



***ASSESSING THE FIFTH ENVIRONMENTAL ACTION PROGRAMME - IN
RELATION TO THE AGRICULTURE SECTOR***

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First draft

A report for the European Environmental Advisory Councils

Introduction

In September 1998, the European Parliament and Council agreed that a global assessment should be undertaken of the fifth Community Environmental Action Programme. The European Commission has invited comments on the implementation of the programme and options for the future as part of the assessment exercise. This paper is concerned primarily with agriculture, one of five economic sectors which were targeted in the original programme. Agricultural activity is both a source of environmental pressure and a means of maintaining certain cultural landscapes and semi-natural habitats. Its importance as an influence on the European environment is matched by the substantial degree of policy determination at the EU level, notably through the Common Agricultural Policy (CAP). For both reasons, agriculture was an appropriate sector for selection in the fifth Action Programme and it is likely to be a continued concern in any future programme. Consequently, a number of Councils have selected agriculture as a topic for a collective response to the Commission. Nonetheless, it should be noted that the Councils are not exclusively concerned with the agricultural element in the programme; many have submitted papers on broader aspects of the programme.

The European Environmental Advisory Councils

This paper has been prepared on behalf of a group of European Environmental Advisory Councils (EAACs) which have chosen to present a joint submission to the European Commission. The Advisory Councils provide widespread independent advice to national and regional governments in environmental topics, including the societal, scientific, international, sustainable and long-term aspects of nature conservation and environmental policy. Such councils have an active role in most European countries and membership of the group is not confined to one council per country - there are several participants from certain countries. Most members are drawn from the EU but there are also participants in the accession countries. Initiatives of this kind are organised with the help of a 'focal point' which acts as a secretariat - currently it is English Nature. A list of the Councils which have worked together on the preparation of this paper is attached in Annex I - other Councils may not share the views expressed here. (??)

The Fifth Environmental Action Plan

The fifth Environmental Action Plan of the European Community set out the following long-term objectives for the agricultural sector:

- to maintain the basic natural processes indispensable for a sustainable agricultural sector by conservation of water, soil and genetic resources,*
- to decrease the input of chemicals to the point that none of these processes be affected,*
- to achieve equilibrium between nutrient inputs and absorption capacities of soils and plants,*
- to manage the rural environment in ways that maintain biodiversity and natural habitats and minimise natural risks and fires.*

The programme contains a set of targets up to the year 2000 which are concerned particularly with water pollution, levels of organic material in the soil, the use of pesticides, the proportion of agricultural land under management agreements, management plans for particularly sensitive rural areas and forestry. These broad objectives and targets are then translated into a set of actions which apply to the EC itself, Member States, local authorities, the agriculture sector and forest owners. The precise role of different actors is not defined although the overarching framework is at the Community level and a number of specific EC instruments are identified.

Influence of the Action Programme on Community Agriculture Policy

The proposed set of actions makes little direct reference to the CAP, although it is suggested that agri-environment programmes will make an important contribution and there is a proposal for environmental cross-compliance which undoubtedly applies to direct payments under the CAP.

There is little to suggest that the fifth programme has had a major influence on agriculture policy at EU level. The programme was introduced shortly after the 1992 MacSharry reforms of the CAP were agreed and most of the advances in European agriculture policy since then have been relatively minor, although expenditure on agri-environment programmes has grown faster than anticipated. Indeed, the target of achieving 15 per cent of the agricultural land area under management agreements has been exceeded, with the figure currently around 19 per cent.

The EU policy on environmental cross-compliance has remained largely unchanged since the MacSharry reform of 1992, although it is now a subject of debate again within the Agenda 2000 proposals. Whilst it could be argued that the fifth Action Programme has helped to keep the issue of cross-compliance on the agriculture agenda, it does not appear to have been a significant influence on DG VI at the time when they were drawing up the Agenda 2000 proposals.

All Member States have implemented agri-environment schemes since 1992, as they are required to do under Regulation 2078/92. The scale of implementation reflects the level of commitment in the Member States, the availability of EU and national funding and the extent of interest among farmers, rather than the target in the fifth programme. The

influence of the fifth programme has been more indirect, perhaps helping to change about the value of paying farmers for appropriate environmental management. While there are great variations in total expenditure and the area enrolled in agri-environment schemes between Member States, these do not necessarily reflect the pattern of environmental concerns on the ground. In certain Member States with sizeable areas of semi-natural habitats requiring appropriate management by livestock or other forms of farming, agri-environment programmes remain at an early stage of development. The short term target of signing up 15 per cent of the utilised agricultural area in management agreements has been reached but the longer term objective of rural environment management 'permitting the maintenance of biodiversity and natural habitats and minimising natural risks' is still to be attained.

One specific action identified in the programme is the protection of all endangered domestic animal races. The agri-environment Regulation has provided a policy mechanism within the CAP for funding initiatives to protect these species and several Member States have taken up this option. However, others have not done so and the overall implementation of this measure appears patchy.

Most of the other actions specified in the Action Programme are in the realm of environment or forestry policy, rather than the CAP per se. Progress has been mixed:

- the proposal to re-evaluate licence conditions for irrigation schemes is primarily a matter for Member States. It is not immediately apparent that many authorities have made major changes to the conditions applying to existing irrigation schemes but a review of this topic is overdue. Strict environmental guidelines for irrigation projects receiving support from the CAP budget or the Structural Funds might provide an incentive to raise standards at the national and regional level;*
- state aids for drainage schemes were a major issue in the 1980s when large scale schemes involving the reclamation of wetlands were still taking place. These have become very much less commonplace during the 1990s because of changing environmental priorities and diminishing returns;*
- the training of farmers in environmental issues has undoubtedly improved since 1992 as a result of initiatives at the national, regional and local level. Regulation 2078/92 provided FEOGA finance for new training initiatives, although it was not designed to provide aid for existing ones. Training is an important aspect of progress towards sustainable agriculture and should be given greater priority in the next decade;*
- the Action Programme refers to the promotion of exchange visits between regions with 'comparable environment management situations'. In practice, DG XI provided finance for a scheme of this kind run by the Institute for European Environmental Policy over a three year period. There appear to be no plans to continue this support for exchange visits in future although it is a helpful way of spreading ideas;*
- environmentally sensitive afforestation and regeneration of existing forests was another priority action. The programme refers specifically to 'slow growing trees, mixed afforestation'. National and regional authorities and the private sector are the main initiators of afforestation and woodland regeneration in Europe. Governments have pursued a wide variety of policies, some actively encouraging new forests, others*

