



European Commission
Directorate-General for Agriculture

Agriculture and the environment

Half of the European Union's (EU's) land is farmed. This fact alone highlights the importance of farming for the EU's natural environment. Farming and nature exercise a profound influence over each other. Farming has contributed over the centuries to creating and maintaining a variety of valuable semi-natural habitats. Today these shape the majority of the EU's landscapes and are home to many of the EU's richest wildlife. Farming also supports a diverse rural community that is not only a fundamental asset of European culture, but also plays an essential role in maintaining the environment in a healthy state.

The links between the richness of the natural environment and farming practices are complex. While many valuable habitats in Europe are maintained by extensive farming, and a wide range of wild species rely on this for their survival, agricultural

practices can also have an adverse impact on natural resources. Pollution of soil, water and air, fragmentation of habitats and loss of wildlife can be the result of inappropriate agricultural practices and land use. EU policies, and notably the common agricultural policy (CAP), are therefore increasingly aimed at heading off the risks of environmental degradation, while encouraging farmers to continue to play a positive role in the maintenance of the countryside and the environment by targeted rural development measures and by contributing to securing farming profitability in the different EU regions.

This fact sheet explains the CAP's important contribution to environmental sustainability (in Section 1), and the part played by other policy and regulatory measures in helping the EU to meet global environmental sustainability aims and targets (in Section 2). Some major landmarks are set out in Box 1.

Box 1. Agriculture and the environment — major landmarks

- **Treaty of Amsterdam (17 June 1997):** affirmed the EU's commitment to sustainable development and led to the production of a sustainable development strategy (SDS). The Commission's proposals for an EU SDS were published in May 2001. They focused on improving the effectiveness of policy and ensuring coherence between different policies.
- **Cardiff integration process** launched by European Heads of State or Government in June 1998: requires the EU to develop comprehensive strategies to integrate environmental concerns within their respective areas of activity, including agriculture. The Agriculture Council presented an initial strategy to the **Helsinki European Council** in December 1999, followed by an updated strategy document for the **Göteborg European Council** in June 2001.
- **European Commission communication 'Directions towards sustainable agriculture'** (January 1999).
- **Agenda 2000 CAP reform** (March 1999).
- **Göteborg European Council** (June 2001) took reform forward, agreeing that, amongst its objectives, the CAP should contribute to sustainable development by 'increasing its emphasis on encouraging healthy, high-quality products, environmentally sustainable production methods, including organic production, renewable raw materials and the protection of biodiversity'.
- **Political agreement in the Council concerning the Commission reform proposals 'CAP reform — a long-term perspective for sustainable agriculture'** (26 June 2003).

1. Agricultural policy helping the environment

Farming is an activity whose significance goes beyond simple food production. Throughout the production chain processes occur that can have an impact on the natural environment. For example, heavy use of pesticides and fertilisers, incorrect drainage or irrigation practices, a high level of mechanisation or unsuitable land use can produce environmental degradation. However, abandonment of farming activities can also endanger the EU's environmental heritage through loss of semi-natural habitats and the biodiversity and landscape associated with them. The CAP tries to take these factors into account.

Integration of environmental goals into agricultural policy began in the 1980s. Since then the CAP has been increasingly adapted to serve sustainability purposes better. The CAP's objectives include helping agriculture to fulfil its multifunctional role in society: producing safe and healthy food, contributing to sustainable development of rural areas, and protecting and enhancing the status of the farmed environment and its biodiversity. The European Commission's 1999 communication 'Directions towards sustainable agriculture'⁽¹⁾ underlined the importance of integrating environmental concerns into the CAP. The 2003 CAP reform is the latest step in this direction.

'Greening the CAP'

Two major reforms of the CAP in the 1990s have taken increasingly into account the importance of the environmental dimension of farming.

The **reforms of 1992** marked a turning point in EU agricultural policy, not least in terms of integration of environmental concerns. Guaranteed prices for cereals and beef and veal were reduced and production limits continued or implemented for some commodities. Direct aid payments to farmers were introduced. Some important, specific measures to encourage environmentally friendly farming were enacted, for example: the agri-environmental regulation⁽²⁾ (see Box 2 for details); and, the introduction of extensification premiums paid to beef producers claiming payments for low cattle stocking densities.

⁽¹⁾ COM (1999) 22 final.

⁽²⁾ Council Regulation (EEC) No 2078/92 of 30 June 1992 [OJ L 215, 30.7.1992].

The **1999 CAP reform** — part of the 'Agenda 2000' package of EU reforms — pursued these initiatives further. In addition to further reforming market support it reorganised the CAP into two areas of activity:

- market policy (known as the 'first pillar' of the CAP);
- sustainable development of rural areas (the 'second pillar').

Integration of environmental requirements into the 1999 CAP reforms has been achieved via two major pieces of legislation. One, known as the 'horizontal regulation'⁽³⁾ (so-called because it covers all direct payments established under the CAP), requires account to be taken of environmental aims in the implementation of first pillar measures; the second — the rural development regulation⁽⁴⁾ consolidates earlier agri-environmental measures and adds to them, thereby covering the second pillar of the CAP.

Central to the new approach are the concepts of 'cross-compliance', 'direct income support', 'good farming practice' and 'modulation' (explained in Box 3).

