage research and scientific work that can contribute to the objectives of the Directive. Every six years, Member States must report on the measures they have taken pursuant to the Directive. The Commission must draw up a summary report on the basis thereof.

Time table

All deadlines in the Bids and Habitats Directives have already passed several years ago, with the exception of regular publications.

Relevant sectors

All farms in or near areas protected under the Habitats and Birds Directives.

Consequences for agriculture

As far as the Directives themselves are concerned, the establishment and conservation of protected areas is likely to have the most important impact on agriculture in the Netherlands. Furthermore, Member States are required to “take the requisite measures to establish a system of strict protection for the animal species listed in Annex IV (a) in their natural range”, prohibiting, among others, deliberate disturbing of the species’ resting places and breeding sites (Habitats Directive, Article 12).

Furthermore, the Dutch implementation of the Habitats and Birds Directives is integrated in broader nature and environmental policy, such that zones have been established around designated areas under the Directives. Hence, no establishment of new farms is allowed within a distance of 500m from a designated area, and at distances between 500m to 1500m establishing of new farms or extension of existing ones is only allowed if emission of ammonia remains within 2000 kg per year, which corresponds roughly with 100 dairy cows. At distances larger than 1500m there will only be an evaluation if the farm’s emissions exceed 10 000 kg per year.

Placing plant protection products on the market

Purpose

This Directive concerns the authorization, placing on the market, use and control within the Community of plant protection products in commercial form and the placing on the market and control within the Community of active substances intended to

- protect plants or plant products against all harmful organisms or prevent the action of such organisms;
- influence the life processes of plants, other than as a nutrient, (e.g. growth regulators);
- preserve plant products;
- destroy undesired plants;
- destroy parts of plants, check or prevent undesired growth of plants.

Restrictions

This Directive provides for the following:

- the establishment of a positive Community list of active substances, the use of which can be deemed in advance to be acceptable for human or animal health or the environment;
- a system for the authorization by the Member States of different preparations containing the active substances in the positive list, in accordance with the requirements laid down in the Directive and according to uniform principles set out in Annex VI to the Directive;
- mutual recognition of acceptance by the Member States, provided that the plant health, agricultural and environmental conditions are comparable in the regions concerned;
- arrangements for the provisional authorization of preparations by Member States pending the Community's decision to include a new active substance in the positive list;
- a 12-year programme to evaluate the active substances currently on the market which are to be included in the positive list referred to above (Article 8(2));
- harmonized rules concerning the requirements on information, protection of information and confidentiality, labelling and packaging, and development of products;
- provisions on the exchange of information between the Member States and the Commission;
- provisions on procedures.

After this Directive about 28 Commission Directives and one Council Directive have been issued to modify details of this Directive.

Time table

The date of notification of this Directive was 19 August 1991.

Relevant sectors

All sectors that use the plant protection products listed in the Directive (mainly arable farming and horticulture).

Consequences for agriculture

This Directive may have the consequence that particular plant protection products are not available anymore.

National emission ceilings for certain atmospheric pollutants

Purpose

The purpose of the emission ceilings is broadly to meet the following interim environmental objectives:

- the areas with critical loads of acid depositions will be reduced by at least 50% compared with 1990;
- ground-level ozone loads above the critical level for human health will be reduced by two-thirds compared with the 1990 situation. An absolute limit is also set. The guide value set by the World Health Organisation may not be exceeded on more than 20 days a year; and
- ground-level ozone loads above the critical level for crops and semi-natural vegetation will be reduced by one-third compared with 1990. An absolute limit is also set.

Restrictions

Member States are required to draw up programmes, by 1 October 2002, for the progressive reduction of their annual national emissions. The programmes must be updated and revised as necessary in 2006. They must be made available to the public and to appropriate organisations and submitted to the Commission.

Moreover, Member States must prepare and annually update national emission inventories and emission projections for SO2, NOx, VOC and NH3. These inventories and projections must be reported to the Commission and the European Environment Agency each year by 31 December at the latest.

The Commission must report (in 2004, 2008 and 2012) to the European Parliament and the Council on progress on the implementation of the ceilings and towards attaining the interim environmental objectives and the long-term objectives set by the Directive. These reports must contain an economic assessment of the implementation of the national emission ceilings, including cost-effectiveness, costs and benefits, impact on competitiveness and socio-economic impact in each Member State.

The Member States and the Commission will cooperate with third countries and relevant international organisations with a view to exchanging information and proceeding with research aiming at reducing emissions of SO2, NOx, VOC and NH3.

The Commission will report to the Council and the European Parliament on the extent to which emissions from international maritime traffic and aircraft contribute to acidification, eutrophication and the formation of ground-level ozone within the Community. It will also specify the action which could be taken to reduce emissions from these sectors.

Time table

dd/mm/yyyy	What	Who
27/11/2001	Entry into force	
01/10/2002	draw up programmes for the progressive reduction of their annual national emissions	Member States
2004	Report to the European Parliament and the Council on progress on the implementation of the ceilings and towards attaining the interim environmental objectives and the long-term objectives	Commission
01/10/2006	Update and revise programmes as necessary	Member States

dd/mm/yyyy	What	Who
31/10/2006	Inform Commission of the updated programmes	Member States
2008	Report to the European Parliament and the Council on progress on the implementation of the ceilings and towards attaining the interim environmental objectives and the long-term objectives	Commission
2010	Limit annual national emissions of SO2, NOx, VOC and NH3 to amounts not greater than the emission ceilings laid down in Annex I	Member States
2012	Report to the European Parliament and the Council on progress on the implementation of the ceilings and towards attaining the interim environmental objectives and the long-term objectives	Commission
2020	Benchmark for long term emission objectives	

Relevant sectors

Cattle farming (NH_3), but also pigs and poultry production.

Consequences for agriculture

This Directive may lead to restrictions on the usage and management of livestock manure and on the equipment needed for the barns, causing an increase in investments.

Substances having a hormonal or thyrostatic action and beta-agonists

Purpose

To regulate the use in meat of substances having a hormonal or thyrostatic action and of beta-agonists.

Restrictions

The purpose of the Directive is to regulate the use in meat of substances having a hormonal or thyrostatic action and of beta-agonists with a view to protecting consumers.

The placing on the market and the administering to farm animals of substances having a thyrostatic action or substances having an oestrogenic, androgenic or gestagenic action and of stilbenes and beta-agonists are prohibited. However, certain of these substances may be used for therapeutic purposes provided their use is controlled.

Time table

dd/mm/yyyy	What	Who
23/05/1996	Date of entry into force	EU
01/07/1997	Implementation in the member states	Member States

Relevant sectors

Meat production by domestic animals of the bovine, porcine, ovine and caprine species, domestic solipeds, poultry and rabbits, as well as wild animals of those species and wild ruminants which have been raised on a holding; including aquaculture!

Consequences for agriculture

See the “Nationaal Plan Hormonen en Veehouderij” .

Pollution caused by nitrates from agricultural sources

Purpose

To reduce or prevent water pollution caused or induced by nitrates from agricultural sources.

Restrictions

Water pollution by nitrates has been worsened by the introduction of intensive farming methods, with increased use of chemical fertilisers and higher concentrations of animals in smaller areas.

Water pollution by nitrates is causing problems in all the Member States. The sources of nitrate pollution are diffuse (multiple discharges, difficult to locate), and the main polluters - farms - are sensitive to anything which affects the economic viability of their activity.

The 1980s saw a progressive worsening of the situation (nitrate concentrations in water rose by an average of 1 mg/l per year) owing to the growth of intensive livestock farming (chickens, pigs) in areas already saturated, and of intensive crop-growing involving chemical weed killers and over fertilisation.

The Frankfurt Ministerial Conference of 1988 examined water protection legislation. The participants stressed that the legislation needed improving, and this resulted in the adoption of the Directive on urban waste water and the Directive on nitrates.

The Member States must identify, on their territory:
- surface waters and groundwater affected or which could be affected by pollution, in accordance with the procedure and criteria set out in the Directive;
- vulnerable zones which contribute to pollution.

The Member States must establish codes of good agricultural practice to be implemented by farmers on a voluntary basis, as defined in Annex II to the Directive.

