

Land Use Policy Group

*The GB statutory
conservation, countryside
and environment agencies*

ENVIRONMENTAL PRIORITIES IN UK RURAL DEVELOPMENT PROGRAMMES

FINAL VERSION

A Report for the Land Use Policy Group



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The Land Use Policy Group

The Land Use Policy Group (LUPG) of the GB statutory nature conservation, countryside and environment agencies comprises the Countryside Agency, Countryside Council for Wales, English Nature, Environment Agency, Joint Nature Conservation Committee and Scottish Natural Heritage. The LUPG aims to advise on policy matters of common concern related to agriculture, woodlands and other rural land uses. It seeks to improve understanding of the pros and cons of policy mechanisms related to land use, particularly farming and forestry; to develop a common view of desirable reforms to existing policies; and to promote these views. www.lupg.org.uk

The Countryside Agency

The Countryside Agency (CA) is the statutory body working to conserve and enhance England's countryside, spread social and economic opportunity for the people who live there, help everyone, wherever they live and whatever their background to enjoy the countryside and share this priceless asset. The Landscape, Access and Recreation (LAR) division was established from 1 April 2005 as one of two distinctive new divisions (the other is the Commission for Rural Communities). The LAR division is concerned with protecting our landscape for now and future generations whilst also encouraging respect and enjoyment of our beautiful countryside.

<http://www.countryside.gov.uk/LAR/index.asp>

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Countryside Council for Wales (CCW) is the government's statutory adviser on sustaining natural beauty, wildlife and the opportunities for outdoor enjoyment throughout Wales and its inshore waters. With English Nature and Scottish Natural Heritage, CCW delivers its statutory responsibilities for Great Britain as a whole, and internationally, through the Joint Nature Conservation Committee.

www.ccw.gov.uk

English Nature

English Nature is the government agency that champions the conservation of wildlife and geology throughout England. It does this by: advising government, other agencies, communities and individuals; regulating activities affecting the special nature conservation sites in England; helping others to manage land for nature conservation and advocating nature conservation for all and biodiversity as a key test of sustainable development. www.english-nature.org.uk

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Scottish Natural Heritage (SNH) is a government body established to secure conservation and enhancement of Scotland's unique and valued natural heritage – the wildlife, habitats and landscapes that have evolved in Scotland through long partnership between people and nature. SNH advises on policies and promotes projects that aim to improve the natural heritage and support its sustainable use. Our aim is to help people to enjoy Scotland's natural heritage responsibly, understand it more fully and use it wisely so it can be sustained for future generations.

www.snh.org.uk

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www.environment-agency.gov.uk

Rural Development Service

The Rural Development Service (RDS) is the largest deliverer of England Rural Development Programme (ERDP) grant schemes for land managers and rural businesses and also delivers a range of other rural services. Around 1500 staff work in multi-skilled teams in eight regions in order to provide a face-to-face service for our customers. RDS also provides an effective link to the development of national and regional policy.

We work with rural partners and local people to achieve sustainable development by:

- enhancing the environment
- improving the conservation of wildlife and biodiversity
- strengthening rural economies and communities.

www.defra.gov.uk/rds/default.asp

Joint Nature Conservation Committee

The Joint Nature Conservation Committee (JNCC) is the forum through which the three country conservation agencies – CCW, English Nature and SNH – deliver their statutory responsibilities for Great Britain as a whole, and internationally. These responsibilities contribute to sustaining and enriching biological diversity, enhancing geological features and sustaining natural systems. As well as a source of advice and knowledge for the public, JNCC is the Government's wildlife adviser, providing guidance on the development of policies for, or affecting, nature conservation in the UK or internationally.

www.jncc.gov.uk

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Preface

The second pillar of the CAP has been developed to contribute towards sustainable rural development and to help rural areas to adapt to changes in Pillar 1 support and to rural restructuring, particularly in the agricultural sector. The EU-15 Member States and the candidate countries developed and implemented a first generation of rural development programmes following the 1999 Rural Development Regulation and SAPARD. In 2005, the European Agricultural Fund for Rural Development (EAFRD) package of measures was agreed. This provides the basis for the second generation of rural development programmes in the enlarged EU-25. EC strategic guidelines for rural development will be published and will place a stronger emphasis on the need to achieve sustainable development and on EU policy priorities, which include environmental priorities. Overall the new Regulation requires Member States to take a more strategic, focussed and participative approach to rural development as they develop their plans in 2005-6 for the new programmes to be implemented for the 2007-13 period.

This study is part of *Europe's Living Countryside*, a pan-European research project sponsored by WWF Europe, the Land Use Policy Group (LUPG) of GB's conservation, countryside and environment agencies and Stichting Natuur en Milieu (SNM) in the Netherlands. National studies were undertaken in seven countries (Spain, Poland, the Netherlands, the UK, Germany, Hungary and Bulgaria – see map below). The aim was to review progress with developing and implementing rural development programmes and to explore in detail how environmental priorities and objectives might better be identified and addressed in the new rural development programmes.



Our research builds on *Europe's Rural Futures*, an earlier LUPG and WWF Europe pan-European project which analysed MSs' initial progress with developing and

implementing the 2000-6 plans. Areas highlighted where improvements could be made included the need for a more strategic, coherent and integrated approaches to addressing environmental issues.

The *Europe's Living Countryside* national research was carried out using an agreed common framework. This included analysing the evidence on environmental data and trends, using the results of mid-term evaluations and holding discussions and/or seminars with key stakeholders to help identify environmental priorities and to consider how the tools in the new regulation might be used to address environmental priorities and improve integration of environmental issues. Each national study includes at least one local case study to illustrate how this could be achieved.

National experts from the LUPG, WWF and SNM partnership coordinated the in-depth national research, supported in some countries (Germany, the UK and Poland) by consultants commissioned to undertake the detailed work.

For further information about the *Europe's Living Countryside* project please see www.lupg.org.uk or www.panda.org/epo/agriculture or contact:

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IEEP would also like to thank all the participants of the country workshops for giving up their time to make a valuable input to this project and the numerous people consulted during the course of our work for the information and views they provided.

Acronyms

AES	Agri-environment Scheme
AONB	Area of Outstanding Natural Beauty
CAP	Common Agricultural Policy
CA	Countryside Agency
CCW	Countryside Council for Wales
COGAP	Codes of Good Agricultural Practice
CPS	Countryside Premium Scheme
CROW	Countryside and Rights of Way
CRU	Central Research Unit
CSS	Countryside Stewardship Scheme
DARD	Department for Agriculture and Rural Development
Defra	Department for Environment, Food and Rural Affairs
DoE	Department of Environment
EA	Environment Agency
EAFRD	European Agricultural Fund for Rural Development
EAGGF	European Agricultural Guarantee and Guidance Fund
EC	European Commission
ECS	Energy Crops Scheme
ELCo	Europe's Living Countryside
ELS	Entry Level Scheme
EN	English Nature
ERDP	England Rural Development Plan
EU	European Union
FEG	Farm Enterprise Grant
FIG	Farm Improvement Grant
FWPS	Farm Woodland Premium Scheme
GAEC	Good Agricultural and Environmental Condition
GFP	Good Farming Practice
HFA	Hill Farm Allowance
HTS	Higher Tier Scheme
IEEP	Institute for European Environmental Policy
LFA	Less Favoured Area
LFAS	Less Favoured Area Scheme
LMC	Land Management Contract
LUPG	Land Use Policy Group
MTE	Mid Term Evaluation
NAWAD	National Assembly for Wales Agriculture Department
NVZ	Nitrate Vulnerable Zone
OECD	Organisation for Economic Cooperation and Development
OFS	Organic Farming Scheme
PMG	Processing and Marketing Grant
PROW	Public Right of Way
RDP	Rural Development Plan
RDPNI	Rural Development Plan for Northern Ireland
RDR	Rural Development Regulation
RES	Rural Enterprise Scheme
ROW	Right of Way

RSPB	Royal Society for Protection of Birds
RSS	Rural Stewardship Scheme
SAC	Special Area of Conservation
SAM	Scheduled Ancient Monument
SEERAD	Scottish Executive Environment and Rural Affairs Department
SEPA	Scottish Environment Protection Agency
SFGS	Scottish Forestry Grant Scheme
SNH	Scottish Natural Heritage
SoER	State of the Environment Report
SPA	Special Protection Area
SRDP	Scotland Rural Development Plan
SSSI	Site of Special Scientific Interest
VTS	Vocational Training Scheme
WAG	Welsh Assembly Government
WEFO	Welsh European Funding Office
WFD	Water Framework Directive
WGS	Woodland Grant Scheme
WRDP	Welsh Rural Development Plan
WWF	Worldwide Fund for Nature

Executive Summary

Background

In June 2004, the Land Use Policy Group (LUPG) of the GB statutory conservation, countryside and environment agencies¹ contracted the Institute for European Environmental Policy (IEEP) to undertake a UK study on environment priorities in rural development programmes.

This UK study is one of a number of national studies being undertaken in seven EU Member States. Together, these studies will provide information for a larger LUPG study, funded and carried out in partnership with WWF and Stichting Natuur en Milieu, entitled 'Europe's Living Countryside' (ELCo).

The establishment of the Rural Development Regulation in 1999 was a significant step in the evolution of the Common Agricultural Policy (CAP). The RDR brought a range of existing rural development instruments together under one umbrella with a view to creating a more coherent policy package. It is seen by many as an important policy tool for meeting environmental objectives - as well as economic and social ones - at EU and national level. However, recent evaluations and studies suggest much could be done to improve both the RDR and RDP implementation in relation to the environment. Proposals for a new European Agricultural Fund for Rural Development (EAFRD) – the successor to the RDR – were published by the European Commission in July 2004. It is critical that the past three years experience of the RDR and RDP implementation are used to inform EAFRD and that key lessons about past successes and failures are learned and applied to policy development and implementation in the future.

The objectives of the UK environment in rural development study are as follows:

- To identify priority environmental issues related to rural development in the UK that could be addressed through Pillar II of the Common Agricultural Policy (CAP) and develop proposals for addressing them.
- To feed into the ELCo study, recommendations for changes to the Rural Development Regulation (through the proposed European Agricultural Fund for Rural Development (EAFRD)), its implementation and funding, which would be needed to deliver environmental objectives in the UK.

Report structure

Chapter 1 of this report introduces the study, its objectives and the methodology employed. The research has been undertaken primarily as a desk-based study with particular attention given to consultation with UK researchers, policy makers and stakeholders.

¹ The GB statutory conservation, countryside and environment agencies comprise the Countryside Agency, Countryside Council for Wales, English Nature, Environment Agency, Joint Nature Conservation Committee and Scottish Natural Heritage.

Chapter 2 looks at some key aspects of EU policy that are significant drivers of environmental change at Member State level, specifically environmental legislation and the 2003 reforms to the Common Agricultural Policy (CAP). A wide range of EU environmental legislation exists and acts as a driver of UK environmental priorities. Key legislation includes the Nitrates, Water Framework, Bird and Habitats Directives. International commitments such as those in relation to the Kyoto Protocol on climate change and the Convention on Biological Diversity (to which the EU and UK are both signatories) also determine UK policy and priorities.

The CAP is a major driver of farm management decisions that in turn impact on the environment. Following the 2003 CAP reform, many farmers are likely to change their farming practices, particularly in response to measures such as decoupling. The environmental impacts of these changes in farming practice will be variable, with positive impacts in relation to some issues and in some areas and negative in other cases. In other words, environmental issues and priorities are likely to change in future as changes in farming practice exacerbate some existing environmental problems, create new problems or bring about environmental improvements.

Chapters 3-6 cover England, Scotland, Wales and Northern Ireland respectively, with each chapter: assessing the state of the environment; setting out environmental issues and priorities in relation to land use; assessing the effectiveness of current rural development funding, measures and delivery; and, summarising lessons that can be learned from current approaches to rural development.

Chapter 7 summarises recent developments in EU rural development policy, specifically the EAFRD proposals and proposals for a new Financial Perspective for 2007-2013.

Chapter 8 presents a UK overview of environmental priorities and the problems and gaps in current rural development policy drawn from the findings of the country studies. It includes four case studies that illustrate environmental priorities and possible future rural development responses. Finally, it sets out the overall conclusions and recommendations.

Environmental priorities

The state of the environment varies from country to country and within countries as a result of different farming patterns and practices, other land-use activities such as forestry and recreation as well as the geo-physical conditions. Based on the views of stakeholders consulted for this project and the availability of relevant information some core environmental priorities can be determined; these priorities should be viewed as indicative only since they are based on a qualitative assessment.

The key environmental priorities that need to be addressed in the UK are:

- Resource protection, with a particular emphasis on soil management and combating diffuse water pollution
- Halting biodiversity and landscape decline/degradation
- Promoting responsible access to land and enjoyment of the natural heritage

Case Studies

Four case studies have been prepared to illustrate how rural development approaches could be used to respond to the environmental priorities identified by this report. Taking each environmental priority in turn, a geographic area has been identified where that priority is a particular problem. The environmental needs within the area are assessed and current responses to the problem considered where they exist. Future policy options for responding to the problem are then considered.

The case studies are as follows:

- Addressing diffuse pollution issues in the River Tweed catchment, North Northumberland
- Responding to biodiversity declines in relation to species rich grasslands in the Wye Valley
- Responding to landscape change in the Margam Mountains, Wales
- Promoting access and enjoyment of the countryside in lowland Scotland (Fife).

The case studies can be found at Appendix 3 of this report.

Current rural development policy and plans

A comparative analysis of the way in which the four UK countries have approached rural development and implemented their rural development plans – and the extent to which environmental priorities are being met - reveals some common issues and gaps that need to be addressed in the next programming round. These issues are grouped below in relation to: *strategic issues; funding; schemes and measures; eligibility and recipients; administration and delivery; and, monitoring and evaluation.*

Strategic issues

- The rationale (strategies and priorities) for public expenditure is poorly articulated in RDPs, especially in relation to the environment generally and specifically in relation to the priorities identified by this study.
- Environmental needs in RDPs are poorly described and few clear environmental objectives and targets have been set. Where addressed, issues relating to biodiversity are more clearly articulated than those for resource protection, landscapes and access.
- Cross programme integration of the environment is poor, especially in England, and there is a lack of means to encourage synergies between measures.
- More integrated approaches to land-use planning and the use of policy instruments need to be found at national, regional and local level and greater effort be made by relevant agencies and organisations to identify common goals and objectives.
- The approach to rural development is very centralised and top-down in England and Scotland but less so in Wales and Northern Ireland.