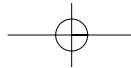
Agenda 2000 maintained the nature of the agri-environment schemes as being obligatory for Member States, whereas they are optional for farmers and implemented by contract. Member States are also required to set out codes of good farming practices in their rural development plans (under the second pillar).

CAP and the environment in the future

The 2003 CAP reform brings greater quality to environmental integration. The reform involves decoupling most direct aid payments from production. This will mean reducing many of the incentives to intensive production that have carried increased environmental risks. Cross-compliance and modulation become compulsory, with the latter increasing further the budget available to finance measures under the second pillar. Compulsory cross-compliance refers to statutory EU standards in the field of environment, food safety, and animal health and welfare at farm level. Beneficiaries of direct payments will also be obliged to maintain all agricultural land in good agricultural and environmental condition.

⁽³⁾ Council Regulation (EC) No 1259/99 of 17 May 1999 [OJ L 160, 26.6.1999].

⁽⁴⁾ Council Regulation (EC) No 1257/99 of 17 May 1999 [OJ L 160, 26.6.1999].



Box 2. Agri-environment schemes

The EU applies agri-environmental measures which support specifically designed farming practices that help to protect the environment and maintain the countryside. Farmers commit themselves, for a five-year minimum period, to adopt environmentally-friendly farming techniques that go beyond usual good agricultural practice. In return they receive payments that compensate for additional costs and loss of income that arise as a result of altered farming practices. Examples of commitments covered by national/regional agri-environmental schemes are:

- environmentally favourable extensification of farming;
- management of low-intensity pasture systems;
- integrated farm management and organic agriculture;
- preservation of landscape and historical features such as hedgerows, ditches and woods;
- conservation of high-value habitats and their associated biodiversity.

Agri-environment measures have become the principal instrument for achieving environmental objectives within the CAP. These measures are co-financed by Member States at a rate of 75 % in areas lagging behind economically (the so-called Objective 1 areas) and 50 % in others. EU expenditure on agri-environment measures amounted in 2002 to nearly EUR 2 billion or 44 % of the EAGGF-Guarantee expenditure for rural development. (The EAGGF, European Agricultural Guidance and Guarantee Fund, finances agriculture expenditure). About one fifth of the EU's agricultural land is covered by agri-environment contracts.

With the 2003 CAP reform, the maximum EU co-financing rate has increased to 85 % in Objective 1 areas and to 60 % in other areas. Moreover, modulation funds will increase the budget available for rural development measures, including agri-environmental schemes.

Box 3. Integration of environmental concerns into the CAP:

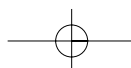
'Cross-compliance'

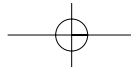
The Agenda 2000 CAP reforms included the basic principle that Member States shall take environmental measures they consider to be appropriate in view of the situation of the agricultural land used or the production concerned. This principle has been incorporated in the horizontal regulation. Member States have had different options to implement such requirements. Among others they could have applied sanctions where farmers do not respect such conditions, which could have included the reduction or even the withdrawal of direct aids. Examples of environmental conditions applied are adherence to maximum stocking rates for cattle or sheep, compliance with specific conditions for the cultivation of sloping land, respect of maximum permitted volumes of fertilisers per hectare and compliance with specific rules concerning the use of plant protection products.

The 2003 CAP reform includes a reinforced cross-compliance as a standard sanctioning approach to be applied to selected statutory requirements in the field of the environment, food safety, plant and animal health, and animal welfare. In addition, cross-compliance will apply to the obligation of farmers to keep their land in good agricultural and environmental conditions.

'Direct income support' and 'decoupling'

A major element of the 1992 CAP reform was the introduction of direct payments to farmers for a number of arable crops and cattle, to compensate for support price cuts. The 1999 CAP reform entailed a further shift from price support to direct payments, with payments becoming essentially direct income supports. This change was driven not only by the need to make the EU farm sector more competitive in the face of the increasingly open global trading regimes, but also by the need to respond better to society's concerns about the relationship between farming and the environment, by removing incentives to intensification of production processes.





The 2003 CAP reform includes the concept of ‘decoupling’ of direct income payments, with the establishment of a single payment scheme, no longer linked (coupled) to production of specific crops or breeding of animals, but based on historical reference levels of direct support received by farmers. Decoupling of direct income payments is aimed at removing production incentives, which can have damaging environmental consequences.

‘Good farming practice’ (GFP)

Another principle set out in the Agenda 2000 CAP reform is that of ‘good farming practice’ (GFP). Member States have to define codes of GFP at regional or national level. GFP should correspond to the type of farming that a reasonable farmer would follow in the region concerned, which entails compliance with existing statutory environmental requirements. GFP constitutes the baseline requirement for farmers wishing to join agri-environmental schemes. Only farming practices going beyond GFP may qualify for agri-environment payments (see Box 2). These payments mainly cover the loss of farmers’ income for adopting environmentally friendly practices. Measures related to less-favoured areas (LFAs) also require the respect of the codes of GFP.

The principle of compliance with GFP is enshrined in the rural development regulation. Compliance with minimum environmental standards is a condition for eligibility for support under several measures, such as investment in agricultural holdings, setting-up of young farmers, and improving the processing and marketing of agricultural products.