The Member States must establish and implement action programmes in respect of vulnerable zones. These must include the measures prescribed in the codes of good agricultural practice and measures:
- to limit the spreading on land of any fertiliser containing nitrogen;
- to set limits for the spreading of livestock effluent.

The Directive authorises Member States to take additional measures or to reinforce the action programmes in order to attain the objectives of the Directive.

The Member States must monitor water quality, applying standardised reference methods to measure the nitrogen compound content.

Provisions on adaptation of the annexes to scientific and technical progress are also included.

Member States must report regularly to the Commission on implementation of the Directive.

Time table

dd/mm/yyyy	What	Who
19/12/1991	Date of entry into force	EU
20/12/1993	Final date of implementation	Member States
20/12/1993	Designation of vulnerable zones	Member States
	Establish a code or codes of good agricultural practice	
	Set up a programme, including the provision of training and information for farmers, promoting the application of the code(s) of good agricultural practice.	
	Monitor the nitrate concentration in freshwaters over a period of one year	
20/12/1995	Establish action programmes designated vulnerable zones	
20/12/1999	Implementation of action programmes	Member States, farmers

Relevant sectors

Dairy sector, pig farms and poultry farms, as well as arable farms are affected.

Consequences (e.g. legislation) for The Netherlands

Various reports give detailed information on the consequences of this Directive.

Minimum standards for the protection of pigs

Purpose

To establish minimum standards for the protection of pigs for rearing in order to protect them and to prevent differences distorting competition among producers in the different Member States.

Restrictions

All holdings newly-built or rebuilt and/or brought into use for the first time after 1 January 2003 must comply with the following requirements:

- each weaner or rearing pig reared in a group must be provided with a minimum statutory unobstructed floor area, depending on its weight;
- each sow and gilt (a female pig that has not yet farrowed) must be provided with a minimum statutory unobstructed floor area of 2.25 m2 and 1.64 m2 respectively;
- flooring surfaces must meet standards concerning the minimum slat width and the maximum width of openings;
- the construction of or conversion to installations in which sows and gilts are tethered is prohibited;
  The use of tethers for animals is prohibited from 1 January 2006.
- sows and gilts must be kept in groups during a period starting from four weeks after the service to one week before the expected time of farrowing; this provision does not apply to holdings with fewer than ten sows.
- sows and gilts kept in groups must be fed using a system that ensures that each individual can obtain sufficient food even when competitors for the food are present;
- to satisfy their hunger and their need to chew, all dry pregnant sows and gilts must be given a sufficient quantity of bulky or high-fibre food as well as high-energy food;
- pigs kept in groups that are aggressive, have been attacked by other pigs or are sick or injured may temporarily be kept in individual pens.

These provisions are obligatory for all holdings from 1 January 2013. However, they do not apply to holdings with fewer than six pigs or five sows with their piglets.
The Directive lays down minimum welfare standards concerning:

- the materials used in the construction of housing;
- the lay out of housing: each pig must be able to lie down, rest and stand up without difficulty and see other pigs;
- the insulation, heating and ventilation of buildings and the light and noise levels within them;
- inspection of the pigs, which must be carried out at least daily: any sick or injured pigs must be treated without delay and, where necessary, examined by a veterinarian;
- measures to prevent aggression between animals;
- the cleaning and disinfection of the housing, utensils and equipment used;
- the daily provision of healthy feed suited to the age and weight of the pigs.

Specific provisions on the different categories of pig: boars, sows and gilts, piglets, weaners and rearing pigs.

Preferably before 1 January 2005, the Commission must submit to the Council a report on the socio-economic, sanitary and environmental conditions affecting intensive pig-farming systems, accompanied, where appropriate, by proposals for improvements. The Council must then act by qualified majority no later than three months after receiving the report.

By 1 January 2008, the Commission must present a report to the Council on pig welfare, covering the effects of stocking density in different farming systems, the impact of stall and flooring design and the risks associated with tail biting. The report must also cover further developments of group-housing systems for pregnant sows, the determination of the space required by each animal and an examination of consumers' behaviour towards pigmeat.
The Commission and the Member States are to carry out on-the-spot checks to ensure that the Directive is being complied with. Commission experts may carry out on-the-spot checks in cooperation with the competent authorities, which must then take any measures revealed to be necessary by the checks.

Time table

dd/mm/yyyy	What	Who
01/01/1994	Date of entry into force (91/630)	EU
01/01/1994	Implementation of 91/630 in the member states	Member States
01/12/2001	Date of entry into force (2001/81)	EU
21/12/2001	Date of entry into force (2001/93)	
01/01/2003	Implementation of 2001/81 and 2001/93 in the member states	Member States, Farmers
01/01/2003	All holdings newly-built or rebuilt and/or brought into use for the first time must comply with the directive.	Farmers
01/01/2005	A report to the Council on the socio-economic, sanitary and environmental conditions affecting intensive pig-farming systems, accompanied, where appropriate, by proposals for improvements.	Commission
01/01/2006	The use of tethers for animals is prohibited	Farmers
01/01/2008	A report to the Council on pig welfare, covering the effects of stocking density in different farming systems, the impact of stall and flooring design and the risks associated with tail biting	Commission
01/01/2013	All provisions obligatory for all holdings	Farmers

Relevant sectors

Pig farms

Consequences for agriculture

Additional housing requirements apply to housing systems for pigs. Tethers are phased out to grow pigs in the EU.

Protection of calves

Purpose
To lay down minimum standards for the protection of calves in order to protect them and to prevent differences distorting competition among producers in the different Member States.

Restrictions
This Directive lays down minimum standards for the protection of calves confined for rearing and fattening. 'Calf'' means any bovine animal aged less than six months.

From 1 January 1998, on newly built or rebuilt holdings and/or those brought into use for the first time must meet the following requirements:
- no calf may be confined in an individual pen after the age of eight weeks unless a veterinarian certifies that its health or behaviour requires it to be isolated in order to receive treatment;
- for calves kept in groups, the unobstructed space allowance available for each calf must be at least equal to 1.5 m^2 for each calf with a live weight of more than 220 kilograms.
  These provisions do not apply to holdings with less than six calves or calves kept with their mother for suckling.

The above provisions will apply to all holdings from 2006.
The Commission and the Member States will verify on the spot that the Directives are being applied. Commission experts, in cooperation with the competent authority, may carry out on-the-spot checks. The competent authority will take all necessary measures in the light of the results obtained.

The Commission will present to the Council no later than 1 January 2006 a report on intensive farming systems which comply with the requirements for the welfare of calves together with proposals relevant to the report's conclusions.
To import animals from a non-member country, a certificate attesting to the fact that they have received treatment equivalent to that provided for in these Directives will be needed.

The Member States will bring into force the laws, regulations and administrative provisions, including any sanctions, necessary to comply with the Directive. They may maintain or apply stricter measures and must inform the Commission of any such measures.

Time table

dd/mm/yyyy	What	Who
31/12/1991	Date of entry into force (91/629)	EU
31/12/1993	Implementation of 91/629 in the member states	Member States
17/02/1997	Date of entry into force (97/2)	EU
31/12/1997	Implementation of 97/2 in the member states	Member States, Farmers
01/01/1998	All holdings newly-built or rebuilt and/or brought into use for the first time must comply with the directive.	Farmers
01/01/2006	All provisions obligatory for all holdings	Farmers
01/01/2005	A report on intensive farming systems which comply with the requirements for the welfare of calves together with proposals relevant to the report's conclusions.	Commission

Relevant sectors
Veal producing sector

Consequences for agriculture
Additional housing requirements apply to housing systems for calves.

Protection of laying hens

Objective

To lay down minimum standards for the welfare of laying hens kept in various systems of rearing in order to protect the hens and prevent distortions of competition between producers in different Member States

Restrictions

Based on the European Convention on the protection of animals kept for farming purposes, Directive 98/58/EC lays down Community rules on the protection of animals. It lays down that all animals must be provided with housing, feed and care appropriate to their needs

The Directive lays down minimum standards for the protection of laying hens. It does not apply to establishments with fewer than 350 laying hens or establishments rearing breeding laying hens. Such establishments are, however, subject to the requirements of Directive 98/58/EC.