Funding

- The basis on which funds are allocated between the four UK countries is not transparent. The allocation appears to be a political decision and based on past spending plans rather than on identifiable and costed rural development and environmental needs.
- Agri-environment and LFA measures attract the lion's share of the funding in all four countries but particularly LFA measures in Scotland and Wales.
- Public value for money for RD funds is not always demonstrated with insufficient evidence of environmental outcomes. There is also evidence of 'deadweight' in a number of schemes (especially investment measures and processing and marketing grants) with activities being funded that would have been undertaken in any case.

Schemes and measures

- There is strong emphasis on agri-environment and LFA measures and limited use made of other RDR measures even though these have the potential to benefit the environment.
- There is some evidence of the biodiversity and landscape benefits of agri-environment schemes, but monitoring is often limited to outputs e.g. area of land enrolled in schemes rather than environmental outcomes.
- LFA schemes attract large amounts of funding but this funding is poorly linked to the purchase of public goods and scheme objectives are not always clear. In many cases, LFA support is seen as a social measure with some incidental environmental benefits. Even in England where most use is made of environmental 'top ups' little additional environmental benefit is judged to be delivered.
- Little emphasis is given to training measures, capacity building and awareness raising although the need for such measures appears to be high e.g. to help farmers understand and access rural development funding/schemes, to improve farmers' knowledge of the environment and to prevent the loss of traditional skills from the countryside.

Eligibility and recipients

- Land based schemes tend to target agricultural businesses but changing land ownership patterns and new non-farming land owners mean conventional agricultural approaches may not work. There is a need to use Article 33 and 9 to foster learning among a wider range of rural resource managers.
- A number of schemes could benefit non-farming recipients but these are poorly targeted and awareness of eligibility is often low e.g. among voluntary and community groups. Northern Ireland is the only country to give significant emphasis to capacity building and community action with some apparently positive environmental results.

Delivery

- There is a lack of good support/business advice.
- Application procedures are complex and confusing.
- Administrative processes, such as determining which applications get funded, lack transparency and there is lack of clarity where scoring systems are applied. This makes it difficult for potential partners to get involved.

- In the RDPs, in contrast to the Structural Funds programmes, no partnership funding is involved in any of the measures supported with EAGGF funds.
- Scheme delivery is not sufficiently ‘customer’ focused.
- Awareness of some schemes is low in some places. There is especially low awareness of the environmental potential of non agri-environment schemes among environmental groups in most countries.
- There is a lack of focus on helping farm businesses become more sustainable – economically, environmentally and socially – and using different measures in integrated, complementary and enhancing ways to achieve this e.g. combining investment and agri-environment aids.
- There is some evidence of funding being given to businesses that results in displacement of other businesses and saturation of the market. In allocating funding, funders need to be more attuned to business activity at local and regional level and encourage broader diversification and market innovation.
- Land management schemes, in particular, are frequently inflexible to local circumstances and conditions – ‘one size fits all’ approach – and this can result in uniform outputs.
- Different organisations involved in delivery need to work in a much more co-ordinated and complementary way to deliver environmental objectives.
- Mechanisms are lacking to encourage/achieve collaborative action among farmers e.g. co-ops for food processing and marketing, landscape scale habitat restoration, landscape restoration, managing features running across several farms etc.
- There is a need for area based strategies and visions and local involvement/ownership to help realise them.

Monitoring and evaluation

- The environmental performance of rural development measures is difficult to assess due to over-emphasis on outputs as opposed to outcomes and targets are focused too narrowly e.g. on jobs created or retained, for business-related funds. It is also virtually impossible to examine the extent to which funds support integrated sustainable outcomes (synergy between economic, social and environmental goals); anecdotal evidence suggests that some good examples of this exist *despite difficulties* in using the funds in this way. Improved collection of data on outcomes is needed at different spatial levels to enable more effective evaluation.

Developments in EU rural development policy and financing

On July 14 2004, the European Commission published a proposal for a European Agricultural Fund for Rural Development (EAFRD), essentially a new Rural Development Regulation. The proposal is currently under negotiation and is not expected to be finalised until mid to late 2005. Some potential revisions to the original proposal were published on 13 January 2005 but these did not change the overall thrust of the EAFRD proposal. The proposal has significant implications for the environment at EU and Member State level. While it contains a number of measures likely to have a positive impact on the environment, several aspects of the proposals have raised concerns among environmental stakeholders.

A Communication on the Financial Perspectives 2007-2013 was published on 14 July 2004 alongside EAFRD, and draft Regulations covering the Structural Funds, Fisheries and a paper on financing Natura 2000. The Financial Perspectives paper presented an argument for a budget based on 1.14% of Gross Domestic Product and made the case that a budget of this size is needed to maintain progress on current EU commitments. In the ensuing discussions, a number of key Member States - Germany, Austria, Denmark, France, Netherlands, Sweden and the UK- have pressed the case for a budget based on 1% GDP (the so-called 1% club).

Until the final budget is agreed, it is impossible to determine what the allocation of rural development funding will be, both at EU and Member State level. Depending on the criteria used to allocate funding to Member States, there are likely to be some winners and losers. Taking into account the proposed composition of the EAFRD and the significant needs of the New Member States, as well as the introduction of new measures, it seems that the funding offered will be insufficient to meet needs, specifically in the UK, if not universally.

Recommendations

This research project has shown there are significant opportunities to improve future rural development policy, programming and implementation in order to respond better to UK environmental priorities. The following recommendations are based on conclusions drawn from Sections 3-8.3 of this report.

Recommendations for improving EAFRD

This project has highlighted a number of rural development problems that could be addressed through the new EAFRD but are not, as the proposal is currently written. With this in mind, the following recommendations are made:

EAFRD and the EU strategy

1. Both EAFRD and the accompanying EU strategy must emphasise the important role of rural development funding and programmes in meeting environmental priorities. They should refer explicitly and in detail to international environmental commitments and EU environmental legislation and highlight the need for rural development programming to respond to these.

EAFRD and environmental conditionality

2. All three axes and LEADER should be subject to appropriate environmental conditionality, not just Axis II.

Axis I

3. Axis 1 of EAFRD should be renamed 'Improving the competitiveness and environmental performance of the agriculture and forestry sector'.
4. Axis 1 should give much greater emphasis to time-limited and 'soft support' such as advice, training and support for innovative approaches as well as supporting capital investment. The latter should be more targeted to investments that will enhance environmental performance.

Axis 2

5. Articles 35 and 47 (Axis II) of EAFRD should place much greater emphasis on supporting high nature value farming areas and less emphasis on supporting areas that are considered agriculturally disadvantaged.
6. Specific and appropriate environmental conditions should be attached to all the forestry measures contained within Axis 2 of EAFRD, not just the measures listed at Articles 34 (b) (i), (iv) and (v). See also Recommendation 2.
7. The UK should press for EAFRD to make it explicit that support for access management /maintenance and related measures is allowed.
8. The UK Government should press for clarification on calculating payments in relation to agri-environment and LFA measures reflecting changes that may arise as a result of decoupling. Clarification should also be sought on what costs can be included as transaction costs.

Axis 3

9. The wording of Axis III should give greater emphasis to supporting only *sustainable* rural development and focusing on non-market social and environmental goods.

Integration and Delivery

10. The UK Government should seek changes to Article 71 of EAFRD and the Implementing Regulation to ensure that measures from different Axes can be used together to achieve positive integration without placing further or complicated accounting or administrative requirements on Member States.
11. EAFRD should be amended to ensure that Member States can make specific incentive payments to encourage and facilitate collaborative projects and achieve greater synergy between productive investments and environmental measures.
12. Axis 2 should make specific provision for training and advice in the same way that these issues are covered in Axes 1 and 3.

Monitoring and evaluation

13. Indicators selected for evaluation purposes must include those which measure the environmental impacts of all programme expenditure as well as some measure of integration between goals, in delivery and outcomes.

Recommendations for EU and UK rural development funding

Funding is critical to the future success of rural development policy and programmes. Concerns about a possible lack of funding for the 2007-2013 programming period lead to the following recommendations.

14. If the EU, and its constituent Member State, are to meet environmental priorities in future, rural development funding must be protected.

15. The UK Government should continue to press for an increased share of EU rural development funds and the right to apply on-going voluntary modulation in addition to the compulsory modulation required of all Member States.

Recommendations for UK rural development policy

EU policy provides the framework for rural development policy and practice at Member State level. Within this framework, the UK has considerable scope and discretion to implement effective rural development policy. Based on the problems identified by this project, the following recommendations are made:

The UK national strategy

16. The UK national strategy should be underpinned by a robust rationale for public expenditure and be clearly focused on the environmental priorities identified by this study. It should include specific objectives and targets that relate to the environmental impacts of all measures under the programme, not just those in Axis 2.

Pillar I impacts and Pillar II responses

17. The CAP as a whole has a major impact on rural areas. Monitoring programmes should be put in place now in the UK constituent countries to enable proper evaluation and assessment of the environmental impacts of the Pillar I 2003 CAP reforms, specifically in relation to decoupling and compulsory cross compliance. Early assessments of Pillar I impacts in 2005 and 2006 should be used to inform the development of rural development policy and plans for the 2007-2013 programming period and later assessments used to inform subsequent revisions.

Recommendations for UK rural development programming

Sections 3.4, 4.4, 5.4 and 6.4 of this report draw conclusions and make recommendations in relation to future rural development programming for England, Scotland, Wales and Northern Ireland respectively. Some key conclusions and recommendations emerge from these sections.

Allocation of funding per Axis

18. The UK Government and the devolved administrations should consider the implications of the proposed obligatory minimum allocations of funding by axes and LEADER on their ability to address the environmental priorities identified by this study. Arguing the case for lower minimums for Axes 1 and 3 may be appropriate.

Supporting collective action and achieving large scale effects

19. The UK administrations should pay much greater attention to achieving natural area, landscape and catchment scale effects when designing and implementing future rural development programmes. Collective action by landowners should be encouraged.

20. The UK devolved administrations should undertake fundamental reviews of LFA support. One option may be to relaunch the schemes as broad and shallow agri-environment schemes for upland areas, with particular emphasis on achieving landscape scale management. All LFA farmers would receive payments unless they chose to opt out unlike other agri-environment schemes where farmers opt in.

Addressing diffuse pollution and soil problems

21. More effort is needed to address diffuse pollution and soil management issues effectively by the balance of conditions and payments and scheme delivery systems in place in each of the UK countries.

Enhancing public access

22. Greater support is needed for access-orientated capacity building among the private landholding community to make them more cognisant of the potential benefits of providing access and more willing to deal with the perceived risks of inviting people onto their land.

Supporting the wider rural community

23. Greater attention should be focused on using Axis III measures to benefit the environment in the UK. Greater support needs to be offered to rural communities beyond the farming community and new approaches and methods of dealing with non-farming land owners need to be considered.

LEADER

24. The potential of LEADER to deliver environmental benefits through small-scale, community based projects should be explored by the UK devolved administrations, particularly in England and Scotland.

Improving delivery mechanisms

25. Greater attention should be given to building partnership-based delivery systems in the UK with greater devolution of delivery in England and Scotland and stronger sub-regional agreement in all countries on rural development strategies.
26. Renewed consideration should be given to the concept of 'one-stop shop' delivery services for rural development support. The various agencies involved in delivery need to work in much more co-ordinated ways to provide joined-up delivery at local level.

Next steps

At the time of going to print, negotiations on EAFRD and the EU budget and the development of the EU Strategy were on-going. Once concluded, Member States will be required to develop their own national strategies and rural development plans for the 2007-2013 programming period. This study makes a case for much greater attention to be focused in future on using rural development policy to address

environmental priorities such as diffuse water pollution and declines in biodiversity. The study shows how current rural development policy and plans in the UK are failing to meet their full potential in terms of delivering environmental benefits and makes concrete recommendations for improving this situation under EAFRD and the next programming period. The case studies, in particular, offer some practical examples of how rural development funding could be used more effectively to achieve environmental goals. The next 18 months, during which UK strategies and plans will be developed and approved, provide a real opportunity for the four UK devolved administrations to put the environment at the heart of rural development policy.

1. Introduction

1.1 Background to Research

In June 2004, the Land Use Policy Group (LUPG) of the GB statutory conservation, countryside and environment agencies² contracted the Institute for European Environmental Policy (IEEP) to undertake a UK study on environment priorities in rural development programmes.

This UK study is one of a number of national studies being undertaken in seven EU Member States. Together, these studies will provide information for a larger LUPG study, funded and carried out in partnership with WWF and Stichting Natuur en Milieu, entitled 'Europe's Living Countryside' (ELCO). The aims of the ELCO study are to define environmental priorities in relation to: the Rural Development Regulation (RDR); its administration and evaluation by the European Commission; and, implementation of Rural Development Plans and Programmes (RDPs) by national and regional governments, for the period 2007-2013. The ELCO study builds on an earlier study that provided information about existing RDR programmes and their likely impacts across eight countries. The final report³ provided a unique assessment of how the Rural Development Regulation - or so-called Pillar II of the CAP - was working in its first few years of implementation and made a series of broad recommendations for change.

The establishment of the RDR in 1999 was a significant step in the evolution of the Common Agricultural Policy (CAP). The RDR brought a range of existing rural development instruments together under one umbrella with a view to creating a more coherent policy package. The RDRs objectives are economic, social and environmental, with measures aimed at helping agriculture restructure, become more competitive and sustainable. Member States were required to develop and implement Rural Development Programmes (RDPs) for the period 2000-2006 using the framework of, and measures contained within, the RDR.

The RDR is potentially an important policy tool for meeting environmental objectives - as well as economic and social ones - at EU and national level. However, recent evaluations and studies suggest much could be done to improve both the RDR and RDP implementation in relation to the environment. Problems arise in a number of areas from insufficient or poor targeting of environmental priorities, an emphasis on environmental outputs as opposed to outcomes, lack of programme funding, complicated scheme administration and delivery, for example. Funding is a particular issue in a UK context with the UK receiving a small share of the EU RDR budget compared to most other Member States. Receiving a greater share of EU and domestic funding in future will, in part, depend on being able to make a strong case for additional resources based on rural development needs. A key objective of this study

² The GB statutory conservation, countryside and environment agencies comprise the Countryside Agency, Countryside Council for Wales, English Nature, Environment Agency, Joint Nature Conservation Committee and Scottish Natural Heritage.

³ Dwyer J, Baldock D, Beaufoy G, Bennett H, Lowe P and Ward N (2002). *Europe's Rural Futures: The Nature of Rural Development II. Rural Development in an Enlarging European Union: Comparative Report*. IEEP

is to assess environmental needs in the UK within the context of broader rural development needs.