regarding the existing forest area as broadly sufficient. Where afforestation has been on a significant scale, the practices adopted have not always been environmentally sensitive. Aid from the Community has been available under Regulation 2080/92, which has been heavily utilised in a few Member States such as Spain and Ireland, and not at all by others. It is notable that this Regulation leaves a large measure of discretion to Member States in adopting their own planting practices. There are no detailed rules of the kind accompanying the agri-environment Regulation. Such rules, in the form of an implementing Regulation, might prove a valuable opportunity for encouraging more environmentally sensitive practices, such as greater use of natural regeneration and the appropriate selection of tree species.

Despite the limited influence which the programme has exerted on mainstream agricultural policy measures, its contribution should not be dismissed. It has provided a framework for addressing the agriculture-environment relationship at a European level and has introduced some formal targets which previously had been absent from the discussion. The programme has raised expectations that progress will be made in integrating environmental concerns into agriculture policy, both at government level and externally, particularly amongst environmental NGOs. It has provided a platform for discussion between agricultural and environmental authorities, not least at the European level. While there has been no machinery for rigorously pursuing the actions identified, they have been reviewed and revisited from time to time, for example the recent Decision by the Council and the European Parliament which led to the decision to undertake a global assessment of the programme (Decision 2179/98, OJ L275, 10 October 1998). This Decision is accompanied by a Commission statement about the CAP stating clearly that the current Agenda 2000 proposals contain elements which reflect a greater emphasis on integration. The statement spells out the potential contribution of cross-compliance and the possible linkage between payments to livestock farmers under 'national envelopes' and the pursuit of environmental goals.

Experience in Selected Member States

It is more difficult to summarise the experience of Member States in developing their policies in this field and responding to the targets and action proposed in the programme. Conditions vary greatly between Member States and the programme is not legally binding on them. Most countries have experienced aspects of agricultural intensification in some areas and marginalisation and abandonment in others, according to their particular natural and cultural qualities. The policies implemented in response to these processes have also varied. The examples of Belgium, Denmark, France, Germany, the Netherlands and the United Kingdom illustrate progress over the last eight years and are relevant to an assessment of the programme as a whole. The comments below draw on experience in these six Member States in the 1990s. Brief summaries for each of them individually are included in the Annex attached.

Objectives for agriculture and the environment

Certain Member States, such as the Netherlands and Denmark, have elaborated formal plans and objectives for key environmental issues relating to agriculture, such as reductions in the application of pesticides or livestock wastes. Some have adopted quantitative targets for individual pollutants, such as the Flemish target of reducing

ammonia emissions by 40 per cent in relation to 1990 levels by the year 2002. Most of the issues selected as priorities by national authorities are related to the objectives and targets set out in the fifth Action Programme, and there is a reasonably good match between the direction of change identified at the EU and national levels. Not surprisingly, the particular instruments selected to pursue these objectives vary considerably.

Reductions in water pollution have been the primary focus of many action plans and new policy initiatives. Some of these have focused on the overall volume of nutrient discharges at a national level, others have been based on stricter regulations and standards applying at the farm level.

The fifth programme refers to nitrates, phosphates, ammonia and other wastes from intensive livestock units, pesticides, the control of irrigation and drainage, soil protection and nature conservation. Each of these issues has been prominent in at least one Member State, with water pollution and nature conservation a concern almost everywhere. Relatively few Member States have been active in establishing soil protection policies - Germany and the Netherlands are prominent exceptions. The fifth programme specifically advocates the use of reduction programmes for phosphate use. A few Member States, such as Denmark, have adopted this approach. In 1987, the Danish government adopted the aim of a reduction in national phosphate discharges of 80 per cent. Other Member States, such as the UK, have given far less priority to controlling phosphate emissions, partly because of different environmental conditions.

At an EC level, there is no legislation concerned specifically with landscape protection and there is no reference to landscape in the fifth programme. Nonetheless, this has been an important concern in a majority of Member States. It is perhaps the single most important issue omitted from this chapter of the fifth programme.

The EC agri-environment Regulation 2078/92 obliges Member States to put into place programmes, in principle covering the whole of the national territory. All have programmes now. However, many missed the initial 1993 deadline and the scale, ambition and reach of the programmes varies considerably between regions and countries. The result is an important step forward in agriculture policy but a highly uneven distribution of management agreements with farmers within Europe. In the Netherlands, for example, only about two per cent of the agricultural land area is subject to management agreements.

Meeting targets and objectives

There have been mixed results in meeting targets established by the Member States. Where quantitative targets have been established, frequently these have not been met. In Denmark, for example, the 1986 Pesticide Action Plan aimed to reduce the use of pesticides by 25 per cent by 1990 and a further 25 per cent by 1997. This second goal has yet to be reached. Alterations in the Danish Action Plan on the Aquatic Environment have been required in order to update the targets and introduce new, potentially more effective, measures. In the Netherlands, targets for reducing the quantity of livestock wastes on farmland proved difficult to meet and the regulatory regime for controlling waste has been amended more than once.

Many national policies have been driven forward by the necessity to implement EC measures, such as the nitrates Directive and habitats Directive. Undoubtedly, these have

helped to raise standards in the six Member States reviewed here and elsewhere. For example, by July 1997, the whole of Denmark, Germany and the Netherlands had been designated as a nitrate vulnerable zone. However, others, including Belgium, France and the UK, failed to designate vulnerable zones on time and the overall level of implementation of the Directive has been very disappointing. Although action programmes under the Directive should have been notified to the Commission by December 1995, only five Member States had taken this step by July 1997, and two of these were not regarded as complying with the requirements of the text (European Commission, 1998, The implementation of Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources).