Alternative systems

From 1 January 2002, all newly built or rebuilt alternative systems of production and all such systems of production brought into use for the first time must comply with the following requirements:

- all systems must be equipped with: either linear feeders (at least 10 cm per hen) or circular feeders (at least 4 cm per hen), either continuous drinking troughs (2.5 cm per hen) or circular drinking troughs (1 cm per hen), at least one nest for every seven hens, adequate perches (at least 15 cm per hen) and at least 250 cm2 of littered area per hen;
- Member States are to ensure that the requirements apply from 1 January 2007.
- the floors of installations must support each of the forward-facing claws of each foot;
- there are special provisions on systems of rearing allowing hens to move freely and/or permitting access to outside runs;
- the stocking density must not exceed nine laying hens per m2 of usable area. However, where the usable area corresponds to the available ground surface, a stocking density of 12 hens per m2 is authorised until 31 December 2011 for those establishments applying this system on 3 August 1999.

Rearing in unenriched cage systems

From 1 January 2003, all unenriched cages must comply at least with the following requirements:

- at least 550 cm2 of cage area must be provided for each hen;
- a feed trough, of a length of at least 10 cm multiplied by the number of hens, which may be used without restriction must be provided;
- each cage must have an appropriate drinking system;
- cages must be at least 40 cm high over 65% of the cage area and not less than 35 cm at any point;
- floors of cages must be constructed so as to support the claws of each foot and the floor slope must not exceed 14% or 8% except in the case of floors using other than wire mesh;
- cages must be fitted with suitable claw-shortening devices.

With effect from 1 January 2003, no unenriched cages may be built or brought into service for the first time. This type of rearing system is prohibited with effect from 1 January 2012.

Rearing in enriched cages

From 1 January 2002, all enriched cages must comply at least with the following requirements:

- laying hens must have at least 750 cm2 of cage area per hen, a nest, litter such that pecking and scratching are possible and appropriate perches allowing at least 15 cm per hen;
- a feed trough that may be used without restriction must be provided; its length must be at least 12 cm multiplied by the number of hens in the cage.
- each cage must have an appropriate drinking system;
- there must be a minimum aisle width of 90 cm between tiers of cages and a space of at least 35 cm must be allowed between the floor of the building and the bottom tier of cages;
- cages must be fitted with suitable claw-shortening devices.

Final provisions

The competent authority must register the establishments covered by the Directive and give them a distinguishing number that will be the medium for tracing eggs placed on the market for human consumption.

Member States must ensure that inspections are carried out under the responsibility of the competent authority to check that the provisions of the Directive are complied with. They must submit a report on the inspections to the Commission, which must then inform the Standing Committee on the Food Chain and Animal Health.

Veterinary experts from the Commission may, where necessary for the uniform application of the current Directive, carry out on-the-spot checks in cooperation with the competent authorities. The findings of those checks are discussed with the competent authorities, which then take any measures revealed to be necessary by the checks.

Not later than 1 January 2005, the Commission must submit to the Council a report, drawn up on the basis of an opinion from the Standing Committee on the Food Chain and Animal Health, on the different systems of rearing taking account of the requirements for the welfare of hens and the socio-economic implications of those systems. The report is to cover the negotiations within the World Trade Organisation and be accompanied by appropriate proposals.

The Council must act by a qualified majority on those proposals no later than 12 months after their submission.

Directive 88/166/EEC is repealed with effect from 1 January 2003.
Member States have until 1 January 2002 to bring into force the laws, regulations and administrative provisions, including any penalties, necessary to comply with the Directive and must forthwith inform the Commission thereof. In addition, they may maintain or apply within their territories more stringent provisions than those envisaged by the Directive.

Time table

dd/mm/yyyy	What	Who
03-08-1999	DATE OF ENTRY INTO FORCE	EU
01-01-2002	IMPLEMENTATION IN THE MEMBER STATES	Member States
01-01-2002	all newly built or rebuilt alternative systems of production and all such systems of production brought into use for the first time must comply with the directive	
01-01-2002	all enriched cages must comply at least with the directive	

01-01-2003	*all unenriched cages must comply at least with the directive; *no unenriched cages may be built or brought into service for the first time	
01-01-2005	Commission must submit to the Council a report, drawn up on the basis of an opinion from the Standing Committee on the Food Chain and Animal Health, on the different systems of rearing taking account of the requirements for the welfare of hens and the socio-economic implications of those systems.	
01-01-2012	Rearing in unenriched cage system is prohibited.	

Relevant sectors

Poultry sector, mainly egg producing farms.

Consequences for agriculture

Because of animal welfare concerns in the EU, from 2012 only enriched cages will be allowed for the housing of laying hens (Council Directive 1999/74/EC). The EU member states may lose competitive advantages in the years to come due to further liberalisation of trade for egg products with countries such as Ukraine, United States, Brazil and India.

Protection of animals kept for farming purposes

Purpose

To establish minimum welfare standards for farmed animals.

Restrictions

All the Member States have ratified the European Convention for the Protection of Animals Kept for Farming Purposes, the main provisions of which relate to the provision of housing, feed and care appropriate to the animals' needs.

The Treaty on European Union invites the institutions and the Member States to take full account of animal welfare requirements when drawing up and implementing Community legislation, especially where agricultural policy matters are concerned. Furthermore, to ensure the smooth running of the Community market in livestock, common standards must be laid down on the protection of animals kept for farming purposes.

This Directive applies to animals (including fish, reptiles and amphibians) reared or kept for the production of food, wool, skin or fur or for other farming purposes. It does not apply to wild animals, animals intended for use in sporting or cultural events (shows), experimental or laboratory animals or invertebrate animals.

The Member States are to make provision to ensure that the owners or keepers of animals look after the welfare of their animals and see that they are not caused any unnecessary pain, suffering or injury. Based on past experience and present scientific knowledge, the rearing conditions relate to the following:

- staff: there should be a sufficient number of staff looking after the animals and they must have the appropriate ability and professional competence;
- inspections: all animals kept in husbandry systems must be inspected at least once a day. Injured or ill animals must be treated immediately and isolated if necessary in suitable premises;
- records: the owner or keeper of the animals must keep a record of any medical treatment for at least three years;
- freedom of movement: all animals, even if tethered, chained or confined, must be given enough space to move without unnecessary suffering or injury;
- buildings and accommodation: materials used in the construction of buildings must be capable of being cleaned and disinfected. Air circulation, dust levels, temperature and relative humidity should be kept within acceptable limits. Animals kept in buildings must not be kept in permanent darkness or constantly exposed to artificial lighting;
- automatic or mechanical equipment: automatic or mechanical equipment essential for the health and well-being of the animals should be inspected at least once a day. Where an artificial ventilation system is in use, an appropriate backup system must be in place to guarantee sufficient air renewal;
- feed, water and other substances: the animals must be given a wholesome and appropriate diet, fed to them in sufficient quantities and at regular intervals. All other substances are prohibited, unless given for therapeutic or prophylactic reasons or for the purposes of zootechnical treatment. In addition, the feeding and watering equipment must minimise the risks of contamination;
- mutilations: national rules on mutilation apply.

Rearing methods that cause suffering or injury must not be used unless their impact is minimal, brief or expressly allowed by the national authorities.
The Member States are to take the necessary steps to ensure that the competent national authorities carry out inspections. They must each submit a report of these inspections to the Commission, which will use the reports to formulate proposals on harmonising inspections. Decision 2000/50/EC lays down the minimum requirements for livestock holdings. Furthermore, in collaboration with the competent authorities, the Commission's veterinary experts are to conduct on-the-spot controls to ensure that these inspections are being properly carried out.

Every five years the Commission will present the Council with a report on the implementation of this Directive, with proposals for improvement, if appropriate. The Council is to adopt this report by majority vote.

The Member States had to introduce the legislative, regulatory and administrative provisions (including any penalties) needed to comply with this Directive by 31 December 1999. They are allowed to keep or introduce even tighter provisions.