Modulation

The Agenda 2000 CAP reform also introduced the possibility of a shift of support from market policy to measures contributing to environmentally benign practices. Thus, part of the contribution to farmers in direct payment may be made available by Member States to increase the budget available for agri-environmental measures. This concept, known as ‘modulation’, is a part of the horizontal regulation.

The 2003 CAP reform includes modulation as a compulsory measure. Modulation will start in 2005 with a rate of 3 %, increasing in two steps up to 5 %. Farmers receiving direct payments up to EUR 5 000 will receive a full reimbursement of modulation amounts. Modulation amounts will be allocated to Member States on the basis of objective criteria.

Greener less-favoured areas (LFAs)

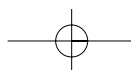
The less-favoured areas are areas of the EU where natural physical conditions cause lower agricultural productivity. Some 56 % of the EU’s agricultural land is defined as LFA (data from 1998). The EU recognises that efforts are necessary to support LFA farmers for the vital environmental and societal role they perform in these disadvantaged areas. The long-standing system of paying compensatory allowances to farmers, and offering favourable terms on investment aids, in recognition of these natural handicaps, was reinforced in Agenda 2000 and incorporated in the framework for rural development measures. A major objective is to ensure the continuation of farming in the LFAs, in order to preserve scenic landscapes as well as environmentally valuable habitats. Compensatory allowances in LFAs are now paid on an area basis and not in relation to production. This change of the scheme was introduced by Agenda 2000. It removes an incentive to more intensive farming and

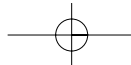
helps avoid negative environmental consequences such as overgrazing. Certain environmental conditions must be respected for farmers to receive LFA payments; to be eligible for these payments farmers must apply usual good farming practices compatible with the need to safeguard the environment and maintain landscape.

Agenda 2000 also added to LFAs ‘Areas with environmental restrictions’, where farmers are subject to restrictions on agricultural use. The focus of this measure is on Natura 2000 areas.

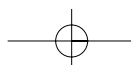
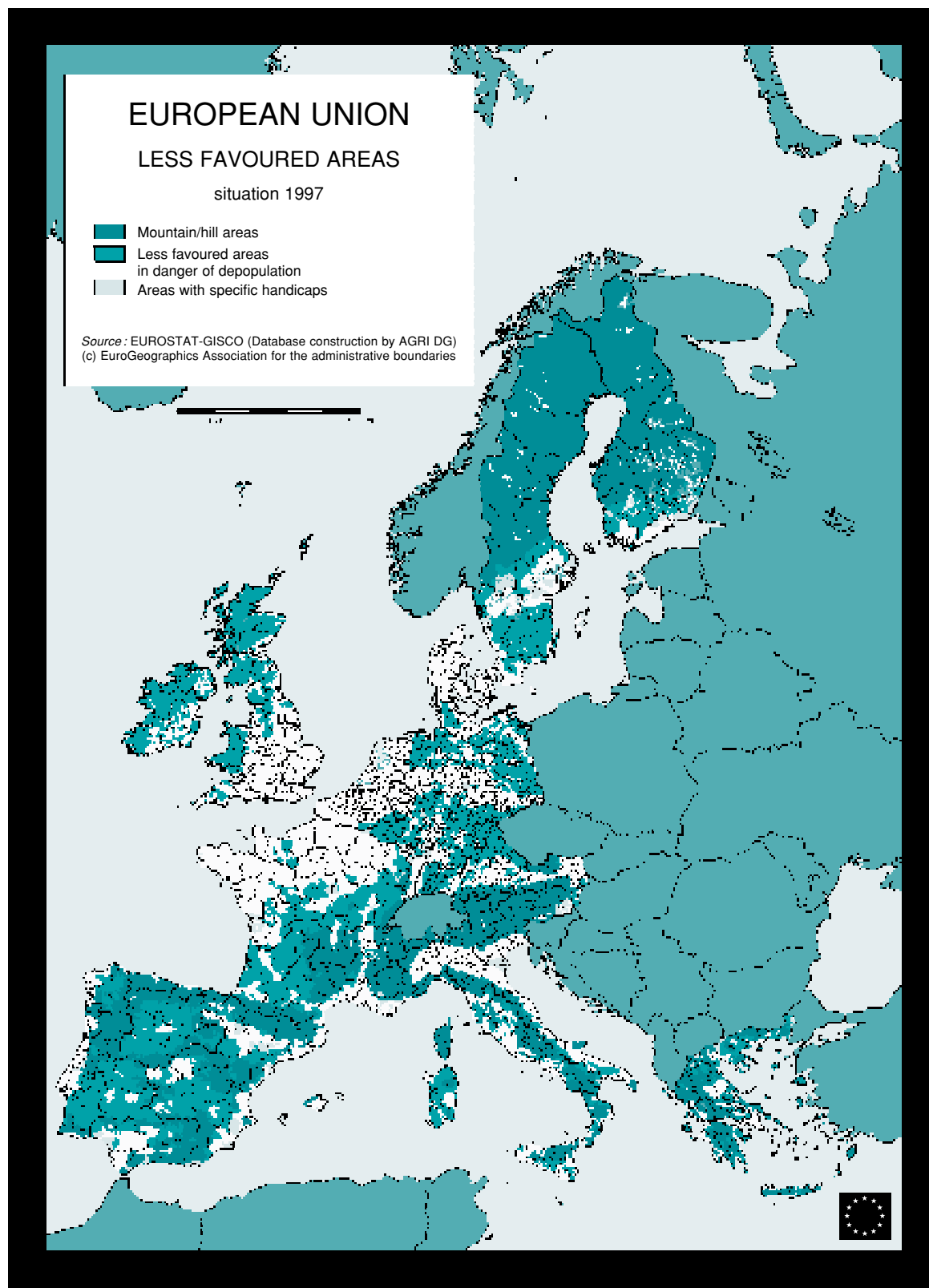
In 2002, the EU contribution for LFAs and areas with environmental restrictions amounted to EUR 924 million (about 21 % of EAGGF-Guarantee expenditure for rural development).