There is some evidence that the pollutant load originating from agriculture has declined in many regions within the six Member States. However, satisfactory standards of water quality have yet to be reached, either in groundwater or surface waters, over sizeable areas. This is not surprising given the large imbalance in the nitrogen and phosphate budgets in many Member States. For example, in Germany, the estimated excess of nitrogen inputs relative to outputs per hectare of farmland in 1993/94 was 116 kg, while for phosphates it was 20.5 kg (Federal Environment Agency, 1998). In Flanders, in 1996, the nitrogen surplus was estimated at around 236 kg per hectare and the phosphate surplus at 34 kg per hectare.

In the Netherlands, it has been estimated that there has been a decline in the volume of nitrogen in manure of around 10 per cent since 1995 and a reduction of about half this in phosphate levels but both nutrients continue to accumulate in the environment. In groundwater, the benefits of improved agricultural practice may not be apparent for many years because of the period of time which elapses before water from the surface reaches the underlying aquifer. Nonetheless, long response times are not the only reason for persistently high levels of contamination in many drinking water sources. The Danish Nature Council notes that the relatively far-reaching policies implemented within the country have reversed past trends to some extent but a truly sustainable agricultural practice has yet to be attained.

Agri-environment programmes have contributed to new perceptions of the environment in the agriculture community, as well as reducing or containing pressures from agriculture on participating farms and raising environmental standards in some areas. The area of farmland under organic management has risen sharply since the mid 1990s as a result of incentives provided under Regulation 2078/92, as well as growing consumer demand. Population of some endangered species of domestic livestock have increased and management of significant areas of semi-natural habitat has been put on a more secure basis. However, considerable areas of land of conservation value remain outside agri-environment agreements, with only around 10 per cent of farmland enrolled in the UK for example. Data on farmland wildlife is in limited supply and is not always easy to interpret. In the UK, where research on bird populations is more comprehensive than most other parts of Europe, there is continued evidence of decline in the populations of farmland birds, despite reductions in pesticide use and the growing area of land enrolled in environmental management agreements.

Influence of the Fifth Environmental Programme on Member State Policy

Most of the changes in agri-environmental policy in the six Member States since 1992 reflect three factors:

- the continuing implementation of national programmes and plans which were begun prior to the publication of the Fifth Environmental Action Programme (5EAP);*
- the implementation of new European legislation, in particular the nitrates Directive and the compulsory agri-environmental regulation introduced as part of the Accompanying Measures to CAP reform in 1992, but also the Directive and amendments on environmental impact assessment and the habitats Directive;*
- new measures which have been introduced as a particular response to growing domestic concern, often reflecting changes in government which have brought environmental issues greater prominence.*

It is therefore difficult to assess the particular influence of the 5EAP upon these changes in policy. There is clearly no dramatic and direct link between the introduction of the programme and a new wave of policy-making among these Member States. However, most of the policies introduced since 1992 have been consistent with the long-term objectives of the 5EAP and in that sense, it has certainly reflected the shared aims of Member States in the field of agriculture and environmental policy. The one area of policy development which may have a direct connection with the 5EAP is perhaps those measures implemented by Member States in response to EC legislation, most notably the nitrate Directive and the agri-environment Regulation under the 1992 CAP reforms. Both these measures were new at the time when the 5EAP was being drawn up and were referred to specifically in the programme. In turn, this has clearly offered Member States new opportunities to act in ways that further the goals of the 5EAP, reinforcing their pre-existing range of national measures.

Beyond the Fifth Programme

While the fifth Programme has not itself been responsible for driving forward policy on agri-environment issues to any significant degree in Europe, it has served a useful purpose. It provides a concrete expression of the need for integration, underlines the necessity for action by partners at different levels and has made a first attempt to set out priorities at a European level. It appears to have encouraged greater cooperation between DG VI and DG XI within the European Commission.

Given these achievements, there are arguments for drawing up a further programme to take over when the present one expires in 2000. In the absence of a further programme or similar forward looking document, there may be a loss of momentum at European level. Agriculture is likely to remain a key sector for the environment and a crucial test of the EU's ability to make real progress towards sustainable development. A programme or similar document drawing attention to the particular role of farming in the wider environmental context and setting out concrete objectives appears to be a useful tool.

However, it would be unwise to press ahead with a new programme without reviewing the changing context and considering the potential relationship with other initiatives. Beyond 2000, the question of enlargement of the EU represents a major challenge, both for

agriculture policy and for the environment. While fundamental processes, such as agricultural intensification and marginalisation have been taking place in Central and Eastern Europe, as well as in the West, farming has been shaped by distinctive regional forces, giving rise to problems which are unfamiliar in the EU such as the dismemberment of collective farms. Priorities at a European level will need to be adjusted accordingly.

One important initiative within the EU is the current effort to strengthen environmental integration in the work of the Community institutions, initiated at the Cardiff Summit in June 1998. At the Summit, the Agriculture Council, along with two others, was asked to establish strategies to give effect to environmental integration within the CAP, establishing indicators and ensuring that significant policy proposals were accompanied by an environmental appraisal. Progress towards environmental integration should be monitored, using indicators which may be developed during 1999. The Vienna Summit in December 1998 reinforced the importance of these strategies and urged the Agriculture Council to move beyond the rather tentative document which it had presented to the Heads of State.

It is not yet clear whether the momentum for integration generated by the Cardiff process will be short lived or whether future Summits will urge that strategies are both implemented and renewed. It is essential that pressure for integration is maintained at a high level and that the environmental perspective is not lost during the years preceding the anticipated next round of CAP reform in the first decade of the next century. High priority should be given to maintaining the current process or merging it into a new environmental Action Programme. In either case, the explicit reference to sustainable development in the Treaty of Amsterdam should be seen as an opportunity to achieve a permanent shift towards a more integrated rural policy.

Whatever follows from the fifth programme should set out a strategic vision of agriculture and the environment, not simply a list of useful initiatives. Three themes could be stressed.