Communication from the Commission to the Council and the European Parliament on Animal Welfare Legislation on farmed animals in Third Countries and the Implications for the EU [COM(2002) 626 final - Not published in the Official Journal]

There is a growing appreciation that animals used for food production should be well treated. It is clear that high welfare standards have an impact on food safety and quality. The difficulty lies in quantifying that impact precisely. This development in standards has also resulted in costs to producers, part of which is recovered, due to the premium placed on high standards by consumers. There is concern, nonetheless, that any costs not recovered could place EU producers - especially in the sheep meat and pig meat sectors - at a competitive disadvantage relative to imported products from third countries. At the request of the Member States, the Commission is publishing this study on the economic implications of the disparities in standards between the Community and third countries. As a way of countering competitive distortions, a number of channels are explored: allowing the normal market mechanisms to function; promoting the Community approach to animal welfare within international organisations (the OIO and the Council of Europe) and on a bilateral basis; expanding the use of labelling systems; devising new price mechanisms incorporating the costs of animal welfare as part of a CAP that is increasingly focused on quality.

Time table

dd/mm/yyyy	What	Who
08/08/1998	Entry into force	-
31/12/1999	Implementation of the legislation in the member states	Member States

Relevant sectors

All animal production sectors

Consequences for agriculture

The main animal welfare requirements relate to the treatment of farm animals during housing, transport and slaughter. Legislation and other measures typically require livestock producers to ensure that the treatment of animals meet certain standards of animal husbandry, including freedom from unnecessary suffering or abuse.

Additives in feeding-stuffs

Purpose

To harmonize at Community level certain laws and administrative rules of the Member States on additives in animal feeding stuffs.

Restrictions

These Directives applies to additives in feeding stuffs. It does not apply to feeding stuffs intended for export to third countries.
Only those additives which are listed in Annex I may be incorporated in feeding stuffs and only subject to the requirements set out therein. These additives may not be used in any other way for the purposes of animal feeding, subject to the exceptions in Article 4 of Directive 70/524/EEC.

A substance shall be included in Annex I only if:

- it has a favourable effect on the characteristics of feeding stuffs or on livestock production when incorporated in such feeding stuffs;
- it does not endanger animal or human health;
- it does not harm the consumer of livestock products.

A Member State may, for a maximum period of four months, suspend the use of certain additives or may reduce the fixed maximum level if animal or human health is endangered.
These Directives provides for special labelling of feeding stuffs containing additives in order to inform users about the additives and protect them from fraud; such labelling concerns, in particular, supplementary feeding stuffs containing concentrates of certain additives.
Feeding stuffs may be subject, as regards the presence or absence of additives and as regards marking, to no marketing restrictions other than those provided for in these Directives.

Member States shall provide for appropriate controls to ensure that feeding stuffs are marketed in accordance with the rules on additives.

Time table

dd/mm/yyyy	What	Who
25/11/1970	Entry into force	-
25/11/1972	Implementation of the legislation in the member states	Member States

Relevant sectors

All sectors with animal production.

Consequences for agriculture

Additional costs for the use of more expensive raw material to feed animals.

Animal health rules governing the production, processing, distribution and introduction of products of animal origin for human consumption

Purpose

- To ensure consumer protection throughout the food chain, from the farm to the table, by preventing the introduction or spread of animal diseases.
- To set conditions for placing animal products on the market and restrictions applicable to products from non-EU countries or regions of non-EU countries, subject to animal health restrictions

Restrictions

Directive 2002/99/EC regulates animal health by following the "Farm to table" food control approach. It belongs to a group of new proposals (4 regulations and two directives) referred to as the "hygiene package", the legal basis of which is Article 37 of the Treaty. This legislative package will harmonise a total of 17 directives. The food chain operators become responsible for the products they place on the market.

Like the other proposals of the hygiene package, the Commission had originally proposed the present Directive 2002/99/EC as a Regulation (COM/2000/438 final - Official Journal C 365 E, 19.12.2000). Taking into account that almost all health inspection provisions are well known, the Regulation has become a Directive. It was approved by the Council of Ministers after consultation with the European Parliament. For the time being, this is the only proposal of the hygiene package which has received the Council's final approval. This Directive serves as the legal basis for the amendment of the current importing conditions.
Directive 2002/99 EC recasts the 7 existing directives in this area: Directives 72/461/EEC, 80/215/EEC, 91/494/EEC, 91/495/EEC, 92/45/EEC (amended by Directive 97/79 EC), 92/46/EEC and 94/65/EC.

The other proposals of the "hygiene package" are: food hygiene, specific hygiene rules for food of animal origin and official controls on products of animal origin intended for human consumption, the proposal for a directive which repeals earlier legislation concerning this question.

Scope

Directive 2002/99/EC harmonises and strengthens veterinary public health requirements scattered in the legislation. This concerns the stricter application of animal health rules and the broadening of the scope. This Directive specifies that all production stages of a product of animal origin are to be covered: primary production, processing, transport, storage and sale. Moreover, it is also applicable to live animals intended for human consumption. It also lays down animal health conditions applicable to all these stages.

General animal health requirements

Directive 2002/99/EC states that the Member States are responsible for measures to eradicate the transmission of animal diseases and lays down the conditions to be met for products of animal origin by banning them in case they are from areas or territories subject to animal health restrictions. In the case of the latter, the Directive lays down the conditions for a possible derogation from the measure.

Veterinary certificates and checks

The Directive specifies when Member States must require veterinary certificates and detailed rules for their application.
On the other hand, while waiting for the adoption of the whole "hygiene package", the Member States are responsible for official veterinary controls and measures applicable where infringements of the animal-health rules are found.

Imports from non-EU countries

The Member States must take the necessary measures to ensure that imported products of animal origin comply with the requirements applicable to Community products.
The Directive includes the full lists, in force since Council Decision 79/542/ EEC, of non-EU countries or regions of non-EU countries from which imports are authorised and the conditions a country needs to meet to be included on these lists. Among other requirements, the Directive lays down that this non-EU country or region is to undergo a compulsory Community audit and obtain a veterinary certificate in accordance with the specific procedure set out in the Directive.
The Community inspections and/or audits can be carried out throughout the food chain in the non-EU countries included in the lists.

Revision Clause

The Directive introduces a revision clause to amend the Annexes, where the following are specified: the animal diseases that are covered (Annex I), the description of the compulsory elements, which should include special identification markings for meat from a territory subject to animal health restrictions (Annex II) and general principles of certification (Annex IV).

Time table

dd/mm/yyyy	What	Who
01/01/2005	Entry into force	-
31/12/2004	Implementation of the legislation in the member states	Member States

Relevant sectors

All sectors with animal production

Consequences for agriculture

Additional measures at farm level to control hygiene. Measures are increasingly taken by farmers together with food processing industry and retail sector.

Monitoring of zoonoses and zoonotic agents

Purpose

The European Union is stepping up monitoring of zoonoses, zoonotic agents and related antimicrobial resistance. It has laid down minimum requirements applicable in the Member States to reinforce their existing monitoring systems, through which they collect, analyse and disseminate data on these phenomena with a view to identifying and characterising hazards, assessing exposure and defining the associated risks.

Restrictions

Increased monitoring of zoonoses and antimicrobial resistance

The Member States are responsible for establishing and maintaining monitoring systems. Monitoring is at the level of primary production and/or other stages of the food chain, such as in food and feed. It covers:

As a priority: brucellosis, campylobacteriosis, echinococcosis, listeriosis, salmonellosis, trichinellosis, tuberculosis due to Mycobacterium bovis, verotoxigenic Escherichia coli; depending on the epidemiological situation: viral zoonoses (calicivirus, hepatitis A virus, influenza virus, rabies, viruses transmitted by arthropods), bacterial zoonoses (borreliosis, botulism, leptospirosis, psittacosis, tuberculosis other than that specified above, vibriosis, yersiniosis and agents thereof), and parasitic zoonoses (anisakiasis, cryptosporidiosis, cysticercosis and toxoplasmosis.

To ensure that the data obtained are representative and comparable, harmonised monitoring schemes may be established for certain zoonotic agents.
The monitoring methods specify:

- the animal population or subpopulations and stages in the food chain to be covered by monitoring;
- the nature and type of data to be collected;
- sampling schemes and the methods of analysis to be used;
- frequency of reporting of diseases or risks.