Proposals for a new European Agricultural Fund for Rural Development (EAFRD) – the successor to the RDR – were published by the European Commission in July 2004. These proposals are currently being negotiated and once approved (probably in the mid to latter half of 2005), Member States will be required to prepare a rural development strategy in line with an EU rural development strategy. Once national strategies are approved, Member States will then be required to produce new RDPs for the period 2007-2013. It is critical that the past three years experience of the RDR and RDP implementation are used to inform both these processes and that key lessons about past successes and failures are learned and applied to policy development and implementation in the future.

1.2 Objectives and Research Methods

1.2.1 Objectives

The objectives of the UK environment in rural development study are as follows:

- To identify priority environmental issues related to rural development in the UK that could be addressed through Pillar II of the Common Agricultural Policy (CAP) and develop proposals for addressing them.
- To feed into the ELCO study, recommendations for changes to the Rural Development Regulation (through the proposed European Agricultural Fund for Rural Development (EAFRD)), its implementation and funding, which would be needed to deliver environmental objectives in the UK.

The study is intended to build on the study commissioned by LUPG in 2002 on the current RDPs in the UK⁴ but has a narrower focus and different timescale. The focus here is specifically on environmental priorities covering resource protection (soil, air and water), biodiversity and landscape, plus public access to the countryside. Given the targeting of RDR funding i.e. primarily at farmers and land managers, environmental priorities are considered mainly as they relate to agricultural and other forms of land management such as forestry. The timescale covers the next RDR programming period of 2007-2013.

1.2.2 Research Methods

The research has been undertaken primarily as a desk-based study with particular attention given to consultation with UK researchers, policy makers and stakeholders, as specified in the research brief.

The following tasks have been undertaken:

- 1) Identification of environmental issues and definition of environmental priorities in the UK, which might be addressed by Pillar II policy tools

⁴ Ward N 2002. *Rural Development in an Enlarging European Union: the UK National Report*. LUPG. Available on LUPG website www.lupg.org.uk

- 2) Assessment of how well environmental priorities are being addressed by current RDPs in the UK
- 3) Organisation of seminars for private and public stakeholders to discuss environmental priorities and the performance of rural development programmes and measures
- 4) Drawing out the lessons learned from past experience in relation to the environment and rural development
- 5) Production of a UK overview of environmental priorities and rural development needs including the preparation of case studies to illustrate how rural development measures might be used to address environmental priorities
- 6) Production of recommendations covering amendments to the RDR, the next generation of RDPs in the UK, other policy tools, administration, funding needs, delivery and evaluation.

Tasks 1-4 have been undertaken for each of the UK's four constituent countries: England, Scotland, Wales and Northern Ireland. This is due to the fact that environmental problems and priorities vary from place to place and that rural development programming in the UK takes place at country level.

As part of the wider Europe's Living Countryside study, the project Steering Group has produced a series of tables for each of the main UK environmental issues identified through the UK project seminars and research. These summarise issues and problems, drivers and current and potential policy responses. The project sponsors will use these along with similar tables from the other six countries studied to develop guidelines on implementing rural development policies to address environmental priorities and issues more effectively. Extracts from these are provided in Appendix 2.

1.2.3 Report Structure

Chapter 2 begins by looking at some key aspects of EU policy that are significant drivers of environmental change at Member State level, specifically environmental legislation and the 2003 reforms to the Common Agricultural Policy (CAP). Chapters 3-6 cover England, Scotland, Wales and Northern Ireland respectively with each chapter: assessing the state of the environment; setting out environmental issues and priorities in relation to land use; assessing the effectiveness of current rural development funding, measures and delivery; and, summarising lessons that can be learned from current approaches to rural development. Chapter 7 summarises recent developments in EU rural development policy, specifically the EAFRD proposals and proposals for a new Financial Perspective for 2007-2013. Chapter 8 presents a UK overview of environmental priorities and the problems and gaps in current rural development policy drawn from the findings of the country studies. It includes four case studies that illustrate environmental priorities and possible future rural development responses. Finally, it sets out the overall conclusions and recommendations.

2. The Influence of EU Policy on UK Environmental Priorities

2.1 Introduction

This study aims to identify priority environmental issues related to rural development in the UK and to develop proposals for addressing these issues through Pillar II of the Common Agricultural Policy (CAP). In considering UK environmental priorities it is necessary to start by considering the influence of EU policy on the UK, specifically the obligations placed on the UK by EU environmental strategies and legislation. Given the influence of the CAP on rural areas – of which Pillar II is only a small part - it is also necessary to consider the implications of the most recent CAP reforms, approved in 2003. Farmers' responses to policy changes such as the decoupling of support from production in Pillar I of the CAP are likely to result in environmental impacts that may influence future UK environmental priorities.

2.2 EU Environmental Strategies and Legislation

Environmental priorities at Member State level are increasingly driven by EU strategies and legislation. This section reviews key EU environmental legislation that has significant implications for the land use/agriculture sectors in the UK. It also identifies communications, strategies and action plans on sustainable development and the integration of environmental objectives into sectoral policies that have been presented by the European Commission and the European Council over the last 10 years.

Environmental legislation

Key EU environmental legislation that places obligations on the UK are described as follows:

Nitrates Directive (1991/676/EC)

This Directive seeks to reduce or prevent the pollution of water caused by the application and storage of inorganic fertilizer and manure on farmland. It is intended both to safeguard drinking water supplies and to prevent wider ecological damage in the form of the eutrophication of freshwater and marine waters generally. Member States are to identify waters actually or potentially affected by pollution from nitrates. The Directive requires each Member State to draw up at least one code of good agricultural practice which must be promoted throughout the territory. The measures are only mandatory in designated Nitrate Vulnerable Zones (NVZs) where they are incorporated into wider NVZ Action Programmes. Action programmes for NVZs introduce restrictions on timing, volume and location of manure/slurry/fertiliser application. The approach to designation of NVZs differs greatly between Member States, with some opting for whole-territory designation and others designating only priority areas. The approach to designation is an important factor in determining the implications for farmers, in terms of regulatory burden and from a point of view of competition. The measures to be included in Action Programmes for NVZs, while in most cases representing merely an efficient form of farming, could necessitate significant changes in farm practice and structure. Compliance with requirements for manure and slurry storage can often be a big cost to farmers. Outside NVZs the Codes of Good Practice under the Action Programme are voluntary.

The Nitrates Directive currently has the most significant impact on dairy and livestock farms that fall within designated NVZs in the country concerned, and will be most severe for those farmers whose stock produce more organic fertiliser than their land can absorb. The storage requirements of the Nitrates Directive (that storage capacity should have a stable cover and be equal in volume to the manure produced in the closed-period) can mean significant investment is needed by farmers in storage facilities. In addition to this, the Directive requires that farmers only apply the amount of nutrients sufficient to meet the uptake needs of the crop and this can result in farmers having to pay for transportation of manure and slurry off the farm. The impacts of the Directive will be the least for arable farms as they already tend to use nutrients more efficiently because nutrients are bought in rather than generated as a waste product.

In several cases Member States have been brought in the front of the European Court of Justice for non-compliance with the requirements of this Directive.

Water Framework Directive (2000/60/EC)

The Directive applies to surface waters, ie lakes, rivers, transitional waters (ie estuaries) and coastal waters (up to one nautical mile from land) and to ground waters. The approach to water management is comprehensive in three regards:

- The Directive requires that the objectives of water management are based on the overall ecology of these waters, taking account of biological, chemical and hydromorphological (i.e. a combination of hydrology and physical structure) characteristics. It requires Member States to undertake extensive analysis of these characters to determine how far the ecology has been affected by human activity and classify waters according to categories of 'status'.
- The Directive requires that all waters either achieve 'good ecological status' or that 'high status' waters are maintained, subject to specific derogations.
- The Directive requires that water management is undertaken in a comprehensive, integrated manner through the development of River Basin Management Plans. Plans should be developed for each river basin, which may include more than one Member State. Each plan will define the character of the waters, where water status is not 'good', identify a programme of measures to rectify any problems and to specify a monitoring programme both for a general assessment of water status and for specific threats to it. The plan also acts as a vehicle for consultation with the public and is used for reporting to the European Commission.

The Directive is also a 'framework' measure in that it provides for additional measures to be adopted by the EC at a later date, including the establishment of environmental quality standards for specified priority substances.

The Water Framework Directive will lead to the repeal of six existing EC water Directives: 2 of them by the end of 2007 (Directive 75/440/EEC on surface waters for drinking and Directive 79/869/EEC on measurement and sampling), and four of them by the end of 2013 (Directive 78/659/EEC on fishlife, Directive 79/923/EEC on shellfish waters, Directive 80/68/EEC on groundwater; and Directive 76/464/EEC on dangerous substances – Article 6 of this Directive is already repealed).

The provisions of these Directives concern the establishment of environmental quality objectives for surface or ground waters, the regulation of the discharge of dangerous substances to these waters or the monitoring and sampling of waters. The framework Directive expands on the environmental objectives beyond those in existing legislation, incorporates (and will expand) requirements for discharge control and provides a comprehensive framework for monitoring and reporting.

The water framework Directive came into force at the end of 2000 but is to be implemented gradually in the following steps:

Entry into force	22 December 2000
Groundwater Strategy	22 December 2002
Formal compliance	22 December 2003
Identification of competent authorities	22 December 2004
Monitoring programmes to be operational	22 December 2006
Publication of River Basin Management Plans	22 December 2009
Programme of measures to be established	22 December 2009
Environmental objectives to be achieved	22 December 2015

The water framework Directive will have broad implications for agriculture, both in regulating use of water by agriculture and by aiming to reduce water pollution from agricultural sources. Its impact on agricultural practice will vary between different river basins, depending on the objectives of the River Basin Management Plans adopted, and programmes and measures derived from such plans. Improved monitoring of water quality required by this Directive should allow better assessment of the contribution of agriculture to water pollution and the development of more targeted measures to protect water from point and diffuse agricultural pollution.

Birds Directive (79/409)

The Directive arose out of public disquiet at the annual slaughter of migratory birds that was common in southern Europe, but goes further in providing a general system of protection for all species of wild birds found in Europe. It seeks to control the hunting and killing of wild birds and protect their eggs and nests. It also requires the provision of a sufficient diversity and area of habitats to maintain the population of all species. The habitats Directive 92/43 (see below) replaces certain habitat protection obligations arising from the birds Directive.

A general duty is placed on Member States to maintain the population of all 'species of naturally occurring birds in the wild state' in the European territory 'at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements'. Member States are to preserve, maintain or re-establish a sufficient diversity and area of habitats for birds. This is to be done primarily by creating protected areas, managing habitats both inside and outside protected areas, re-establishing destroyed biotopes and creating new ones. Member States are to lay down a general system of protection for all species of wild birds, although exceptions are made for hunting and for certain other reasons.

Special measures concerning habitats

Annex I lists particularly vulnerable species which are to be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction. Originally seventy-four species were listed but new lists were substituted by Directive 85/411, 91/244 and 97/49, so that 181 species are now included. Member States are to classify the most suitable territories (both land and sea) as Special Protection Areas (SPAs) for the conservation of these species. Similar measures are to be taken for regularly occurring migratory species not listed in Annex I. Particular attention is to be paid to the protection of wetlands. Member States are to send the Commission information about the measures they have taken so that the Commission can ensure that protected habitats form a coherent whole. Member States are to strive generally to avoid pollution or deterioration of habitats and are to undertake more specific measures to conserve special protection areas.

Every three years Member States are to forward a report on the implementation of national provisions taken to comply with the Directive. In its turn, the Commission is to prepare a composite report and the part of the draft report covering information supplied by a Member State is to be verified by the authorities in that Member State. The final version of the report is to be sent to the Member States, but it does not have to be sent to the Parliament and thus made public. The Commission has produced four such reports, the most recent in 2002 (COM(2002)146 final).

Habitats Directive (92/43)

The stated aim of this directive is to contribute towards the maintenance of biodiversity within the European territory of the Member States through the conservation of natural habitats and of wild fauna and flora. The Directive aims at establishing a 'favourable conservation status' for habitat types and species selected as being of Community interest. It extends many of the protection mechanisms established for birds in Directive 79/409 to other species and habitat types and imposes obligations on Member States similar to those laid down in the Bern Convention on the Conservation of European Wildlife. The measures required by the Directive fall into two main parts; the conservation of habitats and the protection of species. The common aim is the maintenance of a favourable conservation status for both 'natural habitats' and wild species of Community interest.

Measures under the Directive are to be designed to maintain or restore favourable conservation status but also are to take account of economic, social and cultural requirements and 'regional and local characteristics'. The Directive applies to a substantial number of semi-natural habitats. Annex I originally listed 168 habitat types, the conservation of which requires the designation of Special Areas of Conservation. Directive 97/62 increased the number of habitat types to 198.

A series of measures is to be taken which will result in the establishment of a 'coherent-European ecological network' of sites of Community importance to be known as Natura 2000. Three categories of site will be included in this network. First will be those hosting the habitat types of Community importance listed in Annex I. Second will be those sites comprising the habitats of certain animal and plant species of Community importance listed in Annex II. Third will be 'Special Protection Areas' for birds classified by Member States under the birds Directive. The purpose of the

network is to enable the maintenance or restoration of a favourable conservation status in their natural range for the habitats concerned.

Member States are required to contribute to the network in proportion to the representation within their territories of the Annex I habitat types and habitats of Annex II species. To this end, they must designate sites in each category as ‘special areas of conservation’ (SACs). These are defined as sites of Community importance designated by the Member States ‘...through a statutory administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species to which the site is designated’.

Member States are subject to certain obligations to protect all those sites on the Commission’s list of Community importance, irrespective of whether they have been designated as SACs. Among other obligations MS must take ‘appropriate steps’ to avoid the deterioration of the habitats concerned and any disturbance of those species for which the ‘areas’ have been designated. Within the areas designated as SACs Member States must establish the ‘necessary conservation measures’, involving appropriate management plans and statutory, administrative or contractual measures, if need be. More generally, Member States must undertake ‘surveillance’ of the conservation status of the habitats and species found in their territory, with special attention to priority types. Further, they are to ‘endeavour’, where they consider it necessary, to encourage the management of landscape features of major importance for wildlife in their land-use planning and development policies. Linear or continuous features, such as rivers and hedges, or stepping stones, such as ponds are specified as being important. The aim is to improve the ecological coherence of the Natura 2000 network.

Other environmental legislation

Several other pieces of EU environmental legislation have implications for land use activities and, in part, should determine UK environmental priorities.