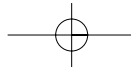
Map 1 illustrates the LFA situation in 1997 (the most recent survey).





Map 1. The European Union's LFAs





Forestry activities

The afforestation of agricultural land has become an established part of agricultural policy. If correctly managed forestry can have a significant and positive impact on the natural landscape and on biodiversity. Forests also play a role in offsetting the 'greenhouse effect' and the threat of global warming. In addition, forest management is an alternative source of revenue and employment for rural areas, especially in more marginal land conditions. Agenda 2000 reinforced financial incentives to farmers converting agricultural land to woodland and forest. The CAP also supports forest improvement, protective measures against forest fires and the establishment of wind breaks (important in fighting soil erosion). The principal aims are to maintain the ecological stability of forests and to restore damaged ones.

- N₂O (nitrous oxide) emissions from soils, mainly due to nitrogen fertilisation;
- CH₄ (methane) emissions from intestinal fermentation — 41% of all CH₄ emissions in the EU are from agriculture;
- CH₄ and N₂O emissions from manure management.

Commission working groups on agriculture and on carbon sinks (related to agricultural soils and to forestry) are evaluating the best means to deal with GHG problems in agriculture and also how agriculture could make a positive impact to solving other problems. Measures being considered include: encouragement of more efficient fertiliser applications to reduce overall use, a process already started under existing nitrate legislation (the nitrates directive⁽⁶⁾); composting and improvements in anaerobic digestion systems (e.g., for production of biogas), to deal with biodegradable by-products and waste; renewed emphasis on biomass production, conservation tillage and organic farming.

2. Agriculture and environmental key issues

Greening the common agricultural policy is a part of a wider process of addressing local, regional, national and even global environmental concerns. These relate to climate change, pollution by nitrates and pesticides, soil preservation, water management and biodiversity conservation. These issues are profoundly linked and the Cardiff integration process recognises the importance of horizontal integration of all the sectoral policies of the EU.

Agriculture and climate change (UN Kyoto Protocol — 1997)

Agriculture adds to greenhouse gas (GHG) problems. However, it could also contribute to providing solutions to the EU's overall climate change challenges. The Commission launched the European climate change programme in March 2000⁽⁵⁾. This contains plans for how the EU will meet its Kyoto Protocol commitment to reduce GHG emissions by 8 % by 2012. There are three main sources of GHG emissions from agriculture:

Further development of renewable, agricultural biomass could contribute to reductions in emissions from energy and transport, while benefiting the agricultural sector. Energy crops have been produced on set-aside land. But additional measures were considered to be needed. Thus, the 2003 CAP reform introduces a 'carbon credit' system offering financial incentives to farmers to produce biomass.

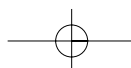
Nitrates

The EU's nitrates directive was introduced in 1991 with two main objectives in mind: to reduce water pollution by nitrates from agricultural sources and to prevent further pollution. The directive is managed by Member States and involves: monitoring of water quality in relation to agriculture; designation of nitrate vulnerable zones; establishment of (voluntary) codes of good agricultural practice and of (obligatory) measures to be implemented in action programmes for the nitrate vulnerable zones. For these zones, the directive also establishes a maximum limit of nitrogen from livestock manure that can be applied per hectare: 170 kg N/ha per year.

Codes of good agricultural practice cover such activities as application periods, fertiliser use near watercourses

⁽⁵⁾ COM (2000) 88 final.

⁽⁶⁾ Council Directive 91/676/EEC of 12 December 1991 (OJ L 375, 31.12.1991).



and on slopes, manure storage methods, spreading methods and crop rotation and other land management measures. Action programmes must include obligatory measures concerning periods of prohibition of the application of certain types of fertiliser, capacity of manure storage vessels, limitations to the application of fertilisers (on steep slopes; to water-saturated, flooded, frozen or snow-covered ground; near water courses), as well as other measures set out in codes of good agricultural practice.

Nitrate vulnerable zones cover about 37 % of the EU-15 total area (1.2 million km² of the total of 3.7 million km²), see Map 2. Implementation of the directive by Member States is a complex process. So far, only a minority of Member States have fully applied the directive and the Commission has opened a number of infringement proceedings against Member States for non-implementation. The linkage between good farming practice and respect of statutory environmental standards (including those relating to the nitrates directive), as established in the framework of the second pillar of the CAP, may contribute to improved implementation by Member States.

With the 2003 CAP reform, respect of statutory requirements arising from the implementation of the nitrates directive is included within the framework of the reinforced cross-compliance measures.