In some cases, data collected through routine monitoring are insufficient. Coordinated monitoring programmes for one or more zoonoses may prove necessary in order to assess specific risks or establish base-line values.

Member States are responsible for ensuring that monitoring provides comparable data on the occurrence of antimicrobial resistance in zoonotic and, where necessary, other important agents. Resistance means the ability of a microorganism to survive or to grow in a concentration of an antimicrobial agent that is usually sufficient to inhibit or kill micro-organisms of that species. Monitoring of antimicrobial resistance will supplement the monitoring of human isolates conducted in accordance with Decision No 2119/98/EC setting up a network for the epidemiological surveillance and control of communicable diseases in the Community.

Epidemiological investigation of food-borne outbreaks

The competent authorities in the Member States will investigate food-borne outbreaks, gathering data on the epidemiological profile, the foodstuffs potentially implicated and the potential causes. The competent authorities will submit an annual report to the Commission on

the results of the investigations, which will be forwarded to the European Food Safety Authority (EFSA).

Facilitating information exchange
The exchange of information is necessary to obtain exhaustive and comparable data at European level. Each Member State will designate one or more competent authorities that will cooperate with the national authorities in the areas of animal health, feed and food hygiene. Community and national reference laboratories will also be designated.

Member States will assess trends and sources of zoonoses, zoonotic agents and antimicrobial resistance and submit a report to the Commission by the end of May each year. The Commission will forward these reports to the EFSA, which will examine them and publish a summary report by the end of November each year.

The Commission may take transitional measures and amend certain annexes to the Directive, for which purpose it will be assisted by the Committee on the Food Chain and Animal Health, and may also consult the EFSA.

With effect from 12 June 2004, Directive 92/117/EEC is repealed and Decision 90/424/EEC is amended.
See also Regulation (EC) No 2160/2003 on the control of food-borne salmonella.

Time table

dd/mm/yyyy	What	Who
12/12/2003	Entry into force	-
12/04/2004	Implementation of the legislation in the member states	Member States

Relevant sectors

All sectors with animal production

Consequences for agriculture

Veterinary requirements and conditions to control animal diseases are issues of main concern, partly because of the high costs involved following an outbreak of animal disease.

Community measures for the control of foot- and-mouth disease

Purpose

To develop measures to restrict the outbreak and spread of foot-and-mouth disease.

Restrictions

Member States are required to notify the competent authorities immediately if the presence of foot-and-mouth disease is suspected and set in motion an immediate investigation.
As soon as the suspected infection is notified, the competent authority shall have the holding placed under official surveillance and shall in particular order that:

- a census be made of all categories of animals of susceptible species;
- the number of animals already dead, infected or liable to be infected or contaminated be recorded;
- no animals of susceptible species enter or leave the holding.

Required measures where one or more infected animals are confirmed on a holding in particular:

- all animals of susceptible species on the holding to be slaughtered on the spot under official supervision;
- the destruction of milk and milk products on holdings in Member States or regions where vaccination is prohibited.

Procedures for farms consisting of two or more separate production units. Where a veterinarian has confirmed that these units are separate as regards housing, keeping and feeding, the healthy unit may be exempt from some provisions of the Directive.

Protection zones around infected farms shall be of a minimum radius of 3 km and there will be a minimum 10 km surveillance zone.

Requirement for Member States to ensure that proper procedures and testing are carried out, and that approved disinfectants are used by the competent authority.

Member States which authorize vaccination are required to draw up a vaccination plan covering several years. The plan will specify such things as the frequency of vaccination, the species of animals subject to the vaccination and the types of virus used.

Time table

dd/mm/yyyy	What	Who
01/01/1987	Implementation of 85/511 in the member states	Member States
12/04/2004	Implementation of 90/423 in the member states	Member States

Relevant sectors

The dairy sector, beef sector, veal production and pig production

Consequences for agriculture

Veterinary requirements and conditions to control animal diseases are issues of main concern, partly because of the high costs involved following an outbreak of animal disease.

Community measures for the control of Newcastle disease

Purpose

To control Newcastle disease quickly and efficiently.

Restrictions

The Directive lays down the standard measures to be taken to eradicate and prevent the spread of Newcastle disease should an outbreak occur.
It prohibits the removal of poultry and poultry products from those areas.
The region-based approach (the establishment of protection and surveillance zones where the disease occurs) is important for the operation of the single market and for trade with third countries.

Time table

dd/mm/yyyy	What	Who
	Entry into force	-
01/10/1993	Implementation of the legislation in the member states	Member States

Relevant sectors

The poultry sector

Consequences for agriculture

Veterinary requirements and conditions to control animal diseases are issues of main concern, partly because of the high costs involved following an outbreak of animal disease.

Community measures for the control of avian influenza

Purpose

To control avian influenza quickly and efficiently.

Restrictions

This Directive lays down Community measures to eradicate and prevent the spread of avian influenza on poultry farms should an outbreak occur.
It prohibits removal of the poultry and poultry products from specified areas such as protection or surveillance zones.
This region-based approach is important for the operation of the single market and for trade with third countries.

Time table

dd/mm/yyyy	What	Who
01/01/1993	Entry into force of 92/40	-
01/01/1993	Implementation of 92/40in the member states	Member States

Relevant sectors

The poultry sector

Consequences for agriculture

Veterinary requirements and conditions to control animal diseases are issues of main concern, partly because of the high costs involved following an outbreak of animal disease.

Annex 2 Future directives and international agreements

Environmental liability - proposal for a Directive

Purpose

To adopt a Community regime for the prevention and remedying of environmental damage.

Restrictions

The principle according to which the polluter should pay when environmental damage occurs (the "polluter pays" principle) is set out in the Treaty establishing the European Community. This principle acts as a deterrent against the violation of environmental standards, and thereby contributes to realising the objectives and implementing EU policy in this area.

The aim of the White Paper on environmental liability, published in February 2000, was to examine how to implement the "polluter pays" principle in order to carry out the EU's environmental policy. It concluded that drawing up a directive was the best way to set up a Community regime for environmental liability. This proposal for a Directive is the result of the debate which followed this White Paper and during which a public consultation was conducted. Under this proposal, environmental damage means damage caused to the aquatic environment covered by Community legislation on water management, species and habitats protected under Community legislation on nature conservation, areas protected under national or regional legislation on nature conservation, and health risks resulting from soil contamination.

This proposal for a Directive applies to environmental damage and to any imminent threat of such damage occurring by reason of the occupational activities listed in Annex I. Important damage which adversely affects biodiversity and which results from occupational activities not listed in Annex I are also covered by this proposal. This proposal does not cover environmental damage resulting from an armed conflict, a natural disaster, an authorised event, or activities which were not considered harmful according to the state of scientific knowledge at that time.

Prevention and remedying of environmental damage

Where there is an imminent threat of environmental damage, the competent authority designated by each Member State will require the operator (the potential polluter) to take the necessary preventive measures, or will take such measures itself and recover the costs incurred at a later date.

Where environmental damage has occurred, the competent authority will require the operator concerned to take the necessary restorative measures (determined on the basis of the rules and principles set out in Annex II to this proposal), or will take such measures itself and recover the costs incurred at a later date. Where several instances of environmental damage have occurred, the competent authority may determine the order of priority according to which they must be remedied.

Where the operator has insufficient financial means to take all or part of the necessary restorative measures, or where it is not possible to identify the operator, Member States will ensure that the measures are taken anyway. If necessary, they may set up alternative financing mechanisms (such as financial guarantees, securities and collective funds).

Recovery of costs

Where the competent authority has implemented preventive or restorative measures itself, it is entitled to recover the costs it has incurred from the operator who has caused the damage or the imminent threat of damage. The same principle applies to environmental assessments carried out to determine the extent of the environmental damage and the measures needed to remedy it. The competent authority must initiate cost recovery proceedings within a period of five years from the date on which the preventive or restorative measures were affected. Where there is biodiversity damage resulting from occupational activities not listed in Annex I, and where the operator is not at fault or has not been negligent, that operator will not be required to bear the cost of preventive or restorative measures. If the operator is at fault or has been negligent, the "polluter pays" principle applies.