Groundwater Directive (80/68/EEC)

Drinking water Directive (80/778/EEC)

Integrated Pollution Prevention and Control (IPPC) Directive

Directive on authorisation of pesticides (91/414/EEC)

Sewage sludge Directive (86/278/EEC)

NB: The Groundwater Directive will be repealed by the Water Framework Directive by the end of 2013.

Strategies and documents

The key strategies and documents reviewed are shown at Table 2.1 and the implications of the most relevant ones summarised below:

Table 2.1 Strategies and documents reviewed

Date	Document	Reference
1993	Towards Sustainability: A European Community programme of policy and action in relation to the environment and sustainable development (5EAP)	http://europa.eu.int/comm/environment/env-act5/5eap.pdf
1998	European Community's Biodiversity Strategy.	COM (98) 42
1999	Directions towards sustainable agriculture	COM (99) 22
	Council strategy on environmental integration and sustainable development in the CAP.	13078/99
2001	Gothenburg European Council Conclusions 15-16 June 2001	http://www.europarl.eu.int/summits/pdf/got1_en.pdf
	6 th Environmental Action Programme	COM (2001) 31
	Biodiversity Action Plan for Natural Resources	COM (2001) 0162 (02)
	Biodiversity Action Plan for Agriculture	COM (2001) 0162(03)
	A sustainable Europe for a better world: A European Union strategy for sustainable development.	COM (2001) 264
2002	Communication from the Commission: Thematic Strategy for Soil Protection.	COM (2002) 179
	Communication from the Commission: Thematic strategy on the sustainable use of pesticides.	COM (2002) 349

The European Community's *Biodiversity Strategy* of 1998, adopted as the first step towards the implementation of the Convention for Biological Diversity and signed by the EC in 1993, referred to agriculture in rather general terms. It called for the development of instruments to enhance the conservation of biodiversity and its sustainable use outside protected areas, promotion of low-intensity farming in High Nature Value (HNV) areas and protection and restoration of degraded wetlands. It stated several objectives for the promotion and protection of agricultural crops and breeds of farm animals. This strategic document set general objectives, which were followed by sector specific Biodiversity Action Plans (BAP) two years later. The BAP for Agriculture was adopted in 2001.

'*Directions towards sustainable agriculture*' presented by the Commission in 1999 was developed as a background document for the adoption of the Council strategy on environmental integration and sustainable development in the CAP later that year. Both documents were rather general and concentrated on identifying the main areas of environmental concern, leaving the development of measures to address those concerns to the Agenda 2000 CAP reform. The Council strategy introduced an important concept that the integration of environmental concerns into the CAP should be based on a common application of good farming practice in all agricultural areas of the EU. It also set general objectives for the protection of soil, water, and for the safe use of pesticides. Specific demands were made only in relation to the use of pesticides by requesting that the EU present a Community strategy on the sustainable use of pesticides, and develop a code of good practice on pesticide use. The draft strategy on the sustainable use of pesticides was presented by the Commission in 2002 and is to be adopted by the Council not later than July 2005.

The **6th Environmental Action Programme** adopted by the EU in 2001 introduced two new specific objectives: the reduction of agriculture's contribution to greenhouse gas (GHG) emissions, and integration of landscape protection and restoration into agricultural and regional policy. Other objectives were to some degree repetitive of the demands made in earlier political declarations, such as the call for increased resources and broader application of agri-environment measures and the development of a thematic strategy on soil, thus reinforcing political commitments. The 6th EAP did not set any clear environmental targets.

So far the **Biodiversity Action Plan for Agriculture** adopted in 2001 is the only document that sets specific objectives, actions and targets in respect to interactions between agriculture and biodiversity. Objectives, actions and targets set by this BAP relate to specific types of agricultural activity, farming systems and/or policy measures. No numerical, area, habitat or species specific targets have been set in the BAP for Agriculture.

Some of the most significant and major commitments to achieving environmental objectives have been made in the area of climate change and biodiversity. The EU **sustainable development strategy**, proposed by the Commission and adopted by the Council in 2001, has committed the governments of the EU Member States to three major targets: halting the loss of biodiversity in the EU by 2010; gradual reduction of greenhouse gas (GHG) emissions by one per cent over the 1990 levels annually until 2020; and ensuring that alternative fuels will account for at least seven percent of fuel consumption by cars and trucks by 2010, and twenty percent by 2020. So far these targets have not been translated into any more specific political declarations for the agricultural sector's contribution to meeting them, but they need to be borne in mind when considering the less specific objectives set in various policy documents directly related to agriculture.

In 2002, the Commission issued its Communication on the **Thematic Strategy for Soil Protection** proposing: extension of the use of the Habitat Directive to protect selected soil-based habitats; increasing importance of soil in the management plans for Nature 2000 sites; and development of new directives on sludge and biodegradable products for use on soil. So far, the European Council has delivered conclusions on the Communication, and in November 2003 the European Parliament commented on the Strategy. The work on the thematic strategy on soil protection is however ongoing. As no legal proposals have been made so far, it is not clear whether targets will be included.

Also, in July 2002, the **Thematic Strategy on the Sustainable Use of Pesticides** was proposed by the Commission. The proposal is pending approval by the Council. According to this document the Commission will propose relevant mandatory requirements within two years from the adoption of the strategy. Existing Community legislation and rules concentrate on the authorisation of pesticides entering the market (Directive 91/414) and the maximum residue limits in food and feedstuffs.

2.3 2003 CAP Reforms

Given the dominance of agricultural land use in rural areas, the state of the environment and hence environmental priorities are closely linked to farming systems and practices. The relationship between farming and the environment is a complex one. Unlike other economic activities, farming forms part of an ecosystem rather than being external to it. Farming produces agricultural commodities by manipulating the environment through a range of different practices such as land drainage, tilling of soil, diverting natural water sources, irrigation and applying nutrients and pesticides. As a result, these practices impact – both positively and negatively - on soil, air, water, biodiversity, landscapes and the historic environment. Other areas where agriculture has an impact on the environment are in relation to climate change and waste. The role of agriculture in facilitating access to the countryside is also an issue that needs to be considered.

The nature and extent of the environmental impacts of agriculture are increasingly well understood. Positive environmental impacts can be considered as benefits to society while negative impacts can be thought of as costs. Policy responses are required to promote and encourage the environmental benefits of agriculture, particularly if there is a danger these might be under-provided in a market economy, and to prevent or reduce the environmental costs of agriculture. Rural development measures are one such policy response

The main environmental problems arising from agricultural practices are summarised⁵, in general terms, at Table 2.2.

The CAP is a major driver of farm management decisions that in turn impact on the environment. Following the 2003 CAP reform, many farmers are likely to change their farming practices, particularly in response to measures such as decoupling. The environmental impacts of these changes in farming practice will be variable, with positive impacts in relation to some issues and in some areas and negative in other cases. In other words, environmental issues and priorities are likely to change in future as changes in farming practice exacerbate some existing environmental problems, create new problems or bring about environmental improvements. It is important to note that while some of these impacts will arise as a result of applying Pillar II rural development measures (the subject of this study), many others are likely to arise as a result of Pillar I measures such as decoupling and cross compliance. This will need to be borne in mind in the later stages of this project when seeking to identify future rural development measures needed to address environmental priorities. It is also important to note that various aspects of the reforms will be phased in over a period of time; adjustments in farming practice will therefore occur over time and the environmental impacts of such adjustments will take time to surface. Future environmental priorities may therefore be different to priorities that can be defined at present.

⁵ Based on IEEP's knowledge of the interactions between agriculture and the environment.

Table 2.2 Main environmental problems arising from agricultural practices

<i>Environmental Theme</i>	<i>General environmental problems arising from agriculture</i>
Soil	<ul style="list-style-type: none"> • Physical degradation • Chemical degradation • Biological degradation
Air	<ul style="list-style-type: none"> • Atmospheric pollution • Ozone depletion
Climate change	<ul style="list-style-type: none"> • Green house gas emissions
Water	<ul style="list-style-type: none"> • Water quality: chemical and biological status • Water quantity: change in flow patterns
Biodiversity	<ul style="list-style-type: none"> • Habitat – decline in extent and/or quality • Population declines and reductions in species diversity • Reduction in genetic diversity
Landscape	<ul style="list-style-type: none"> • Loss of landscape diversity/character • Loss of or damage to landscape features
Historic environment	<ul style="list-style-type: none"> • Loss of or damage to sites and features
Access	<ul style="list-style-type: none"> • Restrictions on public access to the countryside arising from land use practices, lack of maintenance of Rights of Way infrastructure

As yet, the way in which farmers will respond to the 2003 CAP reforms is rather unclear. The Commission's own analysis and various national economic modelling studies suggest the incentive for farmers to produce will decrease bringing production more in line with market demands, prices will increase and overall farm incomes will improve. Very little analysis has been undertaken of how such changes might impact on the environment. However, a study undertaken by GFA-RACE and IEEP for Defra⁶ attempted to determine the potential environmental impacts of the CAP reforms in England, based on the most likely responses in terms of production. The report contains tables assessing specific impacts in relation to climate change, soil, air, water, biodiversity and landscape for each of the following sectors: arable, dairy, upland livestock, lowland livestock. The main environmental opportunities and threats identified in the report are quoted below (Box 2.1).

⁶ (<http://statistics.defra.gov.uk/esg/reports/capreform3/finalrep.pdf>)

Box 2.1 The potential environmental impacts of the 2003 CAP reforms in England

Environmental opportunities:

- A reduction in inputs, including artificial fertilisers and pesticides leading to improvements in water quality and biodiversity.
- An increase in fallow land leading to: a reduction in soil erosion, soil compaction and pollution of watercourses; the provision of habitats for farmland biodiversity; and a reduction in damage to archaeological features. The extent of these benefits depends on the management of fallow land.
- Reductions in livestock numbers that will promote a reduction in greenhouse gas emissions; improve air quality and reduce acidification by reducing ammonia emissions; reduce soil erosion, poaching of land and pollution of water courses by nitrates, slurry and sheep dip; reduce grazing pressure on important habitats and improve the condition of SSSIs, especially in the uplands, with benefits for biodiversity; and prevent damage to archaeological features.
- An increase in the incentive for farmers to enter land into agri-environment schemes and increased funding helping to: reduce impacts on soil, air and water; improve habitat management and reverse declines in farmland biodiversity; protect and manage landscape features such as hedgerows and protect archaeological remains. Also potentially increased incentive for the development of scrub and woodland subject to the development of supporting rules and adequate funding.

Environmental threats:

- Specialisation and concentration in some sectors, especially cereals and dairying, leading to localised adverse impacts such as: increases in water pollution; increases in greenhouse gas emissions; soil erosion, compaction and contamination; and increased levels of ammonia and acidification; also loss and degradation of habitats with further declines in farmland biodiversity; and loss and degradation of landscape features such as hedgerows and damage to archaeological features.
- Undergrazing or cessation of grazing leading to: a decline in condition of some SSSIs and other important wildlife sites; loss of landscape character; and a switch to alternative, possibly more damaging, land uses (eg some recreational activities).
- A reduction in suckler cow numbers in absolute and relative terms leading to greater difficulties in achieving environmentally sensitive cattle-based grazing regimes on some important habitats and wildlife sites, including SSSIs. Note cattle numbers are likely to fall more steeply than sheep numbers.
- A decline in mixed farming and more homogeneity of cropping leading to: less diversity of habitat with impacts on biodiversity; and a reduction in countryside character and less landscape diversity.
- Reductions in the labour force and an increase in contract farming leading to: loss of countryside skills and management practices; and loss of local knowledge and stewardship .
- Reduced incentive to enter land into agri-environment schemes and woodland schemes due to insufficient payment rates leading to a theoretical loss of environmental benefits in the future.
- The Single Farm Payment can be transferred or traded. There is uncertainty of the implications for the environment, in the potential transfer and trade of SFP entitlements.

These impacts will vary from region to region depending on current farming patterns and trends and environmental characteristics and trends. The study focused on England and comparable studies for Scotland, Wales and Northern Ireland are not available. Differences in implementation of the reforms in the four countries, for example, on what basis the decoupled Single Farm Payment will be paid or cross compliance standards, mean that different environmental impacts may well arise in different parts of the UK.

3. England

This chapter presents the following:

- A review of the state of the environment in England covering the following issues: water; soil; air; climate change; biodiversity; landscapes; historic environment and, access. The focus is primarily on environmental issues as they relate to land use specifically agriculture and forestry.
- A summary of environmental targets and priorities drawn from Defra and its environmental agencies, relevant NGOs and stakeholder consultation.
- A summary of the England Rural Development Plan (ERDP) including its environmental objectives, the measures and schemes in place and funding arrangements (with some reference to Objective 1 and LEADER + measures and funding)
- An analysis of the performance of the ERDP to date (with some reference to Objective 1 and LEADER + measures).
- Conclusions and recommendations

The aim of this chapter is to assess how environmental priorities in England are currently being met through the ERDP and other related rural development funds and to highlight how they could be better met in future through the next round of rural development plans and programmes (2007-2013).

The information contained in this chapter has been drawn from a wide range of sources including websites and reports of the Department for the Environment Food and Rural Affairs and the statutory countryside and environment agencies (English Nature, Countryside Agency, Environment Agency, English Heritage). We have also drawn on recent work undertaken for Defra to produce environmental accounts for agriculture and to assess the potential environmental impacts of the 2003 CAP reform agreement. Other reports and studies produced by farming, landowning and environmental stakeholders have been reviewed. A stakeholder workshop in London was also organised as part of this project to gather views and information.

3.1 State of the Environment

This section reviews the state of the environment in England in relation to land use under the following environmental themes: water; soil; air; climate change; biodiversity; landscape; historic environment and, access.

Water

The impacts of agriculture on water resources can be considered in terms of water quantity and water quality. Agricultural practices can affect quantity in various ways. Excessive use of water for irrigation can deplete water supplies while drainage and land reclamation can degrade or destroy wetland habitats important for biodiversity. Different land management practices can affect the absorption capacity of land and influence the rates of water run-off, which in turn can determine the risk of flooding in low lying areas. In terms of water quality, agriculture is both a source of point and diffuse pollution which can result in the contamination of ground and surface waters

with nitrogen, phosphorous and pesticides, for example. See also the section on soils for the impacts of soil erosion on water.

Low flows

According to the Environment Agency, there are about 400 rivers in England and Wales that sometimes suffer from low water flows and levels. While low rainfall is often the cause of this problem, over-abstraction of water is also significant. Agriculture is only a small user of river water (1-2% of total use) but this can be significant at some locations in times of scarce supply. The increasing use of spray irrigation is likely to contribute to future water demand. Aquifer and groundwater recharge are affected by soil permeability which itself is influenced by land management practices. Poor soil structure can result in increased water run-off leading to flooding (see section below) and falling groundwater levels which may lead to more water abstraction by farmers.