A new programme or similar process should contribute to an emerging vision of sustainable agriculture respecting the environment. The European Commission is already developing the concept of 'multi functional' agriculture in Europe, acknowledging the importance of production but giving it less pre-eminence than in the past. A clear sense of direction at a European level is important because of the critical role played by both the CAP and European environmental policies, such as the nitrates Directive. The Structural Funds and growing European involvement in rural development issues will also influence the evolution of farming at a local level. Nonetheless, it must be emphasised that regional diversity must remain. A fair measure of local control over resource management is important for a more balanced and sustainable agriculture. A European structure should enable diversity, rather than promote uniformity.

A second central theme of a new programme should be the evolution of policies which address a wider range of rural and regional issues, rather than focusing on agriculture separately. Whilst it will remain necessary to deploy sectoral policies, these should be coordinated more closely within a regional and rural development framework. At a European level, there should be closer cooperation between the CAP and Structural Funds and the principle of rural development plans, elaborated in the draft European development Regulation, could be developed further. Rural resource management and environmental protection should be regarded as a central element within these plans. In

this model, there would be a clear role for different partners in agricultural policy. Environmental agencies, national parks and regional bodies should be identified clearly as stakeholders, potentially involved in both the design of rural and farm policies and in their administration and implementation. Building up the institutional and administrative capacity for a more integrated approach should be a core set of actions in any future programme.

A third theme would be the close relationship between agriculture, nature conservation and landscape in a European context. While it is correct to address the environmental pressures arising from farming practice, such as water pollution and soil erosion, a new programme could underline the current and potential role of farming in supporting cultural landscapes and biodiversity, both in the EU and in Central and Eastern Europe. It would be difficult to execute a credible biodiversity strategy over the next decade without close attention to agricultural management and the deployment of appropriate policies for rural development and farming. Similarly, the objective of obtaining favourable conservation status for species listed in the birds and habitats Directive depends on the active cooperation of farmers and other landowners. Many semi-natural habitats in Europe are closely associated with traditional, often low intensity farming systems, the future of which is questionable in economic terms. On the one hand, it will be necessary to find ways of maintaining appropriate land management where this is essential for nature conservation and landscape protection. On the other hand, there will be an increasing need to ensure that future support measures for agriculture make a real contribution to social and environmental objectives. Pressure from the WTO is likely to reinforce the growing social consensus that support for agriculture is more closely linked to maintenance of the natural heritage.

A new Action Programme, or equivalent, should address core European issues, particularly those such as the CAP, where there is a high level of EU competence. However, the role of other partners must be underlined even if it is not specified in detail. The current Agenda 2000 proposals for CAP reform explicitly transfer a higher level of responsibility for certain agriculture policy instruments to national governments. The 'national envelopes' proposed for the beef and dairy support systems are a good example. The Councils would propose some key issues which are listed below.

Key Issues for a Future Programme

Further progress in greening the CAP needs to be made early in the new century when a further round of CAP reform may take place. Assuming that the current Agenda 2000 proposals are adopted, Member States should be encouraged to utilise their opportunities to direct support in such a way as to capture greater environmental benefits. The national envelopes in the livestock sector, the potential environmental conditions on direct payments and the revised system of support for Less Favoured Areas all should give scope for useful national initiatives. The experience gained in greening commodity support, as well as building up integrated rural development should form the basis of a bolder step away from production related support when the next CAP reform proposals are formulated.

Agri-environment schemes should play a larger part in future rural and agricultural policies and the share of the CAP budget devoted to them should increase steadily over time. Central and Eastern European countries should be encouraged to initiate their own agri-environment schemes prior to joining the Community so as to gain experience with this new approach and to introduce pilot schemes in particularly sensitive areas. There should continue to be a wide variety of schemes in Europe, some highly targeted on specific areas, habitat types or environmental issues, others aimed at the farming community as a whole. The Commission should continue to encourage schemes which are well designed to secure substantive environmental benefits.

The recent increase in organic farming has contributed to reducing the use of agro chemicals, lowering pollution pressures and providing a more sympathetic habitat for wildlife. Organic farming can be encouraged, both through the market and through appropriate policy instruments, including agri-environment schemes. A target for the overall area of organic agriculture in Europe could be adopted in the next programme.

Payments to farmers are not the only means of encouraging good environmental management. Information, training and institution building also have an important role in this respect. Training in environmental issues should be given a higher profile in all rural development initiatives and the level of support at a European level should be increased.

As in the Fifth Programme, the effective implementation of EU environmental legislation for the countryside, including the nitrates, birds and habitat Directives, remains a priority. In some Member States, funding for implementation of certain measures presents genuine problems and this constraint might be more severe in Central and Eastern Europe. In the next programme, implementation should remain a major theme but the question of funding should be more specifically.

In reducing environmental pressure from nutrients and pesticides, there is a role for a range of different measures including legislation, taxation, incentive schemes, voluntary agreements and reduction programmes. There are major variations within Europe regarding the extent of the problem and the best policy instruments to address it. There may be scope for more pan-European initiatives, such as labelling, taxation and legislation. However, several Member States have made use of reduction programmes as a means of planning change over a reasonable timescale. This approach offers some national flexibility but could benefit from greater encouragement at a European level. The EU could take a stronger lead in encouraging Member States to adopt their own

programmes.

The theme of agricultural or cultural landscapes should be more prominent in any future programme. There is a close link between the management of agriculture and the health and appearance of the landscape over large areas of Europe. Although there are no formal EU legislative measures requiring landscape protection, it is an important theme of agri-environment schemes in many Member States. Management of the landscape is of particular concern to the wider public and is a prominent aspect of any new vision of 'multi functional' agriculture. It will be inconsistent to defend European subsidies to farmers on landscape grounds if there is no reference to this critical issue in the Action Programme. The programme should address the challenge of maintaining and enhancing landscapes in the wider countryside as well as in protected areas.

In the next programme, the concept of good agricultural practice and basic environmental standards could be developed further. It is important that there is a baseline for farming practice to help distinguish between activities which qualify for public support and those which should be expected in conformity with good practice. While it is not necessary to define this in detail at a European level, it might be helpful to spell out the growing consensus that certain de minimis standards of environmental management are expected in farming but that rewards are available to those prepared to contribute to higher standards. There should be active encouragement of integrated management which is becoming good practice in many parts of Europe. This will evolve over time and an active change of experience in Europe will be useful.