Where several operators are jointly responsible for an instance of environmental damage, they must bear the restorative costs either jointly and severally, or on a proportional basis. However, operators who can establish the extent of their responsibility will be required to bear only such costs as relate to that part of the damage.

Member States are required to encourage operators to take out a form of financial security such as insurance, and they shall also encourage the development of such of services.

Request for action

Legal and natural persons likely to be adversely affected by environmental damage, and qualified entities (bodies which are authorised to work for the benefit of the environment, including organisations whose purpose is to protect the environment), may require the competent authority to take action against the damage. The competent authority must inform the relevant person or entity of its decision to accede to or refuse the request for action, and of its reasons, at the latest within four months of being called upon to act. Any person or entity that has lodged a request for action will have access to a court or an ad hoc body to review the legality of the decisions, acts or failures to act of the competent authority.

Cooperation between Member States

Where environmental damage or a threat of environmental damage is likely to affect several Member States, those Member States shall cooperate in the preventive or restorative action.

Reports

Member States must report to the Commission on the application of this Directive no later than five years after its entry into force. The Commission will then submit a report to the European Parliament and the Council based on these national reports, together with any proposal it may consider appropriate.

Time table

dd/mm/yyyy	What	Who
31/12/2004??	Date of entry into force (91/629)	EU
31/12/2009	Implementation of in the member states	Member States

Relevant sectors

All agricultural sectors are involved

Consequences for agriculture

Measures need to be taken by the farming sector to prevent and remedy environmental damage. Registration is essential for cases of liability.

Kyoto Protocol on climate change

(Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments there under [Official Journal L 130 of 15.05.2002])

Purpose

To tackle climate change by means of international action to reduce the emissions of certain greenhouse gases responsible for global warming.

On 4 February 1991 the Council authorised the Commission to participate on behalf of the European Community in the negotiation of a UN framework convention on climate change, which was adopted in New York on 9 May 1992. The Community ratified the Framework Convention by Decision of 94/69/EC of 15 December 1993 [Official Journal L 33, 07.02.1994], which entered into force on 21 March 1994.

The Framework Convention may be considered a success, inter alia for having made people the world over more aware of the problems linked to climate change. The European Union has honoured the commitment it made under the Convention to reduce its emissions to 1990 levels by 2000. Nonetheless, a large number of industrialised countries, including the United States, have failed to achieve the objective of stabilising greenhouse gas concentrations at these levels.

At the fourth meeting of the Conference of the Parties in Berlin in March 1995, the Parties of the Convention decided to negotiate a Protocol containing measures to reduce emissions for the period beyond 2000 in the industrialised countries. After much work, the Kyoto Protocol was adopted on 10 December 1997 in Kyoto.

The European Community signed the Protocol on 29 April 1998. In December 2001, the Laeken European Council confirmed that the Union wanted to see the Kyoto Protocol enter into force ahead of the Johannesburg world summit on sustainable development (26 August - 4 September 2002). To that end, this Decision approved the Protocol on behalf of the Community. The Member States were to coordinate their action to deposit their instruments of ratification at the same time as the Community, and as far as possible by 1 June 2002.

Annex II to the Decision sets out the commitments to limit and reduce emissions agreed by the Community and its Member States for the initial commitment period (2008 to 2012).

The contents of the Protocol

The Kyoto Protocol tackles emissions of six greenhouse gases: carbon dioxide (CO2); methane (CH4); nitrous oxide (N2O); hydrofluorocarbons (HFC); perfluorocarbons (PFC); and sulphur hexafluoride (SF6).

It represents an important step forward in the effort to tackle global warming as it includes binding, quantified objectives for limiting and reducing greenhouse gases.
Overall, the Parties of Annex I to the Framework Convention undertake to reduce their greenhouse gas emissions by at least 5% below 1990 levels during the period 2008 to 2012.
Annex B to the Protocol contains the quantified commitments given by the Parties.
The EU Member States collectively must reduce their greenhouse gas emissions by 8% between 2008 and 2012.

For the period up to 2008, the Parties undertake to make demonstrable progress in achieving their commitments by no later than 2005. Parties which so wish may make 2005 a reference year for emissions of HFCs, PFCs and SF6.

The Protocol suggests various means of attaining these objectives:
- stepping up or introducing national policies to reduce emissions (greater energy efficiency, promotion of sustainable forms of agriculture, development of renewable energy sources, etc.);
- cooperation with the other Contracting Parties (exchanges of experience or information, coordination of national policies in a bid to work effectively through cooperation mechanisms, namely emission permits, joint implementation and a clean development mechanism).

No later than one year prior to the start of the first commitment period, each Party must have set up a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol. Commitments will be reviewed by 2005 at the latest, for the second commitment period.

The Netherlands

The Netherlands has to reduce GHG emissions during the period 2008-2012 with an average of 6% annually (basis 1990). The government has set emissions targets (i.e. maximum emissions in 2010) for major economic sectors. Agriculture has got a target of 7 mln. ton CO2 in 2010, a reduction of more than 10% related to the year 2000. In the long run (2030), more ambitious goals have been set.

Glasshouse horticulture is the main producer of carbon dioxide (approx. 85%) and the maximum emission in 2010 is 6.5 mln tons CO2. This goal can increase up to 7.1 mln. tons, dependent on the area of glasshouse horticulture. The “Glami-convenant” states that energy-efficiency has to be improved by 65% in 2010 related tot 1980. Furthermore, government and the farmers have agreed to stimulate the use of Sustainable energy sources, aiming at a share of 4% of the total energy use.

The Rio de Janeiro Convention on biological diversity

The Convention on Biological Diversity (CBD) was signed by the Community and all the Member States at the United Nations Conference on Environment and Development in Rio de Janeiro from 3 to 14 June 1992. This Decision approves the Convention on behalf of the European Community.

For many decades there has been a substantial loss of biological diversity worldwide and in Europe due to human activities (pollution, deforestation, etc.). The United Nations Environment Programme (UNEP) estimates that up to 24% of species belonging to groups such as butterflies, birds and mammals have completely disappeared from the territory of certain European countries. This situation is a cause for concern. Adequate biological diversity limits the effects of particular environmental risks such as climate change and parasite invasions. Diversity is essential for the long-term viability of farming and fishing activities and forms the basis for various industrial processes and the production of new medicines. The conservation and sustainable use of biological diversity are essential to ensure sustainable development and the millennium development goals relating to poverty, health and the environment. At the Johannesburg World Summit on Sustainable Development in 2002, the Heads of State agreed on the need to significantly reduce the loss of biological diversity by 2010. The CBD has been recognised as the main means of achieving this aim. In 2001 the Goteborg European Council adopted the objective of halting the loss of biodiversity in the Union by 2010.

States are responsible for the conservation of their biological diversity and the sustainable use of their biological resources. There is a general lack of information and knowledge regarding biological diversity. Consequently, it is necessary to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures with a view to maintaining biological diversity.

The CBD is designed to conserve biological diversity, ensure the sustainable use of this diversity and share the benefits generated by the use of genetic resources, in particular through appropriate access to genetic resources and appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and through adequate funding.

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Subject to the rights of other States, and except as otherwise expressly provided for in the Convention, the provisions of the Convention apply, in relation to each Contracting Party:

- in the case of components of biological diversity, in areas within the limits of its national jurisdiction;
- in the case of processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.

Each Contracting Party must, as far as possible, cooperate with other Contracting Parties directly or, where appropriate, through competent international organisations both in respect

of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.
Each Contracting Party should, in accordance with its particular conditions and capabilities:

- develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes;
- integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programmes and policies.

Each Contracting Party should as far as possible:

- identify components of biological diversity important for its conservation and sustainable use, having regard to the indicative list of categories set down in Annex I;
- monitor, through sampling and other techniques, the components of biological diversity identified, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use;
- identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity and monitor their effects through sampling and other techniques;
- maintain and organise, by any mechanism, data derived from identification and monitoring activities pursuant to the points set out above.