Flooding

The way in which land is managed can increase both the risk and incidence of flooding events. Poor soil structure, decreasing soil organic matter, land drainage, the loss of natural, wet floodplains and increased sedimentation of rivers (caused by soil erosion) are all implicated in relation to flooding. Research for Defra estimated that 1.8 million homes, 140,000 commercial properties, 1.4 million hectares of agricultural land and potentially 4-5 million people are at risk from flooding. Flooding has significant on-farm and off-farm costs; the annual cost of flooding in the UK is estimated to be £0.8 billion. The Environment Agency estimates that agriculture contributes to a conservative 14% of total flood events with the annual cost of flooding attributable to agriculture amounting to around £115 million.

Water quality

Farming is one of the four main sources of water pollution in the UK. A distinction can be made between diffuse pollution arising, for example, from the spreading of nutrients on the land and point source pollution resulting from, for example, run-off from livestock buildings or slurry stores. The main areas of concern in relation to water quality are: nitrate pollution in surface and groundwater; phosphorous levels in surface water; contamination by pesticides and, soil sediments and mineral salts.

Nitrogen and phosphate are probably the most diffuse and important source of water pollution. The Environment Agency has estimated that about two thirds of nitrogen emissions to surface and marine waters and one third of phosphorous are present as a result of agricultural activities. Phosphate in surface water also arises from urban areas and domestic sewage but levels from these sources are declining and agriculture appears to represent a growing proportion of a phosphate pollution load that is falling overall. The costs of cleaning nitrates from drinking water and of the eutrophication impacts of phosphates arising from agriculture are significant; estimates put costs at £13 million and £19 million annually, respectively in the UK.

Pesticide pollution can occur from both point and diffuse sources. Problems arising include: drinking water contamination; health issues (from food residues, spray drift, operator use etc); adverse ecosystem impacts; bioaccumulation and potential problems of future pesticide resistance. The estimated annual operating costs of removing and monitoring pesticides by water companies is around £122 million. The health and

biodiversity costs of pesticides have not been estimated but are thought to be significant.

The problems and trends for water in England, region by region, are summarised at Appendix 1.

Overall, significant improvements have occurred in the chemical and biological quality of rivers in England since 1990, bringing more of them up to the quality seen in the rest of the UK. The percentage of river lengths of good or fair chemical quality increased from 84% in 1990 to 94% in 2001 while the percentage of river lengths of good biological river quality increased from a poor 43% in 1990 to 66% in 2001. Pollution of water by nitrates, phosphates and pesticides remains a significant problem however and agriculture continues to account for a substantive number (32%) of serious and significant pollution incidents in England. Over-abstraction of water for irrigation is problematic in some English regions and land use practices appear to contribute both to the risk and incidence of flooding in low-lying areas.

Case Study 1 (see Appendix 3) focuses on the issues of water pollution and abstraction and explores how rural development measures could be used to address these problems.

Drivers of problems

- Irrigation requirements for horticultural and root crops increasing in some regions
- Lack of investment in on-farm water storage and uptake of improved technologies such as trickle as opposed to spray irrigation.
- Poor soil management (see section on soils) linked to risk and incidence of flooding. Soil erosion resulting in siltation of water courses and pollution e.g. phosphates carried on soil particles
- Excessive use or inappropriate application of fertilisers, manures and pesticides in intensive arable and livestock systems
- Insufficient use of tools such as nutrient planning, soil management plans etc
- Lack of investment in waste (manure, slurry, silage effluent, sheep dip etc) handling infrastructure
- Lack of advice/training for farmers

Soil

Overall, the main soil problem in England appears to be one of erosion of vulnerable soils. Approximately, 95% of soil erosion is attributable to agriculture. The risk of erosion varies with soil type, slope, land use and timing of land management activities. Soil erosion can result in the siltation of river-bed gravels harming aquatic plants, invertebrates and the eggs of fish. Trout spawning beds in 29 out of 51 river reaches surveyed across southern England contained more than 15 per cent of fine sediments, a threshold at which half the eggs and larvae are likely to die. In the rivers Test and Itchen, for example, over 95 per cent of fine sediments came from the surrounding land, where arable crops are a major land use. In addition, agricultural intensification in England and Wales has resulted in a four-fold increase in phosphorus losses to water from cereal land between 1931 and 1991. Most phosphorus lost to water is carried on eroded soil particles (see section on water).

Other significant soil problems include reductions in soil organic matter content; estimates suggest that 18% of the soil organic carbon present in arable topsoils in 1980 had been lost by 1995. Animal manures and fertilisers and lime are significant sources of soil contaminants such as arsenic and mercury.

The main problems and trends in England, by English region, are summarised at Appendix 1.

Drivers of problems

Some of the main drivers of problems in relation to soils are:

- Inappropriate cultivations or timing of cultivations on soils with high risk of erosion
- Increase in use of heavy machinery leading to soil compaction
- Continuous arable cropping leading to reduced soil organic matter content
- Increase in outdoor pig production
- Increase in maize production in dairy regions
- Overgrazing resulting in soil erosion in some upland areas
- Data available on soil risk but not easily available to farmers
- Lack of farmer knowledge/awareness of problems and insufficient advice/training on best practice

Air

Emissions of ammonia (NH₃) from agriculture can lead to acidification of soil and water resources with subsequent impacts on biodiversity, changes to natural vegetation due to a fertiliser effect and eutrophication of soil and water resources. About 80% of NH₃ emissions come from agricultural sources with the main sources being volatilisation from livestock excretions (80%) and from nitrogenous fertilisers (10-20%). Greatest emissions arise therefore in parts of England where pig, poultry and cattle production are predominant. Increased use of N in livestock systems has increased ammonia emissions over the last fifty years, although there has been some levelling out of emissions more recently. The greatest concentrations of ammonium N in rain are found in the south and east of England but deposition is greatest in the north and west due to higher rainfall levels. Direct deposition of ammonia gas is highest in areas where emissions are greatest. There is little deposition of ammonia gas to intensively farmed land with high fertiliser inputs because that land is largely a source of ammonia. As a result, the land at greatest risk of ammonia deposition is mainly unfertilised land with low N content; this makes semi-natural habitats and conservation areas more vulnerable to ammonia deposition. In a number of semi-natural habitats over large areas of the UK, the current deposition of ammonium N from the atmosphere is above the critical load for N. The annual costs of ammonia emissions from agriculture have been estimated at £43 million.

While emissions of ammonia are a problem, the most significant air pollution problems appear to arise from power stations, vehicle exhausts and industrial activity in the form of sulphur dioxide (SO₂) and nitrogen oxides (NO_x). Progress in reducing these pollutants in recent years does mean however that the relative importance of ammonia has increased. Ground level ozone, which can cause respiratory problems, is also of concern. It arises when sunlight reacts with Volatile Organic Compounds emitted from evaporating petrol and other combustion products and some plants.

Limited regional air quality data is available. However, the Countryside Agency's State of the Countryside Report states that in 2003 there were 71 days of poor air quality in rural areas in England compared with 35 in 2002.

Drivers of problems

- Intensive pig, poultry and cattle production, with high levels of N in livestock feed
- High levels of nitrogenous fertilisers used in both arable and grassland systems, with many farms in nitrogen surplus.

Climate Change

England is responsible for 73.7% of total UK greenhouse gas emissions. Agriculture is both a source and a sink of greenhouse gases: methane (CH₄), nitrous oxide (N₂O) and carbon dioxide (CO₂). The major source of CH₄ is livestock manure and its management. Agriculture has been estimated to contribute to 40% of total emissions in the UK (33% in England), making it the largest source after landfill. Direct N₂O emissions come from manure and fertilisers with fertilisers contributing 50% of total gases. England accounted for 71% of total UK emissions of this gas in 2002, with agriculture contributing 62% of the English total. Energy/fuel consumption by farm vehicles and machinery and the ploughing and conversion of grassland to arable release CO₂ but agriculture's contribution to total emissions is only 2%. In 1990, greenhouse gas emissions from agriculture accounted for 12% of the UK's total overall emissions. Agricultural emissions are expected to fall to 23% below 1990 levels by 2010. The annual costs of atmospheric emissions from agriculture have been estimated at: £94 million for methane; £279 million for nitrous oxide; £100 million for carbon dioxide. However, agricultural activities such as the reversion of land to uncultivated grassland can remove greenhouse gases such as CO₂ from the atmosphere. Soil can also act as a sink for CH₄ although studies show that nitrogenous fertilisers weaken this effect.

Drivers of problems

- Intensive livestock production
- High usage of nitrogenous fertilisers
- CO₂ problems are caused primarily by non-agricultural factors

Biodiversity

Agriculture has a significant influence on wildlife habitats and the species that depend on them. The condition of designated wildlife sites such as Sites of Special Scientific Interest (SSSIs) - many of which are under agricultural management - is a key indicator of the sustainability of farming. The population trends of key species, such as breeding birds, are also a good indicator of the overall health of the farmland environment.

The problems and trends for farmland habitats and species, region by region, are summarised at Appendix 1.

All regions contain a range of important habitats and species. Examples, of loss and fragmentation of habitats plus continuing degradation of those remaining and declines in species populations are common. Agricultural practices are widely implicated in biodiversity impacts.

Case Study 2 (see Appendix 3) explores the issues of biodiversity and landscape decline resulting from changes in traditional management e.g. declines in cattle grazing and grassland improvement. The case study explores how rural development measures could be used to address these problems.

Drivers of problems

- Continuing intensification and specialisation of farming (decline in traditional management practices e.g. hay making, spring cropping)
- Inappropriate management through lack of knowledge and skills
- Loss of traditional skills
- Declining economics of agriculture and forestry
- Focus on special sites and Public Service Agreement targets leads to neglect of wider habitat and biodiversity issues
- Inertia at local level to take action
- CAP reform and climate change may change environmental priorities in future

Landscape

Approximately 71% of England's land area is used by agriculture and the management of this land historically has played a crucial role in the formation of the landscape. Landscape character changes from place to place and is a reflection of the pattern and appearance of landscape components such as semi-natural habitats, crops and livestock, linear features such as hedgerows and stone walls and farm buildings.

Problems and trends

Landscape problems and trends are summarised, region by region, at Appendix 1.

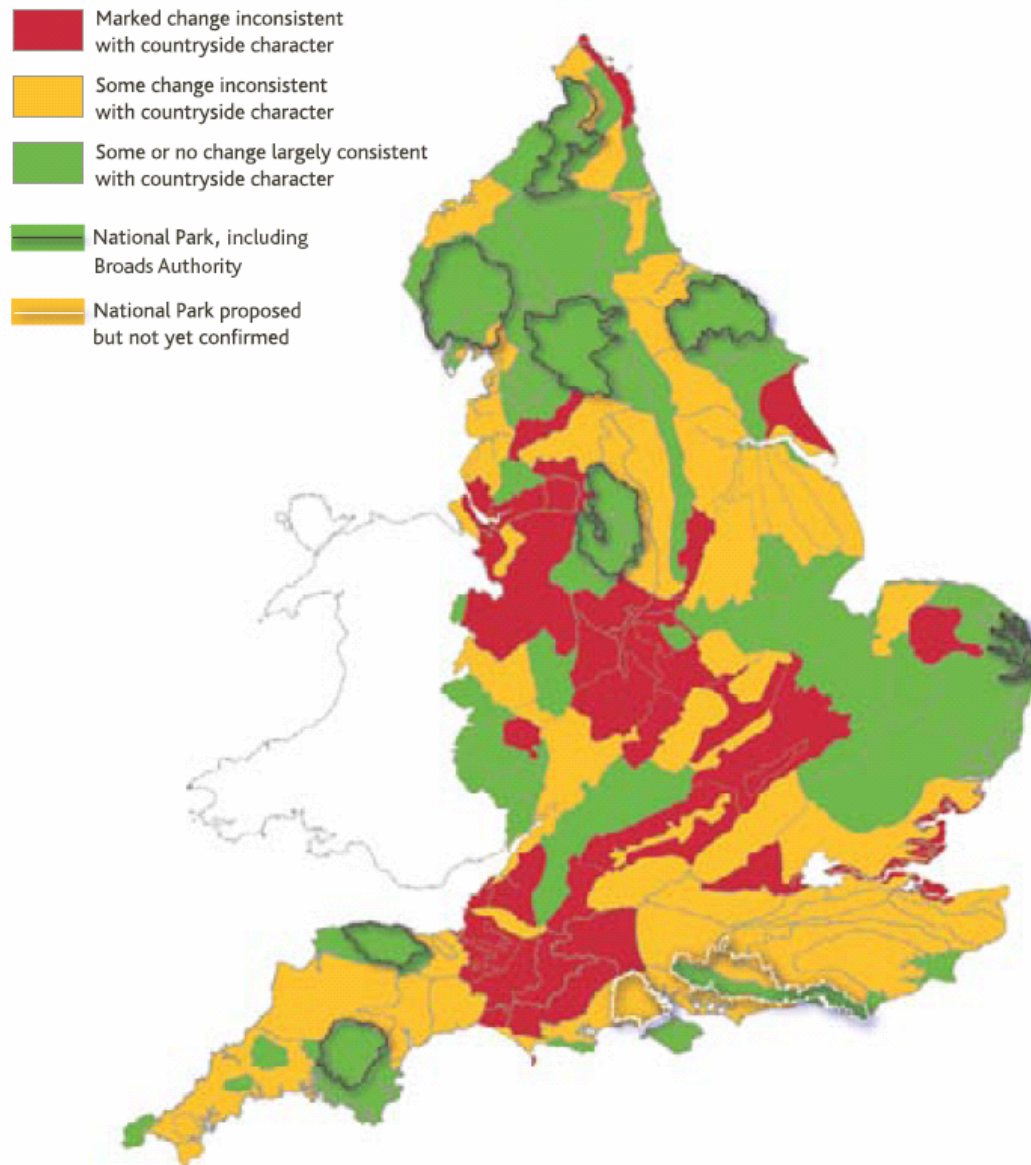
The Countryside Agency has developed an indicator for change in countryside quality. The nature and location of recent changes in the countryside were established in order to create an evidence base from which to explore the implications of those changes for countryside quality. The National Character Areas Database contains, for example, information on agricultural production change and trends in the use of agri-environment tools to conserve and manage landscape features and characteristics. An example of an output from this database is given below (Figure 3.1) and demonstrates adverse changes that have occurred to countryside character between 1990 and 1998. The greatest changes most inconsistent with countryside character have occurred in the Midlands and in the West Country.