Monitoring, evaluation and the measurement of progress are now well established as essential for achieving meaningful environmental integration. There is already a commitment to developing indicators at the European level. The debate on indicators needs to include a strong local and regional dimension and the temptation to adopt a small group of convenient indicators at a European level should be avoided. There should be a continuing dialogue between the authorities at a national and regional level and those responsible for evaluation within the EU as a whole.

Summary of Main Conclusions

- The fifth environmental Action Programme has not itself exerted a great influence on the development of agriculture and related policies since 1992 - either at EU or Member State level.*
- Nonetheless, it is a helpful attempt to set out longer term objectives and targets and has provided a platform for dialogue and greater political cooperation.*
- There remains a need for a vision, objectives and targets but a future Action Programme should mesh with the integration procedures agreed at the Cardiff Summit which should continue beyond 1999.*
- Integration will be meaningful only if environmental concerns are incorporated into the main mechanisms of the CAP, as well as the 'accompanying measures'. Further changes to the CAP can be anticipated early in the new century.*

- Agri-environment schemes should play a larger part in future agricultural policy, drawing on an increased share of the budget. There is a role for both highly targeted and more broadly based policies which attract a wide range of farmers. Education and training should receive a higher priority in future.*
- A formal target for the area of organic farming should be established and different policy instruments developed for supporting this sector.*
- More effective application of EU environmental legislation, such as the nitrates and habitats Directive, remains a priority.*
- Reduction programmes for both nutrients and pesticides should play a greater part in environmental policy in the next decade; the EU should take a lead in encouraging Member States to adopt their own programmes.*
- A future Action Programme should acknowledge the significance of cultural landscapes and appropriate agricultural management in Europe and address the challenge of maintaining and enhancing landscapes in the wider countryside as well as in protected areas.*
- Raising basic environmental standards for agriculture (clarifying the concept of Good Agricultural Practice) should be a target for the next programme, recognising that integrated management is continuing to evolve and will allow improved performance at little or no cost to farmers.*
- A new Action Programme should develop the concept of sustainable agriculture and rural development more fully and indicate how progress can be made in a more systematic way, for example through the use of indicators.*

ANNEX - PROFILES OF SIX MEMBER STATES

Belgium

Issues

Belgian agriculture is fairly specialised and intensive. Like its near neighbours in the Netherlands and Denmark, production is very export-oriented and the main products are pigmeat, beef, sugarbeet, potatoes and vegetables. However there are large structural differences between farms in the Flemish and the Wallonian regions of Belgium. In densely-populated Flanders, farms are generally small and this is where most intensive pig and poultry units are found, as well as the main horticultural enterprises. In Wallonia, population density is lower and beef and dairy production are dominant. Sixty one per cent of pasture land in Belgium is located in Wallonia but this area has been decreasing in recent years as many permanent pastures have been ploughed in order to grow fodder maize.

The main environmental issues in Belgium relating to agriculture are:

- contamination of soils by pesticides;*
- nutrient enrichment of water, soil and natural habitats by excess nitrate and phosphate from agriculture, mainly in Flanders;*
- acidification of air by ammonia produced from intensive livestock units - again, this is a significant problem in Flanders, where agriculture contributes 31 per cent of all acidifying emissions, over half of which come from intensive pig units;*
- dessication of wetland habitats due to water abstraction, particularly associated with root crops, and drainage. Over 80 per cent of Belgian wetlands and wet grasslands have been lost since the 1950s, often following land consolidation;*
- loss of landscape interest and significant decline in biodiversity as a result of farm enlargement and specialisation, resulting in the removal of small features. Manure disposal on extensive pastures has reduced botanical interest.*

Prior to 1992, Belgian policies had some limited impact upon many of these issues. Legislation to protect water quality and nature conservation was passed in the early 1970s which devolved responsibility to the regional governments for all issues except marine pollution, meaning that a variety of different kinds of policy are applied. In Wallonia, two protected national parks (IUCN category V) were established and 15 wetlands of biological interest designated. In Flanders, a significant proportion of remaining coastal dune habitats has also been protected by law. In 1993 a federal ecotax was introduced on a variety of pest control products but agricultural pesticides were exempted. There were some initiatives to promote better use of manures and pesticides through advice and information, and small areas of meadow and pasture land were protected as nature conservation sites.

Since 1992, a number of new measures have been developed. The government has

promoted the use of more integrated and biological pest control methods in fruit farming and has introduced controls on residues in vegetable production. Since 1995 there has been mandatory inspection of all farm spraying equipment. However, despite lobbying by environmental organisations, the ecotax has not been extended to cover agriculture. The EC nitrates Directive has been implemented through legislation on manure protection and a code of good agricultural practice - however, this has been judged insufficient by the European Commission, and by Belgium's environmental NGOs who have called for the whole country to be designated as a Nitrate Vulnerable Zone.

Belgium has made some progress in the field of voluntary agreements for environmental improvement. In 1993 the federal government signed an agreement with the fertiliser industry to define the maximum cadmium content of fertilisers, and a later agreement with the feed manufacturers to limit phosphate content in pig feed. The Flemish government has adopted a target to reduce ammonia emissions by 40 per cent by 2002, in relation to 1990 levels, by supporting technical improvement of slurry stores and buildings and better advice on feeding practices. More recently, the Flemish government has promoted integrated water management on farms and environmental appraisal has been introduced as part of all future land consolidation projects. However, while agri-environmental schemes were implemented in Belgium in 1994, they have not been a great success in either Flanders or Wallonia due to a poor reception by farmers.

Denmark

Issues

Agriculture in Denmark is relatively intensive, specialised and concentrated, with grass-based livestock production mainly on the sandy soils in the west and arable on the clay soils of the east and the islands. However agriculture only occupies 61 per cent of the total land area of the country and there are significant areas of forest and wetland. Intensive pig production is a major sector in Danish agriculture and is found throughout the country. A significant proportion of agricultural land has been reclaimed from sea and marsh areas, and water management is a continuing concern. In the past twenty years herd sizes on pig farms have increased four-fold, and arable farms have enlarged, shed labour and shifted from predominantly spring cropping to winter cropping. By contrast, increasing efficiency in milk production combined with quotas has led to a significant contraction in the dairy herd.