Each Contracting Party should, as far as possible, adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity. The Convention makes provision for the following:

- establishment and maintenance of programmes for scientific and technical education and training for the identification, conservation and sustainable use of biological diversity and its components and providing support for such education and training for the specific needs of developing countries;
- encouragement of research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries;
- promoting the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.

Public education should be promoted and awareness enhanced to highlight the importance of biological diversity through the media and the inclusion of these topics in educational programmes.

The Contracting Parties should facilitate the exchange of information, from all publicly available sources, relevant to the conservation and sustainable use of biological diversity, taking into account the special needs of developing countries (exchange of information on the results of technical, scientific and socio-economic research as well as information on training and surveying programmes, etc.).

The Convention emphasises the role of indigenous and local communities in conserving biodiversity. These populations heavily and traditionally depend on the biological resources on which their traditions are based.

Strategy for soil protection

Purpose

To formulate a plan with a view to developing a Community strategy for soil protection.

Restrictions

One of the objectives of the Sixth Environmental Action Programme is to protect soils against erosion and pollution. It is to fulfil this objective that the Commission is publishing this Communication, which paves the way for developing a strategy on soil protection. For the purpose of this Communication, soil is defined as the top layer of the earth's crust, formed by mineral particles, organic matter, water, air and living organisms.
This Communication describes the functions of soil, which include:

- producing food;
- storing, filtering and transforming minerals, water, organic matter, gases, etc.;
- providing raw materials; and
- being the platform for human activity.

The Communication also identifies the main threats to soil in Europe: erosion, decline in organic matter, soil contamination, soil sealing (caused by the covering of soil for housing, roads and other infrastructure), soil compaction (caused by mechanical pressure through the use of heavy machinery, overgrazing or sporting activities), decline in soil biodiversity, salinisation (excessive accumulation of soluble salts of sodium, magnesium and calcium) and floods and landslides. All these processes are either driven or exacerbated by human activity and some degradation processes have increased over recent decades. The economic consequences and restoration costs linked to the threats to soil are huge.

The Communication examines the international initiatives taken to address soil degradation, as well as action undertaken by EU Member States and Candidate Countries. As regards Community initiatives as such, the Communication stresses that an explicit Community policy does not exist at this stage. However, measures implemented under other policies (environmental, agricultural, regional, transport, research) contribute to soil protection.

Building blocks of a thematic strategy

It is therefore essential that the EU develop a Community thematic strategy for soil. This strategy will be presented in 2004. It will take into consideration the principles of precaution, anticipation and environmental responsibility, and will focus on initiatives already being undertaken in environmental policies, better integration of soil protection in other policies, soil monitoring and new actions based on monitoring results.
In environmental policy, new legislation will supplement existing legislation:

- in 2002: 4th Daughter Directive on air quality and a directive on mining waste;
- in 2003: revision of the Sewage Sludge Directive and Communication on Planning and Environment, focusing on sustainable use of soil;
- by the end of 2004: directive on compost and other biowaste.

The Common Agricultural Policy (CAP) will encourage organic farming, the maintenance of terraces, safer pesticide use, use of certified compost, forestry, afforestation and other measures for soil protection. Under the review of the CAP, the Commission intends to expand the financial commitment to rural development and soil protection.

As regards soil monitoring, the Commission will propose, by June 2004, legislation on Community information and monitoring system for soil threats. This monitoring will provide the basis for future legislative initiatives and will be used as a tool to adjust and review existing policies in the field of soil protection.

Time table

dd/mm/yyyy	What	Who
31/12/200?	Date of entry into force (91/629)	EU
31/12/200?	Implementation of in the member states	Member States

Relevant sectors

All agricultural sectors are involved.

Consequences for agriculture

A global assessment has been performed by Tiktak et al. (2004).

Thematic strategy on the sustainable use of pesticides

Objective

To draw up a thematic strategy to reduce the impacts of pesticides on human health and the environment and more generally to achieve a more sustainable use of pesticides as well as a significant overall reduction in risks and of the use of pesticides consistent with the necessary crop protection.

Background

The 6th environment action programme (6EAP), adopted by the European Parliament and the Council on 22 July 2002, provides for the development of a thematic strategy on the sustainable use of pesticides. The legislative framework referred to in the 6EAP, in particular Directive 91/414/EEC and the Directives on residues in food, mainly concentrates on the start and end-of-life stages of pesticides, i.e. the authorisation of substances for use in plant protection products (PPP) before they are placed on the market (prevention at source) and maximum residue levels (MRLs) on food and feedstuffs. Revision of these Directives is under way. The thematic strategy will therefore complement the existing legislative framework by targeting the use-phase of plant protection products.

Definitions and scope of the communication

The term 'pesticides' is a generic name, which encompasses all substances or products that kill pests. In this connection, a distinction should be made between:

- plant protection products: These are active substances and preparations containing one or more active substances that are used to protect plants or plant products against harmful organisms or prevent the action of such organisms. PPPs are used in particular in agriculture;
- biocides: These are active substances and preparations containing one or more active substances that are used in non-agricultural sectors, e.g. for purposes such as wood preservation, disinfection or certain household uses.

It is clear from the decision of the European Parliament and the Council adopting the 6EAP that, although the term 'pesticides' is used, the main concerns are related to PPPs. Consequently, this communication is focused on the use of PPPs. Should, in the future, comparable measures are considered necessary for biocides; they will be incorporated in the thematic strategy.

Use of plant protection products: quantities, benefits, costs and risks of using them

Quantity: Agriculture is by far the biggest PPP using sector. With approximately 320 000 tonnes of active substances sold per year, the European Union currently accounts for one quarter of the world market of PPPs. The major types of product are fungicides (ca 43% of the market), followed by herbicides (36%), insecticides (12%) and other pesticides (9%). The European PPP producing industry is a major employer in Europe (around 35 000 workers).

Benefits: There are significant economic benefits associated with the use of PPPs. They are used by farmers to improve or safeguard yields by eliminating or reducing competition from weeds and attacks by pests and to minimise labour input. PPPs also play an essential role in ensuring reliable supplies of agricultural products each year at prices which make them affordable for all consumers. The use of PPPs also reduces demand for land for food production. It therefore makes land available for other uses, e.g. amenity, natural parks or

protection of biodiversity. There are however no figures available for the whole of the EU on which to base an evaluation of these benefits.

Risks and costs associated with their use: Pesticides are chemicals that require particular attention because most of them have inherent properties that make them dangerous to health and the environment.

The risks for human and animal health stem from the extreme toxicity of certain PPPs. They may occur through direct exposure (industrial workers producing pesticides and operators using them) or indirect exposure (consumers and bystanders). The chronic effects of exposure to PPPs which might affect the fitness of exposed populations include those due to bioaccumulation and persistence of substances, irreversible effects such as carcinogenicity, mutagenicity and genotoxicity or adverse effects on the immune or endocrine systems of mammals, fishes or birds.

As regards risks for the environment, spray drift, leaching or run-off are diffuse sources of uncontrolled dissemination of PPPs into the environment leading to pollution of soil and water. PPP use may also have additional indirect effects on ecosystems, e.g. loss of biodiversity. In practice it is extremely difficult to quantify the actual adverse effects resulting from the use of pesticides. Therefore, it is not possible to give a figure for the overall costs of the use of pesticides in the EU.

Objectives of the thematic strategy

The communication represents an important step in the preparation of the thematic strategy on sustainable use of pesticides. The objectives formulated by the Council and Parliament are set out below: the communication puts forward ways and means of meeting these objectives in order to initiate the debate during this consultation phase:

- Minimising the hazards and risks to health and environment from the use of pesticides.
- Improved controls on the use and distribution of pesticides
- Reducing the levels of harmful active substances by substituting the most dangerous with safer (including non-chemical) alternatives.
- Encouragement of the use of low input or pesticide-free crop farming particularly by raising users' awareness, promoting the use of codes of good practices and consideration of the possible application of financial instruments.
- A transparent system for reporting and monitoring the progress made, including the development of suitable indicators

Implementation of the strategy

On the basis of the analyses developed in this communication and the outcome of the consultation process currently under way, the Commission will propose at the beginning of 2004 all necessary measures setting out a Community thematic strategy on the sustainable use of pesticides.