Pesticides

Pesticides used in agriculture are usually referred to as plant protection products. They protect plants or plant products against pests. They are widely used in farming for their economic benefits — to fight crop pests and reduce competition from weeds, thus improving yields and protecting the quality, reliability and price of produce. However, their use does involve risk because most have inherent properties that can make them dangerous to health and the environment if not used properly. Human and animal health can be negatively affected through direct exposure (e.g. industrial workers producing plant protection products and operators applying them) and indirect exposure (e.g. via their residues in agricultural produce and drinking water, or by exposure of bystanders or animals to spray drift). Soil and water may be polluted via spray drift, dispersal of pesticides into the soil, and run-off during or after cleaning of equipment, or via uncontrolled disposal. The EU thus seeks to ensure their correct use, it regulates their use in order to minimise their detrimental environmental impact and informs the public about their use and any residue issues.

There are EU regulations covering the placing of plant protection products on the market ⁽⁷⁾, the placing of biocide products on the market ⁽⁸⁾ and fixing maximum residue levels in food ⁽⁹⁾. The EU also regulates to protect water quality in respect of pesticides. The water framework directive ⁽¹⁰⁾ provides an integrated framework for assessment, monitoring and management of all surface waters and groundwater based on their ecological and chemical status. The directive requires measures be taken to reduce or eliminate emissions, discharges and losses of hazardous substances, for the protection of surface waters. By 2001, 33 priority substances had been listed, of which 13 were substances used in plant protection products.

Agri-environmental measures offer support for commitments on keeping records of actual use of pesticides, lower use of pesticides to protect soil, water, air and biodiversity, the use of integrated pest management techniques and conversion to organic farming. The EU's sixth environmental action programme ⁽¹¹⁾ addresses the need to encourage farmers to change their use of plant protection products. The Commission communication 'Towards a thematic strategy on the sustainable use of pesticides' ⁽¹²⁾ follows this up and suggests several possible measures such as establishing national plans to reduce hazards, risks and dependence on chemical control. Following a consultation process with stakeholders the Commission will make proposals for a strategy to improve pesticide use in agriculture.

The reinforced cross-compliance established by the 2003 CAP reform includes the respect of statutory requirements arising from the implementation of EU regulation covering the placing of plant protection products on the market.

⁽⁷⁾ Council Directive 91/414/EEC of 15 July 1991 (OJ L 230, 19.8.1991).

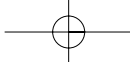
⁽⁸⁾ Directive 98/8/EC of the Council and the European Parliament of 16 February 1998 (OJ L 123, 24.4.98).

⁽⁹⁾ Council Directive 76/895/EEC of 23 November 1976 (OJ L 340, 9.12.1976), as last amended by Commission Directive 2002/79/EC of 2 October 2002 (OJ L 291, 28.10.2002); Council Directive 86/362/EEC of 24 July 1986 (OJ L 221, 7.8.1986), as last amended by Commission Directive 2002/97/EC (OJ L 343, 18.12.2002); Council Directive 86/363/EEC of 24 July 1986 (OJ L 221, 7.8.1986), as last amended by Commission Directive 2002/97/EC (OJ L 343, 18.12.2002); Council Directive 90/642/EEC of 27 November 1990 (OJ L 350, 14.12.1990) as last amended by Commission Directive 2002/100/EC (OJ L 2, 7.1.2003).