Drivers of problems

- Inappropriate management often linked to loss of traditional management skills or lack of advice and training for farmers
- Destruction of landscape features no longer relevant to farming operations e.g. hedges
- Specialisation of agriculture leading to loss of landscape diversity

- Inability to address problems at landscape scale and over-emphasis on site management/approaches
- Focus on designated areas leads to neglect of wider countryside
- Migration of urban people to live in the countryside e.g. former farmhouses and associated 'suburbanisation' due to garden, building and access 'improvements' and development plus changed use of associated land e.g. for pony paddocks
- New entrants to the land market resulting in land being managed by people with different skills, attitudes and aspirations. These people often have conservation interest but fewer traditional farming or land management skills.

Figure 3.1 Changes in Countryside Character in England, 1990-1998.



Source: State of the Countryside 2004, Countryside Commission.

Historic environment

England's historic environment is the product of thousands of years of human occupation and land use activities. In general terms, 'historic environment' can be taken to include archaeological sites and features, traditional buildings and designated landscapes and encompasses the historical dimension of all landscapes. Agricultural land use and farming practices present specific threats to the historic environment.

The 1998 Monuments at Risk Survey showed that since 1945 agriculture has been the single biggest cause of unrecorded loss of archaeological sites. On the basis of the MARS sample, agriculture accounted for 10% of all cases of monument destruction between 1945 and 1995 and some 30% of piecemeal, cumulative damage during the same period. Some 32% of all rural field monuments (including 21% of all scheduled

field monuments) were still under arable cultivation when surveyed and the prospects of survival of 68% of all recorded rural earthwork monuments was categorised as 'very poor' or worse. More recent research has calculated that a combination of cultivation and drainage has damaged or destroyed over 13,000 valuable historic sites in wetlands. Changes in farming practice have also led to the large-scale loss of traditional countryside features such as walls, hedges and ponds as well as to the redundancy and dereliction of many traditional farm buildings. It is estimated, for example, that one third of hedges in England, including many of great antiquity, were lost between 1984 and 1993 and that one third of dry stone walls were derelict in 1994. In 1992, 17% of listed farm buildings were 'at risk' and 24% 'vulnerable', and a 1997 study of unlisted field barns in the Yorkshire Dales National Park, showed that less than 60% were intact. More up-to-date figures on farm buildings are currently being researched. Unlike nature conservation assets, protected under the CROW Act and the European Habitats and Birds Directives, there is little statutory protection for the historic environment. Any damage or loss to monuments and sites is permanent.

Some historic environment problems and trends, region by region, are summarised at Appendix 1.

Drivers of problems

- Insufficient recording of the extent of the historic environment resource making it difficult to target action accordingly
- Lack of legislative protection for recognised sites and monuments
- Intensive arable cultivation, especially ploughing, resulting in damage and loss of sites
- Tree planting and scrubbing up in unsuitable locations
- Modern farming requirements leading to the dereliction of traditional farm buildings
- Unsuitable re-use of traditional farm buildings due to lack of planning controls
- Lack of information, advice and training for farmers on the importance of the historic environment and how to manage it.

Public access

For many years, public access to private farmland and forestry has been very limited, confined to public rights of way e.g. footpaths, specially negotiated 'permissive paths', access agreements e.g. for moorland in the Peak District National Park and, more rarely, special permits e.g. for local horse riders. There has been public pressure since the 1930s for better rights of access for walkers especially in areas such as moorland.

Demand for greater access to the countryside was demonstrated through polls conducted by Gallup and NOP in the late 1990s on behalf of the Country Landowners' and The Ramblers' Associations respectively. Around 80% of those surveyed wished to see more countryside opened up. The Government's response in the form of the Countryside and Rights of Way Act 2000 now gives the public a new right of access to mountain, moor, heath, down and registered common land and also seeks to improve rights of way legislation by encouraging the creation of new routes and clarifying uncertainties about what rights exist already.

In England, there are about 188,700 km of public rights of way. These are made up of:

- Footpaths – (146,600 km) over which the ROW is on foot only
- Bridleways – (32,400 km) for pedestrians, horse riders and cyclists (who must give way to people on foot or on horseback)
- Byways open to all traffic (BOATs) – (3,700 km) carriageways over which ROW is on foot, on horseback or for vehicular traffic, but which are used mainly for the purposes for which footpaths and bridleways are used (i.e. by walkers and horse riders).

In addition, there are 6,000 km of Roads Used as Public Paths (RUPPs). As a result of the Countryside and Rights of Way Act 2000, all RUPPs not already re-classified as BOAT, bridleway or footpath are to be re-designated en-masse to a new category of right of way – restricted byway. Restricted byways will carry rights for all types of traffic except motorised vehicles.

A study by the Woodland Trust found that of 1,059,771 ha of woodland in England, 488,240 ha have permissible access (46%). Figures on statutory access to woodlands were not available at the time of the study. The Trust have estimated that in England only 10% of the population have access to a 2+ ha wood within 500m while 55% have access to a 20+ ha wood within 4km.

In 1987, the Countryside Commission and local authorities agreed to work together towards a ‘national target’ for rights of way (see section 3.2). The rights of way condition survey 2000 measured progress towards achieving the national target and assessed rights of way from the point of view of walkers, cyclists, horseriders, carriage drivers and motorists. Generally, walkers found fewer problems on the legal line of paths than other users, encountering around half as many problems per 10km as carriage drivers did. The 2000 survey found that no ‘survey region’ (single or multiple highway authority areas) had attained the national target for path maintenance. Nationally, the ease with which paths might be used was unchanged since 1994 but there had been significant improvements in the levels of signposting. In practice, all users found more than three quarters of the path resource to be ‘useable’. For walkers, horseriders and cyclists, the figure was 87% or more. However, more specifically, the extent to which users of ROWs might encounter problems was as follows:

- Walkers, who have rights to use all types of ROWs, could expect to encounter a serious problem approximately every 2 km
- Cyclists faced a similar situation whilst horse riders could expect to find a serious problem every 2.4 km on average
- Carriage drivers and motorists fared worst travelling an average of only 1.2 km between serious problems.

The Countryside Stewardship agri-environment scheme has had an access option for some time and agreements now cover 9,000ha of land.

3.2 Environmental Targets and Priorities

Water

The EU water framework directive requirements for good chemical and ecological status in all surface waters by 2015 are key drivers of Government policy on water issues. Defra's strategic approach to water is set out in 'Directing the Flow: Priorities for future water policy' (2002). Tackling diffuse pollution from agriculture is noted as the single biggest future challenge for improving water quality. As a result, the Government has extended implementation of the Nitrates Directive; farmers across 55% of England are required to take action to reduce nitrate pollution of water. Following stakeholder consultations on diffuse pollution from agriculture and catchment sensitive farming, Defra is now developing its Catchment Sensitive Farming Programme.

Stakeholders consulted identified water pollution issues (primarily N and P) as a high priority to be addressed. Many felt that a catchment management approach is needed to deal with this problem. These issues are explored in Case Study 1 (see Appendix 3). Less emphasis was given to issues such as low flows and flooding although both of these were raised during discussions.

Soil

The most recent Government statements and targets for combating problems in relation to soils are set out in 'The First Soil Action Plan for England: 2004-2006'. The Plan contains 52 actions on issues ranging from soil management on farms to soils in the planning system, soils and biodiversity, contamination of soils and the role of soils in conserving cultural heritage and landscape. Of particular relevance to this project are: using cross compliance to enhance the management of soils (Action 1); using agri-environment schemes to provide incentives for soil management/land use (Action 2); improving advice and information to farmers (Action 3); examining the scope for inclusion of soil issues in the England Woodland Grant Scheme (Action 35) and, examining the policy options for the control of sediment and soil-bound nutrient losses to water (Action 39).

Stakeholders consulted identified poor soil management as a priority environmental issue leading to problems such as erosion and a decline in soil quality. They also highlighted the relationship between soil and water and issues such as flooding.

Air

The UK has signed international agreements to curb ammonia emissions – see Box 3.1. Estimates suggest that ammonia emissions could decline by 10 per cent between 1990 and 2010. This is as a result of decreases in livestock numbers and a reduction in fertiliser N use. This would bring national emissions close to the UK target of 297 kt a year. However, future emission estimates are uncertain and specific abatement methods may be needed.

Although aware of air pollution issues, stakeholders consulted placed greater emphasis on soil and water protection issues. A point was made however about the need for the UK to meet its obligations in relation to global atmospheric pollution. Other comments were raised about increasing levels of light and noise pollution in rural areas and the impacts of these on rural dwellers.

Climate Change

Climate change is an issue of increasing UK Government priority. However, the main focus is on reducing CO₂ emissions with less emphasis having been given to gases such as methane (arising from agricultural sources). Defra's Strategy for Sustainable Food and Farming commits, in general terms, to:

'Reduced greenhouse gas emissions from food and farming'.

but specific targets are lacking. Interest is growing however in renewable energy (some from agricultural sources) and the role of farmland in carbon sequestration.

During discussions with stakeholders, agriculture's contribution to UK greenhouse gas emissions was not raised as a significant issue. Stakeholders were concerned however about the impact of climate change on agriculture and on habitats and species. Many felt that climate change could potentially change the current environmental problems and trends witnessed in England (and the UK as a whole) and require different policy responses than might be currently envisaged. Stakeholders also recognised the potential of agriculture to contribute to climate change mitigation through, for example, the production of energy crops.

Box 3.1 Policy on Ammonia

- The Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (Gothenburg Protocol) of the UNECE Convention on Long-Range Transboundary Air Pollution was signed by environment ministers in 1999, and is expected to come into force in 2003. Annex II of the Protocol sets annual emission limits (ceilings) for four pollutants, including ammonia, which are to be met by 2010. The ammonia target for the UK is 29kt a year. Annex IX of the Protocol contains a number of requirements. Signatories (those signing up to this Protocol) must:
 - Distribute an advisory code of good agricultural practice to control ammonia emissions;
 - Take reasonable steps to limit ammonia emissions from using solid fertilisers based on urea;
 - Ban the use of ammonium carbonate fertilisers;
 - Put in place specific measures on manure spreading and storage, and animal housing for pigs and poultry. (these measures are required under the IPPC Directive, see below).
- The EC National Emission Ceilings Directive came into force in November 2001 and will become UK law in November 2002. This targets the same air pollutants as the Gothenburg Protocol and sets the same limit on ammonia emission, which is also to be met by 2010.
- The EC Directive on Integrated Pollution Prevention and Control (IPPC) includes a requirement for large pig and poultry units to take measures to reduce emissions of a range of pollutants, including

Source: Defra website 2005

Biodiversity

The UK Biodiversity Action Plan was published in 1994 in response to the requirements of the UN Convention on Biological Diversity to which the UK and EU are both signatories. Action Plans for Habitats and Species set out specific targets for the recovery of the most threatened habitats and species. In addition, EU legislation such as the Birds and Habitats Directives place specific action requirements on the UK. In 2002, Defra published 'Working with the Grain of Nature: A biodiversity strategy for England' setting out how it will integrate biodiversity considerations across a range of policies and programmes and implement the requirements of the Countryside and Rights of Way Act. The aim of the Strategy is to ensure:

- A halting, and if possible a reversal, of declines in priority habitats and species, with wild species and habitats as part of healthy, functioning ecosystems;
- The general acceptance of biodiversity's essential role in enhancing the quality of life, with its conservation becoming a natural consideration in all public, private and non-governmental decisions and policies.

Of particular relevance to this study, the Strategy sets out a series of actions that will be taken by Government and its partners to make biodiversity a fundamental contribution in:

- Agriculture – encouraging the management of farming and agricultural land so as to conserve and enhance biodiversity as part of the Government's Sustainable Food and Farming Strategy
- Water – aiming for a whole catchment approach to the wise, sustainable use of water and wetlands
- Woodland – managing and extending woodland so as to promote enhanced biodiversity and quality of life.

The Strategy identifies 8 indicators that will be used to determine progress on biodiversity conservation (see Table 3.1).

Figure 3.1 Summary assessment on biodiversity indicators

Headline indicators		Update frequency	Assessment of indicator trend
H1	The populations of wild birds	Annual	Uncertain or insufficient data
H2	The condition of Sites of Special Scientific Interest	Annual	Uncertain or insufficient data
H3	Progress with Biodiversity Action Plans	3 yearly	Uncertain or insufficient data
H4	Area of land under agri-environment agreement	Annual	Moving towards objective
H5	Ecological quality of rivers	5 yearly	Moving towards objective
H6	Fish stocks around the UK fished within safe limits	Annual	Not moving towards objective
H7	Progress with Local Biodiversity Action Plans	3 yearly	Uncertain or insufficient data
H8	Public attitudes to biodiversity	3 yearly	Moving towards objective

Source: Defra, Working with the Grain of Nature: A biodiversity strategy for England.

Stakeholders identified the need to reverse habitat and species declines as a high priority for action. Several made the links to soil, air and water resources and the benefits to habitats and species of resource protection. Many wanted to see a more integrated approach to biodiversity and landscape protection. The potential impacts of climate change on biodiversity was raised as a key issue for the future with concerns expressed that objectives for biodiversity might be impossible to meet due to climate change factors. For example, temperature rise in the future may result in changes in species and habitat distribution and environmental priorities may have to adapt.

Landscape

There is no overall government strategy for landscape protection in England. The main action to protect landscapes arises through the designation of important landscapes, primarily National Parks and Areas of Outstanding Natural Beauty. Both National Parks and AONBs are afforded a high degree of protection from inappropriate development through the planning system. The Countryside and Rights of Way Act required all AONBs to prepare and publish a management plan for their area by the end of March 2004. Outside these designated areas, the Countryside Agency runs a number of programmes designed to conserve the countryside. Both its Countryside Character and Countryside Quality Counts initiatives provide a basis for developing and targeting landscape policies in the wider countryside to help address current trends and strengthen local and regional character.

A wide range of stakeholders identified landscape change and the loss of landscape features as priority issues to be addressed. A number felt that landscape concerns are often expressed in discussions about the environment but hardly ever addressed effectively. Comments were made about the intrinsic relationship between landscape and biodiversity and the need for a more systems based approach to dealing with environmental problems.

Historic Environment

There appears to be no overarching strategy or targets for the protection of the historic environment in England. The Department for Culture, Media and Sport consulted in 2003 on new approaches to the designation and protection of buildings, sites and landscapes. Proposals included replacing the current system of different listing, scheduling and registration for different types of assets with a single unified list of assets backed up by an integrated consent regime for those assets. In July 2004, DCMS published its response 'Review of Heritage Protection: The Way Forward'. In it, the Department promises a White Paper in 2005 with a view to new legislation in 2006/7 that will result in a single unified list of assets. In the meantime, English Heritage has launched a series of pilot projects to test out some new ideas to heritage protection. The Government has also committed itself in the short term to review the operation of the Ancient Monuments (Class Consents) Order 1994 in order to improve the protection of nationally important archaeological sites from the damaging effects of ploughing.