The main environmental issues relating to Danish agriculture are:

- groundwater pollution from nitrates and phosphates relating to excessive manure production by intensive pig and other livestock units;*
- a serious lowering of the groundwater table in some areas through a combination of increased land drainage and increased water use by irrigation on intensive crop land;*
- a significant contribution (18 per cent) by agriculture to Denmark's greenhouse gas production from methane, N-oxides and ammonia;*
- high levels of pesticide use, particularly associated with increased winter cropping in arable areas, contaminating some water supplies (although residues in food are low);*

- *a significant loss in landscape variety and a marked decline in biodiversity in recent years, both due to the removal of hedges (mainly in the east) and other small habitats on farmland as farms have enlarged and specialised, and to a gradual disappearance of 20 per cent of Denmark's permanent pasture to arable use over the past 15 years.*

Policies

Denmark has implemented a number of major Action Plans to improve the environmental impact of agriculture, covering nutrients, the aquatic environment, sustainable agriculture and pesticides. The first Action Plans for nitrates and phosphates, adopted in 1987, set targets of a 50 per cent reduction in N-discharges to water and an 80 per cent reduction in P-discharges. A similar Action Plan for pesticides set a target for a 50 per cent reduction in pesticide use. So far, however, the indications are that none of these targets will be achieved. For example, the quantity of pesticide use as measured by active ingredients has fallen markedly within the past 10 years but the frequency of application has not.

Since 1992, Danish efforts to address these issues have relied mainly on continuing implementation of the Action Plans and the introduction of a number of new measures. All of the country has been designated as a Nitrate Vulnerable Zone under the EC nitrates Directive. Since 1993/4, farmers have been subject to compulsory nitrogen balances and limits on application of manure and fertilisers. In 1994 Denmark introduced restrictions on new or enlarged intensive livestock units of more than 500-head which required farmers to have adequate land for safe manure disposal. Also in 1994, a groundwater strategy was implemented and in 1995, a tax on pesticide use was introduced. As a result of these measures Danish farmers have significantly reduced the levels of nutrients and chemicals leaching from farm land, but as yet, this has not significantly affected the level of groundwater contamination. The Directive is not completely implemented and the government has sought derogations from the European Commission.

Since 1992 Denmark has also implemented some new measures under the Agri-environment regulation, and applied some environmental conditions to the management of compulsory set-aside land. Agri-environment schemes include a large organic aid scheme, a major scheme targeting the management and the expansion of areas of valuable permanent grassland and a smaller scheme seeking reductions in nitrate leaching from sensitive areas of land by measures including undersown grass in arable crops, and reduced nitrogen applications.

France

Issues

Of all countries in Europe, France has the greatest diversity of agriculture, reflecting its large size and varied climate and altitude, which includes maritime areas, mountainous zones, continental plains and arid Mediterranean regions. In structure and output, too, French farms vary enormously. Generally speaking, large productive arable farms predominate in the north and centre of the country, while smaller mixed and livestock farms producing cattle, sheep, goats and milk are more common in the west and in the mountains, and the south is typified by Mediterranean crops such as olives, citrus and

tomatoes, traditionally grown on small farms but increasingly produced more intensively. In addition, particular regions have developed specialisms such as horticulture and intensive livestock in Brittany.

The full variety of environmental problems and challenges relating to intensification and marginalisation can be found within French borders. However, key points include:

- nitrate pollution of water sources from intensive livestock and arable farms, which affects a significant proportion of ground and surface waters;*
- intensive livestock units also make a significant contribution to France's production of greenhouse gases, particularly nitrous oxides, ammonia and methane;*
- France has a comparatively high level of pesticide use, which has increased dramatically over the last 20 years. As a result, drinking water samples in several parts of the country regularly exceed the EU limits for common pesticides such as atrazine (90 per cent of samples in Brittany and 94 per cent in the Central region, in 1993);*
- habitat loss and degradation has been a particular issue in former extensive, pastoral livestock areas. In many western lowland areas large areas of former grazing marsh have been drained since 1980 and pastures have been ploughed in order to grow cereals and forage maize, as livestock production (particularly dairying) has intensified and some farms have moved from cattle production into arable cropping. Although arable expansion was effectively curtailed following the 1992 CAP reforms, expansion in the area of forage maize has continued, threatening many areas of unimproved pasture and meadow and encouraging the removal of hedges, trees, ditches and other features in order to create larger fields;*

habitat degradation is a major problem in some mountain areas of France, such as the Massif Central, Vosges and French Alps. Here, the main threat is from abandonment of agriculture as it finds itself unable to compete with production in the lowlands.

Policies

Prior to 1992, France had a number of measures to address environmental impacts from agriculture. For example, compulsory environmental impact appraisals were required for all land consolidation programmes from the mid 1980s, and there were various national and local advisory schemes aimed at limiting pollution, such as 'fertimieux' which offered farmers information and help with planning and management of farm wastes and fertiliser use. Also France implemented the EC Environmentally-Sensitive Area provisions of 1987 through regional and local agri-environment schemes designed to protect traditional, extensive forms of agriculture.

Since 1992 further progress has been made. Codes of good agricultural practice now cover manure, land management and irrigation. The EC nitrates Directive was transposed in 1993 and an additional 1996 Decree on nitrate pollution was passed, designating NVZs and applying fertiliser limits in these areas. In 1994, France passed a 'classified installations' Act which controls the activities and siting of large indoor intensive livestock units, requiring nutrient budgeting, charges on discharges of waste, and registration and authorisation procedures for all existing units, and requiring Environmental Impact Assessment for any new ones. These measures are taken further at Regional or Departemental level by some specific local Acts which impose tighter restrictions on intensive livestock and manure handling and disposal.

Also in 1994, the French government passed a new Act for Pesticides Control and established a national programme to seek reductions in pesticide use through a combination of advice and information for farmers, regional pollution assessment and some restrictions on particular substances.