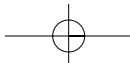
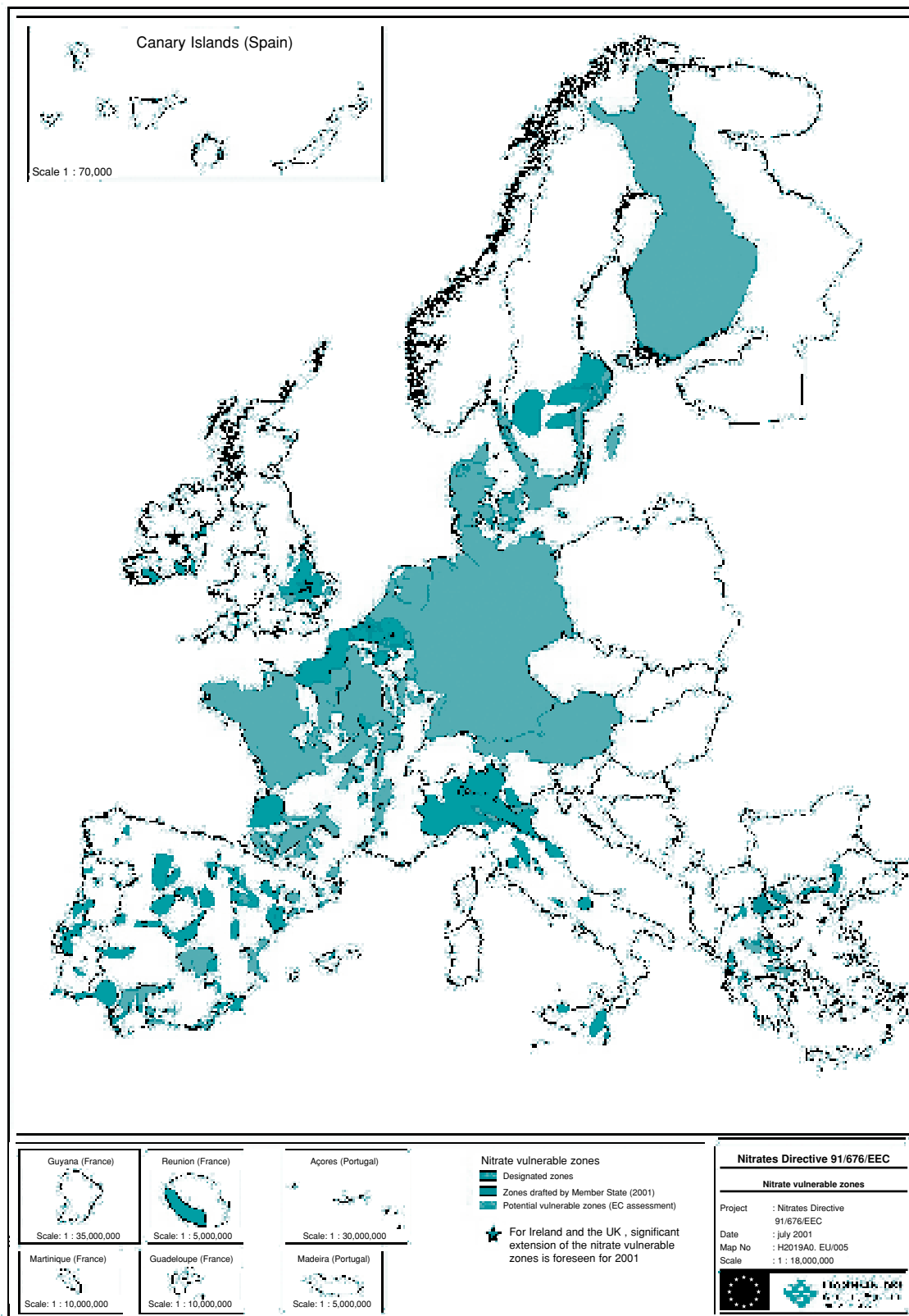
⁽¹⁰⁾ Directive 2000/60/EC of the Council and the European Parliament of 23 October 2000 (OJ L 327, 22.12.2000).

⁽¹¹⁾ Decision No 1600/2002/EC of the Council and the European Parliament of 22 July 2002 (OJ L 242, 10.9.2002).

⁽¹²⁾ COM (2002) 349 final.



Map 2. Nitrate vulnerable zones in the EU



Soil protection

Soil degradation processes such as desertification, erosion, decline in soil organic matter, soil contamination (e.g. by heavy metals), soil sealing, soil compaction, decline in soil biodiversity and salinisation can cause soil to lose its capacity to carry out its main functions. Such degradation processes can result from inappropriate farming practices such as unbalanced fertilisation, over-abstraction of groundwater for irrigation, improper use of pesticides, use of heavy machinery, or overgrazing. Soil degradation may also result from abandonment of certain farming practices. For example greater specialisation towards arable farming has frequently been accompanied by abandonment of traditional crop rotation systems and manuring with green legumes, practices that contributed to the restoration of soil organic matter content.

The sixth environmental action programme emphasises the need for an EU strategy on soil protection. This would supplement various national soil protection programmes that address the specific needs of topographic and climatic conditions. The Commission's communication 'Towards a thematic strategy for soil protection'⁽¹³⁾ sets out the building blocks for EU action to arrest soil degradation. It maps national actions and identifies the gaps that could be filled at EU level, as well as outlining possible actions including new legislation related to the use of sewage sludge in agriculture and compost, a proposal for soil monitoring legislation and a timetable for these.

Agri-environmental measures offer opportunities for favouring the build-up of soil organic matter, the enhancement of soil biodiversity, the reduction of soil erosion, contamination and compaction. These measures include support to organic farming, conservation tillage, the protection and maintenance of terraces, safer pesticide use, integrated crop management, management of low-intensity pasture systems, lowering stock density and the use of certified compost.

With the 2003 CAP reform, the reinforced cross-compliance includes respect of standards of good agricultural and environmental conditions referring to protection soil from erosion and maintenance of soil organic matter and soil structure.

Water management

Agriculture is a significant user of water resources in Europe, accounting for around 30 % of total water use.

In southern Europe (where it is a fundamental input) irrigation accounts for over 60 % of water use, in most countries; in northern Member States it ranges from zero to over 30 %. The quantity of water used for irrigation depends on factors such as climate, crop type, soil characteristics, water quality, cultivation practices, and irrigation methods. Either as an artificial addition to natural availability, or as a compensation for seasonal variability of rainfalls, irrigation allows improvement of the crop productivity and reduction of the risks associated with dry periods, and makes it possible to cultivate more profitable crops. However, irrigation is also the source of a number of environmental concerns, such as over-abstraction of water from subterranean aquifers, irrigation driven erosion, soil salinisation, alteration of pre-existing semi-natural habitats; and, secondary impacts arising from the intensification of the agricultural production permitted by irrigation.

The Commission adopted the communication 'Pricing policies for enhancing the sustainability of water resources'⁽¹⁴⁾ in 2000. This communication indicates the basic principles for water policies, with a view to promoting sustainable use of water resources. It stresses the need for water pricing policies to reflect all the different types of cost associated with the provision and use of water. This principle is fully embedded in the water framework directive, which requires Member States to ensure, at the latest by 2010, 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.