A number of stakeholders commented on problems facing the historic environment but felt this was often a forgotten issue in the 'environment debate'. The irreplaceability of the historic environment was raised as an important issue but some stakeholders questioned whether it was realistic or appropriate to attempt to protect all aspects of the historic environment. While the majority of stakeholders believe the historic environment adds to public enjoyment of the countryside, representatives of farming and landowning organisations feel there is inadequate information for landowners about the sites and features on their land and little reward for protecting or managing such assets. Potential conflicts between protection of the historic environment and woodland expansion were also raised.

Access

In 1987, the Countryside Commission and local authorities agreed to work towards a 'national target' for ROW. This was that by the end of the century all ROWs in England should be:

- Legally defined
- Properly maintained (easy to find, follow and use)
- Well publicised.

The rights of way condition survey 2000 measured progress towards achieving the national target and demonstrated that this national target had not been met by 2000 (Section 3.1 – Access). In addition, the survey calculated that an investment of over £60 million would be required to improve the condition of paths to the standard envisaged in the national target and that annual maintenance costs exceed £18.5 million.

Stakeholders consulted for this study highlighted the importance of facilitating access and enjoyment of the countryside and improving both the links and understanding between town and country. Some saw this as an important environmental priority in as much as greater understanding of the countryside by more people could help to bring rural and environmental issues up the political and public agenda. Education to promote such understanding was considered to be lacking. A possible benefit between encouraging and promoting access to the countryside and improvements in public

health (similar to the 'green gym' concept) was also identified. The Woodland Trust makes a case for 64,075 ha of new woodland in England to ensure everyone has access to a 2+ ha wood within 500m and a 20+ha wood within 4 km. Some concerns were raised however about the potential negative impacts of increasing countryside access more generally on resources such as soils and biodiversity. Equally, there were concerns of negative impacts on farming such as disruption of livestock, especially at critical times such as lambing, and the potential to introduce or spread diseases such as Foot and Mouth. The need for appropriate incentives for landowners to encourage and facilitate access was identified.

General/cross cutting priorities and concerns

Stakeholder consultation highlighted other cross cutting issues in relation to environmental priorities in England. A great deal of uncertainty was expressed about the impacts of the 2003 CAP reforms. A downturn in the economic viability of farming systems such as suckler cow production could result in negative environmental impacts such as the undergrazing of important grassland habitats. Equally, reductions in sheep numbers could lead to less grazing pressure in upland areas and improvements in habitat quality. Stakeholders feel that depending on how farmers respond to the reforms, environmental priorities identified now could change in future. However the farming industry adapts to the CAP reforms, a key priority for stakeholders is a desire to see greater attention given to sustainable development within rural areas and more of a focus on achieving: economic viability; sustainable rural livelihoods and communities; and, healthy ecosystems and doing so in an integrated way. One particular criticism of current approaches is the focus on individual Government targets, such as the Public Service Agreement targets, or designated sites, an approach that does not help link up sites or issues or encourage integrated policy thinking. Stakeholders also saw the need for better consideration and integration of environmental issues in relation to the rural economy; the environment should be seen as an opportunity for economic growth and development and not as a constraint.

In terms of meeting environmental priorities in future, many stakeholders identified the need for improved and co-ordinated advice, training and education for land managers and rural businesses on sustainable development issues. The loss of land management skills from rural areas such as hedge laying, drystone walling and extensive livestock management were also raised as concerns that need to be addressed if environmental priorities are to be addressed. Case Studies 1 and 2 (Appendix 3) explore how rural development measures could be used to address these issues.

3.3 RDR Measures in England

The England Rural Development Plan 2000–2006 was drafted during the latter part of 1999 and approved by the European Commission in October 2000. The Plan draws together a number of activities that had previously been financed under separate legal provisions and budgets.

The following sections: set out the environmental priorities identified in the original ERDP; list the schemes and measures available to farmers and landowners in England and show the break down of funding between the measures; review the effectiveness of the ERDP to date drawing on published evaluations and studies and, record the

views of stakeholders, expressed at a workshop organised for this project, on the effectiveness of the ERDP.

Environmental priorities

The English RDP 2000-2006 identifies the following environmental issues:

Loss of semi-natural habitats. Due to agricultural improvement such as lowland unimproved grassland, ancient woodland and modification of lowland river habitats. Surviving habitats in lowland areas often isolated and fragmented. Rates of habitat loss have diminished since the mid 1980s and some new semi-natural habitats created.

Natura 2000 habitats are listed as:

- fen type habitats
- heath and scrub
- semi-natural grassland
- improved grassland
- other arable land
- woodland

Declines in habitat quality and in biodiversity. Specifically, decline in the state of SSSIs as a result of agricultural activities e.g. overgrazing in upland areas. Significant fall in diversity of plant species in crops, meadows, hedges and streamsides. Sharp declines in populations of farmland birds and declines in distribution and/or populations of other native species.

Changing landscape. Decline in traditional field boundaries such as hedges and stone walls, both in terms of extent and management. Loss of and damage to archaeological sites and features.

Soil. Soil quality not a major problem although localised and significant problems of erosion, acidification and contamination. Decline in soil organic matter and accumulation of heavy metals and organic chemicals becoming more apparent.

Air. Emissions of sulphur and nitrogen compounds leading to acidification etc not seen as major problems. The role of agriculture in meeting climate change targets through increasing renewable energy sources e.g. energy crops such as willow and by acting as a sink for carbon dioxide e.g. through woodland planting, is identified.

Water. Nitrate pollution primarily a problem in central and eastern England leading to designation of NVZs. Improvements in quality of rivers and canals but phosphorus-limited eutrophication of concern with over half of all aquatic SSSIs showing effects of nutrient enrichment. Sedimentation a problem in lowland rivers, especially important chalk rivers. Diffuse pollution from agriculture resulting in nutrient enrichment, pesticide contamination, sedimentation and contamination with micro-organisms is a key issue for the freshwater environment. Pressures on water resources a problem in drier regions especially East and South-East regions.

These issues accord with the data gathered for the purposes of this study and presented in Section 3.1. The environmental priorities for England, as set out in the RDP, are as follows:

Priorities for the rural environment

‘NP3 To conserve and enhance rural landscapes and the diversity and abundance of wildlife (including the habitats on which it depends), to safeguard their integrity and value for future generations and to provide a source of economic opportunity; by encouraging :

Nature Conservation and Biodiversity

- in the *wider countryside*, the protection, re-establishment and favourable management of priority habitats and species, including wild birds (a national headline indicator for sustainable development) and those identified through the national Biodiversity Action Plan process for which Species and Habitat Action Plans have been published. These individual Action Plans take forward the obligation to develop national strategies under Article 6 of the Convention on Biological Diversity (June 1992, Rio de Janeiro);
- the protection and favourable management of designated and proposed *international sites* including Special Areas for Conservation (Habitats Directive), Special Protection Areas (Birds Directive) and internationally important wetlands (designated under the Ramsar Convention);
- the protection and favourable management of *national sites* including all other Sites of Special Scientific Interest;
- the protection and favourable management of *local wildlife sites*. Local Nature Reserves and other sites and features identified in development plans and Local Biodiversity Action Plans and sites managed by voluntary groups such as County Wildlife Trusts;
- the protection and, where appropriate, re-establishment of a *matrix of wildlife habitats* in the wider countryside, helping to support viable natural populations and provide the natural resource to respond to environmental change;
- the protection and favourable management of the ecological value of *ancient and semi-natural woodlands*;

Landscape and the Historic Environment

- the safeguarding and enhancing of the *landscape character* and *local distinctiveness* of the *wider countryside* to attain targets or solve problems identified in regional Countryside Character descriptions;
- the protection and enhancement through appropriate management of *historic and archaeological features of international, national and local importance*, and their settings, in particular by :
 - conservation and repair of *ancient monuments and landscapes at risk*;
 - repair of *rural historic buildings* at risk, appropriate adaptive re-use of functionally redundant buildings and maintenance of the diversity of local vernacular features;
 - maintenance and repair of *traditional man-made and semi-natural features* such as hedgerows and dry stone walls;
- the conservation and enhancement of *nationally important landscapes* (particularly National Parks, the Broads, the New Forest, the Forest of Dean, Areas of Outstanding Natural Beauty, heritage coasts) and landscapes close to where people live;

- the securing of favourable collaborative management of the cultural and historic features and the valued landscapes and habitats of *commons* as a national resource.

Protection of air, water, and soil

- *reduction of greenhouse gas emissions*, as a contribution to the UK's Climate Change Programme, including CO₂ and methane;
- reduction of agriculture's contribution to *acid and eutrophic emissions to air*;
- improvement of the *chemical and biological quality of freshwater, estuary and coastal waters* in England, especially through reducing diffuse agricultural pollution;
- land use practices that contribute to the *sustainable management of soil*.
- Priorities for countryside enjoyment

NP4 To increase opportunities for people to enjoy the countryside; through encouraging :

- promotion of opportunities for people to enjoy all types of sustainable and appropriate *informal recreation and tourism* in the countryside.'

Schemes and Measures

The ERDP provided for the continuation and funding of several pre-existing schemes:

- Environmentally Sensitive Areas
- Countryside Stewardship
- Organic Farming Scheme
- Less Favoured Areas
- Woodland Premium Scheme
- Woodland Grant Scheme

In addition, four new schemes were created:

- Rural Enterprise Scheme
- Vocational Training Scheme
- Processing and Marketing Grant Scheme
- Energy Crops Schemes

The Articles within Regulation 1257/99 to which these schemes relate are set out below in Table 3.2.

In total, 10 schemes were brought under the umbrella of the ERDP. Under the Objective 1 programme, three areas were designated for the period 2000-2006: Cornwall and the Isles of Scilly; South Yorkshire and Merseyside. In these areas, EAGGF funding is provided to:

- Help preserve the link between agriculture and the land
- Improve and support the competitiveness of agriculture as a key activity in rural areas
- Ensure the diversification of activities in rural areas
- Help retain people in rural areas
- Preserve and improve the environment, the landscape and rural heritage.

In addition, the LEADER + programme funds broadly three types of activities: integrated, pilot rural development plans; co-operation between rural areas; and networking, in 25 areas in England.

Table 3.2 ERDP schemes in relation to RDR measures

Articles in 1257/99	Schemes in England
Investment in agricultural holdings (Articles 4-7)	Rural Enterprise Scheme (RES) Energy Crops Scheme (Miscanthus) (ECS)
Training (Article 9)	Vocational Training Scheme (VTS)
Less Favoured Areas (Articles 13-21)	Hill Farm Allowance (2001-2006) (HFA)
Agri-environment (Articles 22-24)	Countryside Stewardship Scheme (CSS) Environmentally Sensitive Areas (ESA) Organic Farming Scheme (OFS)
Processing and Marketing of agricultural products (Articles 25-28)	Processing and Marketing Grant (PMG)
Forestry <ul style="list-style-type: none"> • Afforestation of agricultural land (Article 31) • Other forestry measures (Article 30) 	Farm Woodland Premium Scheme (FWPS) Woodland Grant Scheme (WGS) Energy Crops Scheme (Short Rotation Coppice) (SRC) Woodland Grant Scheme Energy Crops Scheme (SRC and producer groups)
Article 33 <ul style="list-style-type: none"> • Setting up of farm relief • Marketing of quality ag products • Basic services for rural economy • Renovation & development of villages • Diversification of ag activities • Ag water resources management • Development/improvement of infrastructure • Encouragement for tourism and craft activities • Protection of the environment in connection with agriculture 	Rural Enterprise Scheme (RES)

Funding for the ERDP amounts to a total of €2,658.2 million of EU and Government money committed for the period 2000-2006. The decision to apply modulation in the UK means that of the total budget, some €757.3 million is provided by this mechanism. In addition to RDR funding, some €158.28 million of public funding was

committed to Objective 1 areas for 2000-2006 and €108.5 million to LEADER +. Figure 3.2 shows the allocation of ERDP funding by individual measure while Figure 3.3 shows the proportionate planned public spending on RDR measures in England.