The Community and the Member States, in implementing such a strategy, could use many different instruments: legally binding measures, economic incentives, research or voluntary measures. A combination of all types of instruments is also possible. Many of these measures could most effectively be integrated into already existing or currently developing related policy areas, such as water protection, health and consumer protection and the common agricultural policy.

Environmental agreements

(Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions of 17 July 2002 on Environmental Agreements at Community Level within the Framework of the Action Plan on the "Simplification and Improvement of the Regulatory Environment„ [COM(2002) 412 final - Not published in the Official Journal])

Objective

Improving the environmental performance of companies and implement sustainable production methods by encouraging voluntary commitments and agreements in accordance with the sixth Action Programme for the environment.

The Action Plan on Simplifying and Improving the Regulatory Environment [COM(2002) 278 final] was published by the Commission in June 2002. Simplifying and improving the regulatory environment will in the present context of the European Union help to better adapt Community legislation, ensure a high level of legal certainty and enable economic and social operators to be more dynamic.

In the framework of the fifth Action Programme for the environment, the Commission adopted in 1996 a Communication on environmental agreements [COM(1996) 561 final]. It stressed the advantages of such agreements:

- a proactive approach by industry;
- effective and tailor-made solutions;
- fast achievement of environmental objectives.

The 1996 Communication focused on agreements of the Member States whereas the new Communication exclusively concerns the use of agreements at Community level.
The Union is currently striving for environmental agreements in a number of environmental fields such as the use of PVC, integrated product policy, waste management and climate change.

All the environmental agreements covered by the Communication contribute to achieving the objectives of Union policy on the environment. There are three different types:

- agreements initiated by stakeholders in fields where the Commission has not drafted legislation and has not indicated its intention to do so;
- agreements adopted by stakeholders in response to the Commission's stated intention to draft legislation;
- agreements ensuing from a Commission initiative.

Self-regulation and co-regulation

Environmental agreements are a form of self-regulation as they are not binding at Community level. However, the Commission can encourage them, recognise them (this applies to self-regulation) or propose that the legislature make use of them (this applies to co-regulation).
Self-regulation concerns agreements concluded among the social partners, economic operators, NGOs or associations in order to regulate and organise their activities. In general, the initiative is taken by the parties themselves. While self-regulation does not involve the adoption of a legislative instrument, the Commission can nevertheless decide to introduce an evaluation system. Such environmental agreements are generally recognised at Community level:

- by a recommendation from the Commission accompanied by adoption of the agreement or by an exchange of letters between the Commission and representatives of the sector recognising the agreement;
- by a recommendation from the Commission accompanied by a Council and European Parliament decision setting up a monitoring and reporting system.

Co-regulation concerns agreements concluded in the framework of a Community legislative instrument laying down the objectives to be achieved, the timetable to be met, monitoring methods and penalties to be imposed for non-compliance. Details for implementation are set out in the agreements. In general, it is the Commission that takes the initiative for such agreements.

Conditions to be met

Environmental agreements should comply with:
- the provisions of the Community Treaties (in particular the rules on competition, the internal market and State aid for the environment) and all international commitments of the Union;
- the inter-institutional balance between the Commission, Council and Parliament;
- the obligations concerning multilateral trade laid down by the World Trade Organisation. The agreements should provide for the participation of operators from third countries;
- the provisions of the Aarhus Convention; and
- national and Community judicial control.

Evaluation criteria

In addition to the objectives set by the sixth Action Plan for the environment, agreements should present a real added value with regard to the level of protection of the environment. Other criteria should also be taken into account:
- evaluation of the agreements should take account of the cost-benefit ratio. Administrative costs should not be higher than those of other available instruments;
- signatories to environmental agreements should represent the majority of the economic sector concerned and should be responsible and organised;
- the objectives of the agreements must be clearly stated without any ambiguity. If the agreement covers a long period, intermediate objectives must likewise be specified. There must be reliable indicators to measure the extent to which objectives have been achieved;
- agreements should be accessible to the public on the Internet, and the same applies to the relevant reports and accounts. Interested parties should be able to express their opinions;
- environmental agreements should include a monitoring and reporting system for achieving the objectives;
- agreements should incorporate matters relating to sustainable development and consumer protection.

Procedures

This Communication proposes a procedure for adopting environmental agreements when they are used as instruments for self-regulation. First of all, the Commission will analyse the agreement and inform Parliament and the Council whether or not it intends to recognise it. It will also publish this intention on its website in order to enable members of the public to state their views. The Council and Parliament can hold hearings and organise information campaigns on the issues covered. Once all comments have been received, in particular from the Council and Parliament, the Commission will decide whether the agreement ought to be recognised. The text of the agreement will be published on the Commission's website and the recommendation concerning the agreement will be published in the Official Journal. Next, the Commission will monitor whether the objectives of the agreement are being achieved and

inform the Council, Parliament and the public of its findings. If the objectives are not attained, the Commission may propose binding legislation in the field.

A procedure for environmental agreements taking the form of co-regulation instruments is likewise proposed. All key elements will be incorporated in the legal instrument, in particular the objectives and monitoring mechanisms. Before the instrument is adopted in accordance with the codecision procedure, consultation will take place among the stakeholders. The agreement and the results of monitoring will be published on the Commission's website. If the agreement does not produce the results envisaged, the Commission can still propose binding legislation as in the case of self-regulation.

Annex 3 Relevante websites

www.cul.slu.se/english
The Centre for Sustainable Agriculture, focal point for researchers and institutions interested in research, development, education and information related to ecological agriculture. It is active in the work of developing interdisciplinary research methods.

www.defra.gov.uk
DEFRA (the Department for Environment, Food and Rural Affairs) works for the essentials of life - food, air, land, water, people, animals and plants. Our remit is the pursuit of sustainable development - weaving together economic, social and environmental concerns. DEFRA therefore:

- brings all aspects of the environment, rural matters, farming and food production together;
- is a focal point for all rural policy, relating to people, the economy and the environment;
- has roles in both European Union and global policy making, so that its work has a strong international dimension.

http://www.growingforthefuture.com
Home page of the Unilever Sustainable Agriculture Programme, to publish all findings of the programme, including protocols, good practices, monitoring results when available. Information regarding policies, methodology, guidelines and results on mechanisms to support sustainable agriculture.

http://www.sustainable-development.gov.uk/indicators/headline/h13.htm
Headline indicators (including H13: Wildlife, populations of wild birds: 1970 to 2003. The policy objective is to reverse long-term decline in populations of farmland and woodland birds. The overall population of British breeding birds has increased sine 1970, but farmland and woodland birds have declined significantly. Farmland bird populations fell by 43 per cent between 1970 and 2003, and woodland bird populations by 11 per cent. Farmland bird and woodland bird populations did not change significantly between 1998 and 2003.

http://www.smi.org.uk/index.html
The UK Soil Management Initiative (SMI) is an independent organisation created to promote the adoption by UK farmers and advisers of systems designed to protect and enhance soil quality. Agronomic and economic benefits may then be accrued whilst also improving the environment through reduced soil erosion and water pollution. SMI will achieve this through information transfer and advice.

www.forumforthefuture.org.uk
Forum for the future.

www.iied.org/sarl/index.html
The Sustainable Agriculture and Rural Livelihoods (SARL) Programme of the International Institute for Environment and Development (IIED) seeks to promote sustainable, equitable, decentralised agri-food systems based on local diversity and participatory democracy, thereby contributing to improved livelihoods and entitlements, poverty reduction, and long-term ecological and economic sustainability. IIED is an independent, non-profit organization promoting sustainable patterns of world development (including work on food systems) through collaborative research, policy studies, networking and knowledge dissemination.

WOt-onderzoek

Verschenen documenten in de reeks Rapporten van de Wettelijke Onderzoekstaken Natuur & Milieu – vanaf september 2005

WOt-rapporten zijn verkrijgbaar bij het secretariaat van Unit Wettelijke Onderzoekstaken Natuur & Milieu te Wageningen. T 0317 – 47 78 44; F 0317 – 42 49 88; E info.wnm@wur.nl

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WOt

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