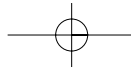
Under rural development measures (see Section 1), the CAP provides support to investments for improving the state of irrigation infrastructures and allowing farmers to shift to improved irrigation techniques (e.g., drop irrigation) that require the abstraction of lower volumes of water. And, agri-environmental schemes cover commitments to reduce irrigation volumes and adopt improved irrigation techniques.

With the 2003 CAP reform, respect of statutory requirements arising from the implementation of the groundwater directive⁽¹⁵⁾ is included within the framework of the reinforced cross-compliance.

⁽¹³⁾ COM [2002]179 final.

⁽¹⁴⁾ COM [2000] 477 final.

⁽¹⁵⁾ Council Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances [OJ L 20, 26.1.1980].



Biodiversity conservation

In recent decades, the rate of decline and even disappearance of species and related habitats, ecosystems and genes (i.e. biodiversity) has increased throughout the world. Maintaining biodiversity is an essential element of the long-term sustainability of agriculture. The European Community is a contracting party to the United Nations Convention on Biological Diversity which was ratified in December 1993. In 1998 the EU adopted a European Community biodiversity strategy. The overall objective of the strategy is to deal with the causes of significant reduction or loss of biodiversity at the source.

A biodiversity action plan for agriculture was adopted by the Commission in March 2001 ⁽¹⁶⁾. Officially launched by the EU in 2002 it identifies concrete priorities within the existing CAP for biodiversity conservation and sustainable use, concerning for example: supporting extensive methods of production; developing sound agricultural practices taking biodiversity into account; sustainable management of natural resources including linear features (hedges, wildlife corridors); action to conserve local or threatened livestock breeds or plant varieties; targeted actions aimed at conserving agri-biodiversity in the enlargement countries; all these supported by research, training and education.

The 2003 CAP reform reinforces the measures aiming at the conservation of biodiversity. Thus, the reinforced cross-compliance will cover respect of statutory requirements arising from the implementation of the wild birds directive ⁽¹⁷⁾ and the habitats directive ⁽¹⁸⁾, and include requirements related to maintenance of habitats. Moreover, there will be a reinforced support in areas with environmental restrictions resulting from the implementation of the wild birds directive and the habitats directive (Natura 2000).

Genetic resources in agriculture

The EU has implemented measures on the conservation of genetic resources. Council Regulation No 1467/94 of 20 June 1994 on the conservation, characterisation, collection and utilisation of genetic resources in agriculture adopted a Community action programme. This programme was the Commission's response to

European Parliament resolutions which had highlighted the problem of genetic erosion.

Genetically modified organisms (GMOs)

EU legislation on GMOs has been in place since the early 1990s and this regulatory framework has been further extended and refined. Specific legislation is designed to protect citizens' health and the environment while simultaneously creating a unified market for biotechnology. A major strand of EU legislation on GMOs covers the release of genetically modified organisms into the environment. Directive 2001/18/EC ⁽¹⁹⁾, which replaced the former 1990/220/EEC ⁽²⁰⁾, put in place an approval process for the release into the environment or placement on the market of any GMO or product consisting of or containing GMOs. Examples of the stipulations in the regulatory framework are:

- an assessment of risks with respect to the environment and to human health associated with the cultivation or the putting on the market of GMOs;
- mandatory post-market monitoring requirements, including on long-term effects associated with the interaction with other GMOs and the environment;
- mandatory information to the public;
- a requirement for Member States to ensure labelling and traceability at all stages of the placing on the market;
- first approvals for the release of GMOs to be limited to a maximum of 10 years;
- obligatory consultation of the Scientific Committee(s);
- an obligation to consult the European Parliament on decisions to authorise the release of GMOs.

Since Directive 1990/220 entered into force in October 1991, the commercial release of 18 GMOs has been authorised in the EU. But, since October 1998, no further authorisations have been granted. Legislation on GMOs is under review.

General EU environmental legislation

Various items of general environmental legislation are relevant to agriculture also.

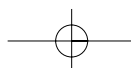
⁽¹⁶⁾ COM (2001) 162 final.

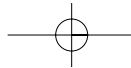
⁽¹⁷⁾ Council Directive 79/409/EEC (OJ L 103, 25.4.1979).

⁽¹⁸⁾ Council Directive 92/43/EEC (OJ L 206, 22.7.1992).

⁽¹⁹⁾ Directive 2001/18/EC of the Council and the European Parliament of 12 March 2001 (OJ L 106, 17.4.2001).

⁽²⁰⁾ Council Directive 90/220/EEC of 23 April 1990 (OJ L 117, 8.5.1990).





The integrated pollution prevention and control directive ⁽²¹⁾ requires industry and intensive livestock farms exceeding well-defined sizes to prevent emissions of pollutants to air, water and land, to avoid waste production and dispose of waste in a safe way, and to return disused industrial sites to a satisfactory state. The strategic environmental assessment directive ⁽²²⁾ and the environmental impact assessment directive ⁽²³⁾ require an environmental assessment to be carried out for certain plans and programmes and certain private and public projects, including the likely impact on soils. Risk assessments related to soil are carried out under the existing substances regulation ⁽²⁴⁾. The habitats directive defines a number of terrestrial habitats that depend on specific soil characteristics, such as dunes, peat lands, calcareous grasslands and wet meadows.