France has also made significant use of the 1992 agri-environment provisions, building upon its experience with ESAs. National schemes were implemented for permanent grassland conservation (targeting 37 per cent of all grassland areas), and most regions developed their own agri-environment zonal programmes. In addition, there are around 190 local programmes in operation, many concerned with wetland protection and management. Finally, a national experimental scheme, the Plans de Developpement Durable, sought to pilot a new integrated approach to environmentally-sensitive farm business planning. In total, agri-environment agreements cover nearly one-quarter of all farm land although the largest scheme, the 'prime à l'herbe', imposes relatively light obligations on participating farmers. In a separate national initiative also started since 1992, local landscape planning and improvement has been supported through a national landscape restoration fund, channelled through the local administration to support landscape work on farms.

Germany

Issues

German agriculture is highly diverse; in parts of the north and east, areas of low-lying, flat land are devoted to large arable and horticultural farms producing a wide variety of crops and vegetables, and associated intensive livestock production. The south and west have more mountainous and forested areas where farms tend to be smaller and more mixed, although extensive cattle farming dominates in the mountains. Germany retains some

large areas of open grassland and wetland habitats, particularly in the north near the Baltic coast, and valuable pastures and meadows in the alpine regions.

The main environmental issues relating to German agriculture are:

- significant problems of nitrogen and phosphate loading. Nitrogen is in surplus both at national and more local levels, caused by waste from high numbers of intensively managed livestock and by the excessive use of chemical fertilisers in arable farming areas. 10 per cent of drinking water samples regularly exceed the EU limit for nitrate. Excess phosphate from manure is leading to eutrophication of waters, including serious pollution along the Baltic coast;*
- high and increasing levels of pesticide use, contaminating water supplies in many areas - pesticide use is particularly high in viticulture and arable production;*
- significant habitat loss and decline in biodiversity associated with a widespread intensification of farming practices in lowland areas and some abandonment in the high mountains, also associated with the loss of some valuable wetland areas and of landscape features more generally, as farms enlarge and increase their output;*
- in the eastern flat arable plains, significant wind erosion of soils and contamination of land by heavy metals from sewage sludge. In addition, in some eastern areas, the initial economic impact of German reunification led to widespread collapse in farming and the related abandonment of management on many livestock farms, which also increased pollution and habitat degradation in these areas.*

Policies

Prior to 1992, a variety of national and regional regulations existed to protect particularly valuable habitats, such as wetlands and mountain areas. Many placed obligations upon farmers to protect certain features and not to plough or drain land, some of which were compensated by specific payments. There were also codes of good agricultural practice which combined advice on how to avoid pollution by fertilisers, farm wastes and pesticides with some regulations to prohibit the worst practices.

In the past decade, Germany has implemented a number of new measures. Fertiliser laws now apply throughout the country, requiring farmers to limit nitrogen application rates, to maintain balance sheets for nitrogen and phosphorous and to avoid spreading manure or fertilisers at certain times of year. The codes of good agricultural practice have assumed a quasi-legal status, in that farmers who do not follow them may be liable to legal action. For pesticides, farmers must follow 'good technical practices' in handling, storage and application, and some more persistent substances have been banned. Germany has also introduced a new law on soil protection, which places limits on the application of toxic substances to soil, including those in farm wastes and sewage sludge.

Since 1992, Germany has also made significant use of the EC agri-environment regulation introduced under the Common Agricultural Policy. It has established a large number of national and regional programmes. The national scheme now covers around 25 per cent of all German farmland, although its environmental obligations are fairly simple. Regional schemes vary greatly in their content and budgets: generally the larger schemes

tend to be in the most affluent southern regions although there are some northern Lander with large schemes. Altogether around 30 per cent of German farmland is covered by agri-environment agreements and Germany has the largest agri-environmental budget of all EU Member States.

Also in recent years, farmers in many regions of Germany have become more actively involved in promoting environmentally friendly production methods and landscape protection. There has been a significant growth in the use of eco-labels to promote organic and extensively-produced meat, dairy and crop products, and many regions have set up local 'landscape management associations', in which farmers, environmental groups and government officials work together to encourage more sustainable farming.

The Netherlands

Issues

Even more so than Denmark, farming in the Netherlands is characterised by a very high degree of specialisation and concentration of production. Most of the country is very low-lying. In the north most farms are specialised in crop production, while in the south and east, dairy and intensive indoor livestock systems predominate. There is also a significant horticulture sector, with many crops grown intensively under glass. There are few remaining areas of extensive semi-natural habitat and many sites of nature conservation value are no longer in agricultural production and are managed as reserves. However, in the cattle farming areas some flower-rich meadows and pastures survive.

The main environmental problems associated with agriculture in the Netherlands are:

- pollution from very high levels of manure production and use, particularly in the east, and from high levels of fertiliser use in the north. Production rates of manure per hectare of farmland in the Netherlands are five times the EU average, and this has caused serious pollution of both ground and surface waters by nitrates and phosphates - for example, 40 per cent of Dutch groundwater samples exceed the EU drinking water limit for nitrate. Some coastal and marine waters have suffered serious eutrophication;*
- the maintenance of drainage systems to permit cultivation of former marsh land is now accompanied in many arable and horticultural areas by widespread irrigation at times of peak seasonal water shortage, leading to serious lowering of the groundwater table;*
- high levels of pesticide use - four times the EU average - particularly in arable areas, causing water pollution and soil contamination. The use of soil disinfectants for horticulture has been particularly damaging to biodiversity. It is estimated that 80 per cent of identifiable toxins in Dutch soil, water and air come from agricultural pesticides;*
- large intensive indoor livestock units are significant producers of ammonia, N-oxides and other greenhouse gases and energy use is very high in glasshouse horticulture;*
- the Netherlands has historically seen substantial loss of natural and semi-natural habitats as agriculture has expanded and intensified, through land drainage and reclamation and farm consolidation which have destroyed wetlands, bogs and forests.*

Many remaining sites of nature conservation value are threatened by the impact of intensification and pollution on nearby land, and in the wider countryside many species are in decline as a result of intensive farming, particularly in livestock areas.

Policies

A growing recognition of environmental issues led the Dutch government to pass major legislation in 1986 for the control of manure. The law involved three phases of action from 1987 to 1999, through which farmers were placed under increasing obligations to limit manure production, to balance application rates more closely to the absorption capacity of land and to reduce the use of fertilisers in order to prevent saturation of soils by nitrates and phosphates. Before 1992 the first phase of this legislation was completed, requiring a simple system of mineral balancing and controls on manure use and manure transfers between farms. Also, in 1991 a crop protection plan was introduced which was designed to limit pesticide use and the pollution associated with it.

The Dutch have long standing land use controls applying to agriculture which prohibit the ploughing of any remaining areas of semi-natural habitat. In addition, around 10 per cent of the country is designated as nature reserves, of which approximately one-half is managed primarily for nature conservation while the remainder is subject to some restriction of farming practices. A further 50,000 hectares of farmland has been taken out of production to create new habitats which will link up into a continuous 'conservation network' across the country.

Since 1992, these different policy initiatives have continued. Phases two and three of the manure regulations are now in force, involving farms preparing detailed mineral accounts, applying a balancing requirement and placing limits on application rates for both chemical and organic nitrogen and phosphorous per hectare. In addition, there is now an ammonia standard for all livestock housing, and quotas have recently been introduced which limit pig production to more sustainable levels. Under the EC nitrates Directive, all of the territory of the Netherlands has been designated as a Nitrate Vulnerable Zone. However, the nitrates Directive has not been fully implemented. In 1995 the Dutch government also introduced water controls to raise awareness of water use and sustainability issues, and it offers voluntary agreements to encourage reduced water use and improved water quality. In 1997, the government introduced the concept of integrated environmental targets for farmland in the Netherlands, through which all farms should develop farm plans for the sustainable management of pesticides, energy and water.

The Dutch implementation of the 1992 agri-environment regulation under the CAP has been on a modest scale and concentrated mainly upon improving the management of the 12 per cent of farmland with particular environmental value. This has involved comprehensive training for farmers in environmental management, including integrated and organic farming, demonstrations and on-farm advisory services. There has also been a successful organic farming scheme supporting conversion and the maintenance of existing organic farms.

United Kingdom

Issues

UK farming is characterised by large farms which are mostly specialised in arable and intensive pig and poultry production in eastern areas, and grass-based cattle and sheep production in the west. Dairy farming is significant in lowland livestock areas, and horticulture is concentrated on a small proportion of most productive soils in eastern and central lowland areas of England and Scotland.

In the UK, the main environmental issues related to agriculture include:

- pollution of water and soils by manure, other wastes and nitrogen fertilisers from intensive dairy farming, mainly in the south and west of the country, by nitrogen fertilisers and pesticides from intensive arable farms, mainly in the east of the country; and by manure from intensive pig and poultry units in many parts of the lowlands;*
- the loss and fragmentation of habitats, declining biodiversity and landscape quality from widespread intensification, increased arable cropping in previously mixed farming areas in central regions and coastal strips, the draining and ploughing of wetlands and the widespread removal and neglect of boundary habitats and features (hedges, ditches, small woods) as fields are enlarged and farms specialise;*
- habitat decline and loss of biodiversity in the marginal hills and uplands, and on poor soils in the lowlands, from a decline in traditional extensive livestock farming systems and neglect of associated habitats (eg heather moorland), enlargement of farm holdings and growing use of ‘ranching’ systems;*
- locally significant soil erosion, where light soils are cultivated in autumn, particularly on slopes and along rivers (water erosion), and on arable plains in the east (wind erosion). Erosion from excessive stocking is a problem in sensitive upland habitats;*
- intensive pig and poultry units, and large indoor cattle units make a significant contribution to the national production of greenhouse gases, ammonia and methane.*

Policies

Before 1992, UK policies to improve the environmental impact of agriculture included planning controls upon large farm buildings, free pollution control and conservation advice, authorisation and training procedures to encourage responsible pesticide use on farms, and the designation of 10 per cent of the country as ‘Environmentally Sensitive Areas’ (ESAs) under 1987 EU legislation, where the maintenance of traditional farming systems was supported through agri-environment schemes. Capital grants were available nationally to maintain hedges and walls and to install farm waste treatment facilities, and codes of good agricultural practice existed for water, soil and air. The designation of ‘Sites of Special Scientific Interest’ (SSSIs) offered partial protection with compensation to farmers for not damaging particularly valuable nature conservation sites, but this did not prevent many sites suffering through neglect.

Since 1992 the UK government has implemented some new environmental policies and has strengthened others. It has also increased the targeting of measures, which should enhance benefits in targeted areas but may decrease them elsewhere. Under the nitrates Directive the UK has designated a small proportion of farmland (under five per cent) as Nitrate Vulnerable Zones (NVZs). Support for farm waste management plans has also

been offered in a few other target areas. A Pesticides Action Plan has been implemented under which all farmers must train and be certified in responsible use. The codes of good agricultural practice for air, soil and water have been revised and a new code of upland land management produced.

The UK was the only Member State to take up the option of applying environmental conditions to CAP livestock payments for sheep and beef cattle after 1992, to prevent serious overgrazing of sensitive habitats. However, enforcement has proved difficult and the benefits remain limited to a few cases. Also introduced in 1992, environmental conditions for the management of compulsory set-aside land have brought significant benefits to some wildlife in arable areas. Agri-environment schemes have expanded, targeting a wider range of habitats and farming systems. However, largely due to limited budgets, agreements still cover less than 10 per cent of all UK farm land. A scheme to encourage conversion to organic farming, which initially suffered low funding and poor uptake, was revised in 1998 and is now expanding. Free conservation advice is still offered but its budget has been reduced and nationwide capital grants for hedging, walling and waste treatment facilities have ended.

Since 1992 new environmental rules have included restrictions on the use of certain pesticides near watercourses and on the deliberate removal of a limited proportion of hedges. The area of sites designated as SSSIs has increased and many are now proposed as candidate Natura 2000 sites under the habitats Directive. From 1999, all large pig and poultry units must apply new risk assessment procedures designed to prevent pollution.

*DB/cp
18 January 1999*