There is a considerable body of legislation on waste (sewage sludge directive ⁽²⁵⁾, waste framework directive ⁽²⁶⁾, landfill directive ⁽²⁷⁾, incineration directive ⁽²⁸⁾ and urban wastewater directive ⁽²⁹⁾) that regulates the management and recycling of waste and thereby contributes to preventing soil contamination.

3. The agricultural environment and enlargement

The accession countries do not pose specific new environmental problems. However, they must adopt the *acquis communautaire* as they join, including all environmental elements. In addition to finalising the transposition of the *acquis* the accession countries need to focus their efforts on reinforcing their overall administrative capacity to apply it, in particular in the area of waste management. On the other hand accession to the

⁽²¹⁾ Council Directive 96/61/EC of 24 September 1996 (OJ L 257, 10.10.1996).

⁽²²⁾ Directive 2001/42/EC of the Council and the European Parliament of 27 June 2001 (OJ L 197, 21.7.2001).

⁽²³⁾ Council Directive 85/337/EEC of 27 June 1985 (OJ L 175, 5.7.1985).

⁽²⁴⁾ Council Regulation (EEC) No 793/93 of 23 March 1993 (OJ L 84, 5.4.1993).

⁽²⁵⁾ Council Directive 86/278/EEC of 12 June 1986 (OJ L 181, 4.7.1986).

⁽²⁶⁾ Council Directive 75/442/EEC of 15 July 1975 (OJ L 194, 25.7.1975).

⁽²⁷⁾ Council Directive 99/31/EC of 26 April 1999 (OJ L 182, 16.7.1999).

⁽²⁸⁾ Directive 2000/76/EC of the Council and the European Parliament of 4 December 2000 (OJ L 332, 28.12.2000).

⁽²⁹⁾ Council Directive 91/271/EEC of 21 May 1991 (OJ L 135, 30.5.1991).

EU is likely to accelerate changing farming practices in the new Member States and will require prevention of habitat and species losses.

Rural development measures have been adapted or created in order to reflect better the requirements of the new Member States in the first years of accession. This means that for a limited period, new Member States will be able to use rural development funds for schemes designed to help restructuring of the rural sector. For example, there is support for semi-subsistence farms undergoing restructuring as well as specific measures to assist farmers in meeting EU standards, including environmental requirements. At the same time, the new Member States must adopt the CAP in full.

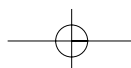
The Sapard programme ⁽³⁰⁾ allows accession countries to make a head start on adapting to EU requirements. Pilot agri-environment schemes can be part of these programmes. The management of nature conservation areas, the development and promotion of organic farming, the prevention of erosion and pollution and the maintenance of farming (especially extensive grazing) in high natural value areas are of particular interest for the applicant countries.

4. Measuring environmental performance

The EU is committed to improving its agricultural environment. In order to devise the correct initiatives to achieve this, and to measure their success, it is essential to develop the means to assess them (indicators), especially at regional/local level. For example, it is difficult to assess the relationship between water management and agricultural activities owing to a lack of data (e.g. on drainage and the drying out of wetlands).

The European Councils of Cardiff and Vienna (both 1998) underlined the importance of developing environmental indicators. Environmental indicators help to transform physical and monetary data about human activities and the state of the environment into decision supporting

⁽³⁰⁾ <http://europa.eu.int/scadplus/leg/en/lvb/l60023.htm>



information. With the help of environmental indicators it is possible to understand better the complex issues in the field of agriculture and environment, to show developments over time, and to provide quantitative information. For example, the development of fertiliser use is meaningful only if considered in relation to the development of actual fertiliser uptake. Indicators have to reflect site-specific features and programme criteria in order to be meaningful. General indicators tend to be less reliable about the performance of specific policies.

The development of agri-environment indicators was described in a communication on indicators for the integration of environmental concerns into the common agricultural policy⁽³¹⁾. This has been followed up by a communication on 'statistical information needed for

indicators to monitor the integration of environmental concerns into the common agricultural policy'⁽³²⁾, which outlines steps required to improve understanding and monitoring of the impact of policies on the environment and biodiversity in agricultural areas. To improve, develop and compile the agri-environment indicators identified by these two communications at the appropriate geographical level, the IRENA⁽³³⁾ project has been launched (September 2002). The project is a collaborative effort between the Directorates-General for Agriculture, Environment, Eurostat, the Joint Research Centre and the European Environment Agency which is responsible for the coordination. The final output of the project will be an indicator report and an indicator-based assessment to be presented by December 2004.

⁽³¹⁾ COM (2000) 20 final.

⁽³²⁾ COM (2001) 144 final.

⁽³³⁾ IRENA is the acronym of 'Indicator reporting on the integration of environmental concerns into agricultural policy'.



European Commission
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Editor: Eugene LEGUEN DE LACROIX, European Commission, Directorate-General for Agriculture.
This publication does not necessarily express the official views of the Commission.
For further information: European Commission, Office L-130 4/148A, B-1049 Brussels
Telephone: direct line (32-2) 29-53240, exchange 29-91111. Fax 29-57540
Telex: COMEU B 21877. Internet: <http://europa.eu.int/comm/agriculture/index.en.htm>
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