Figure 3.2 ERDP Financial Allocation by Measure 2000-2006

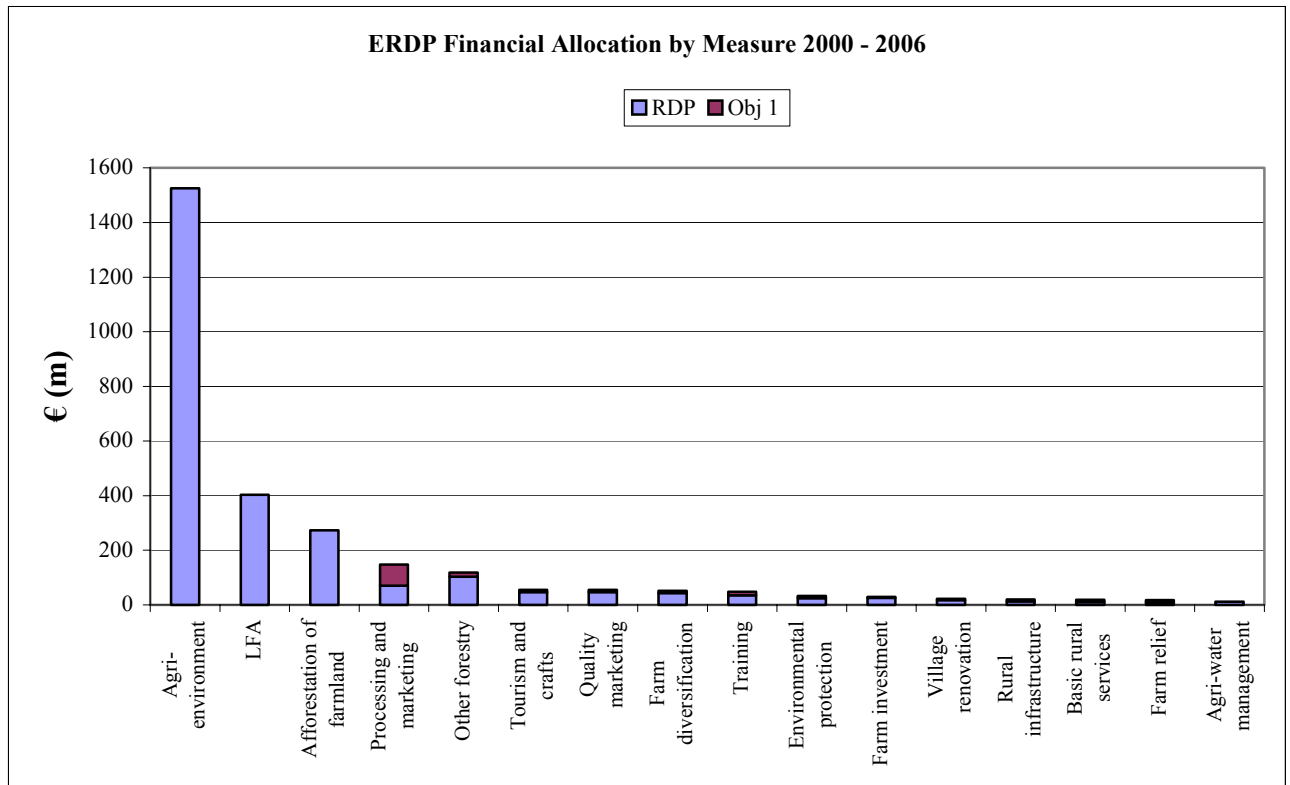
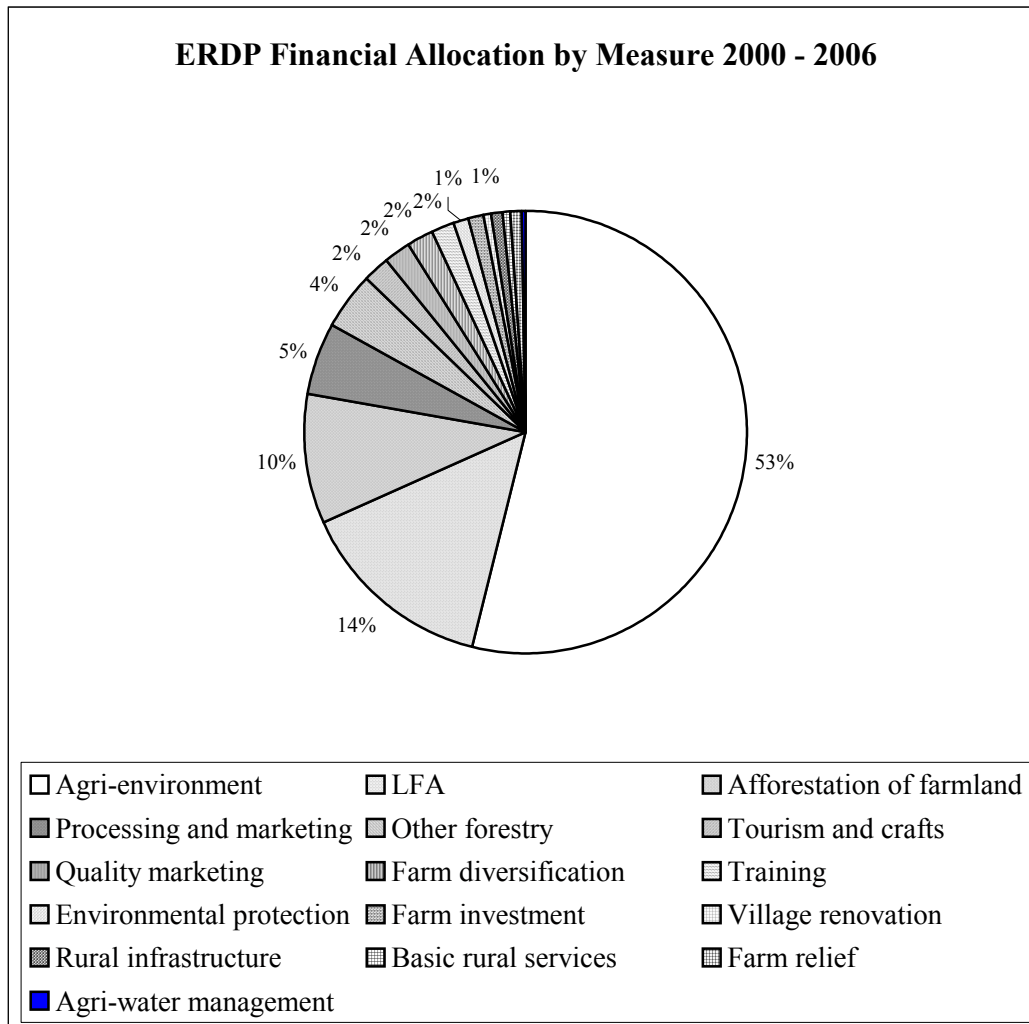


Figure 3.3 Proportionate planned public spending on RDR measures in England 2000-6



These figures highlight a number of key points in relation to the environment in rural development as supported by CAP Pillar II in England:

- Land management schemes specifically agri-environment schemes, LFA support and afforestation of farmland account for over three-quarters (77%) of total funding with agri-environment schemes attracting the lion's share of this funding (53%)
- Measures focused on improving the competitiveness of farming and forestry account for just over 17% of total funding
- Other rural development measures such as those supporting rural infrastructure and tourism and crafts (Article 33 measures) account for only 2.9% of total funding.
- Given the planned existing expenditure, England does not meet the proposed EU minimum shares of spend under one of the three new axes in the proposed European Agricultural Fund for Rural Development (Table 3.3) and neither does it meet the minimum requirement for LEADER. Some 15.4% of funding

would need to be shifted from Axes 1 and 2 in order to meet the minimum spend requirements for Axis 3 and LEADER. Given that Axis 1 is already close to the minimum spend, the greatest proportion of funding would either have to be shifted from Axis 2 or new money found from national budgets.

Table 3.3 Estimated balance of measures in England compared to EU proposals for EAFRD

Axis	Approximate current share 2000-2006 (%)	EC proposed share 2007-2013 (%)
1. Competitive farming and forestry	17.2	Min 15
2. Land management	76.2	Min 25
3. Other rural development	2.9	Min 15
LEADER	3.7	Min 7

3.4 Performance of RDR Measures to Date

Various studies and evaluations of schemes and measures within the ERDP have been undertaken over the past 10 years. Some of these evaluations are of schemes that pre-existed the ERDP. For the new schemes introduced through the ERDP, the only significant evaluation undertaken to date is as part of a larger overall Mid Term Evaluation of rural development programmes that took place in 2003. This MTE was a requirement of the European Commission; all Member States had to undertake full and independent evaluations of their rural development programmes and submit them to the Commission by the end of 2003. The requirements for the MTE are set out in European legislation and in guidance issued by the Commission. Evaluators were required to answer an extensive list of evaluation questions. The ERDP evaluation added a number of additional areas for evaluation, for example: the economic rationale for the programme; coherence within and without the ERDP; positive and negative side effects; the effectiveness of the Programme in meeting its objectives.

The MTE is therefore the most comprehensive evaluation of the ERDP to date and itself draws on a range of previous studies and evaluations of schemes and measures as well as gathering new data and undertaking analysis. The following comments on the effectiveness of the ERDP are drawn from the MTE which is publicly available on the Defra website at:

http://www.defra.gov.uk/erdp/reviews/midterm/final_report/default.htm

Overall, the evaluators assessment is that a good start was made to the ERDP despite the disruption caused by the Foot and Mouth crisis at the beginning of the programme period. They point, for example, to agri-environment schemes achieving their objectives although it is outputs such as the area of land in CSS agreements as opposed to environmental outcomes that have been measured. They also comment however that considerable improvement is required in a number of areas such as the management and targeting of project-based schemes.

The key findings of the ERDP MTE are:

1. Attention needs to be given to the economic rationales of some of the schemes (RES, PMG and OFS) to ensure they address identified market failures as directly as possible.
2. Defra should research displacement and deadweight in more detail, particularly in relation to the new ERDP schemes (RES, ECS, PMG and VTS).
3. In the light of the results of the research suggested at Recommendation 2, displacement and deadweight should be taken into account when further developing the PMG and RES schemes and refining and applying the appraisal processes
4. Coherence within the ERDP needs further development. For example, the opportunity for VTS to complement the other elements of ERDP has not been fully exploited yet. Integrated targeting statements may be the best way to improve coherence.
5. To bring about economic, social and environmental improvement, better integration with non-Defra funding streams at the sub-regional level should be achieved.
6. Integration between the three main aspects of sustainability, economic, social and environmental, should be reinforced to achieve truly integrated and sustainable rural development. Further development of the social aspects, the development of greater environmental resource protection, and higher renewal rates for agri-environment schemes are required.
7. It is appropriate in the second half of the ERDP to continue to drive down running costs as a proportion of total spend on existing schemes through; 1) a simplified procedure for low value applications and their appraisal, 2) more funding of facilitation from non-ERDP sources and 3) separate recording and monitoring of running costs so that their composition is better understood and managed.
8. The scoring systems and supporting literature should be publicly available.
9. Effort should be made in the second half of the ERDP to ensure the RES targets for the non-farmer groups (for example, village initiatives and rural infrastructure) are achieved. This will require increased collaboration and partnership between RDS, the Countryside Agency and community groups.
10. Defra should increase the collection of information on actual achievement of project outputs to monitor whether progress is satisfactory. The timely recording, quality assurance and reporting of monitoring data so that it is available for easy analysis for different purposes and at different spatial levels must receive more attention.

11. The customer facing aspects of the ERDP need to become more friendly (fewer schemes) with the mechanics of funding sources, budgets, accounting, detailed rules and data integration, taken care of behind the scenes where possible. For example, VTS and RES should be merged at the customer interface.
12. The ERDP needs to become more transparent to partners so that scheme achievements and Programme supported activities are more easily comprehended.
13. More attention to market failures, economic rationales and objective evidence should be used to support the development of the successor to the RDR.
14. The successor to the RDR should provide funds for ‘deep facilitation’ so that changes in attitudes and behaviour can be promoted to meet sustainable rural development needs.
15. There is a need in the next RDR to have mechanisms that positively encourage cross-chapter working.

More specific findings relating to individual schemes are summarised as follows:

Land-based schemes

Countryside Stewardship scheme

- The scheme remains valid although the rural policy framework is changing
- Scheme objectives were met in terms of ecological, wildlife and landscape features but there are some concerns about the way in which historical and archaeological features are identified on holdings
- Greater coherence required between schemes such as CSS, WGS and OFS
- Coherence between CSS and project based schemes is poor at farm level
- Administrative costs are high but these are difficult to reduce in a complex scheme
- The scoring procedure to select applicants is effective
- Targeting works well in terms of landscape type and BAP species but the scheme is not good at bringing into agreement key features running across a number of holdings e.g. riverside landscapes

Environmentally Sensitive Areas

- The scheme remains valid although the rural policy framework is changing
- Uptake targets met but lacks performance indicators relating to environmental outcomes
- Mainly encourages maintenance not enhancement and there is some concern about the deterioration of upland habitats and damage to archaeological sites
- Coherence with project schemes is poor at farm level
- ESAs are one of the more efficient schemes in terms of administrative costs although quite administratively complex
- Complex multi-partner agreements can be negotiated in the scheme e.g. grazing agreements on commons

Hill Farm Allowance

- Scheme theoretically justified through public goods argument of hill farming systems benefiting the environment but is weakly linked to the purchase of environmental outputs
- The enhancements constitute deadweight i.e. the outputs would have occurred anyway yet 69% of LFA land receiving enhancements
- It is not clear if the purpose of the scheme is socio-economic or environmental
- No conflicts exist between HFA and other schemes but there is little overall coherence
- There is a need for an inclusive environmental management scheme in the uplands to cover large tracts of land.
- Administrative costs are low but deadweight results in low economic efficiency
- Potentially little understanding of Good Farming Practice requirements among those receiving HFA payments.

Organic Farming Scheme

- The scheme is justified by the environmental benefits it delivers but it is not clear if the OFS is the best way to deliver those benefits
- The scheme encourages farmers to convert to organic but the market is equally influential
- The scheme has poorly defined objectives and a lack of meaningful targets
- It is not clear what the eligibility criteria for applicants are and targeting could be improved e.g. to sectors under-represented in terms of organic outputs
- There is good coherence with other schemes
- Administrative costs are low
- Market problems are leading to new conversions competing with existing producers

Woodland Grant Scheme/Farm Woodland Premium Scheme

- The case for intervention is strongest in relation to new and peri-urban woodlands, urban regeneration and biodiversity
- The schemes are meeting their objectives in terms of increasing woodland cover
- The schemes have a positive impact on access/recreation, landscapes and biodiversity
- WGS and FWPS have worked well but there is a strong case for bringing the two together
- Administrative costs are lowering and further improvements in administration are planned

Project-based schemes

Vocational Training Scheme

- Most applications are from established trainers rather than individual applicants
- Complex applications procedures are putting off trainers from applying – procedures for project selection are not transparent
- The budget for promotion is limited making awareness of the scheme poor
- There is some coherence with the PMG and RES but innovation in delivery is lacking
- There is little focus on environmental training
- Limited evidence of benefits to trainers
- Administrative costs are high representing 46% of total spend

Rural Enterprise Scheme

- There is a bias to projects in the areas of diversification and tourism and crafts with little emphasis on water resources, environmental protection, rural economy and renovation of villages etc
- Considerable confusion over the boundaries between PMG, RES and VTS (with training available under RES but at lower rates than VTS). PMG type projects eligible under RES but not vice versa
- Administrative costs are high as a proportion of overall spend and rejection and withdrawal rates are high
- Too many of the same type of diversification projects are being funded leading to market overload and displacement in some cases
- The scoring system is not transparent
- Poor communication and promotion about the scheme to non-farmers e.g. village communities etc which could benefit from RES funding

Processing and Marketing Grant Scheme

- The grant enables rather than stimulates investment –additionality is modest but difficult to increase without selecting high risk or potentially poor performing projects
- Concerns about displacement and market saturation – tending to fund the growth of one business at the expense of another
- Innovation in projects is notable only in a few exceptional cases
- Uptake is poor in some regions
- There is limited impact on food markets except at local level
- Some coherence of PMG with other schemes but could be improved
- Administrative costs amount to, on average, £13,400 per successful applicant and overall efficiency is poor
- The application process is complicated and favours certain business types e.g. those already more established
- The regionalised approach to applications is tending to increase problems of displacement.

Energy Crop Scheme

- Scheme perceived as sensible by farmers – the main problem is a lack of markets for energy crops and insufficient supporting infrastructure

- ECS is a stand-alone scheme but compatible with agri-environment schemes and some synergies with RES
- Delivery costs appear high but this may be inevitable with a new scheme
- A growth in the viability of energy crops requires a strategic approach by Government beyond the scope of the RDR.

Many of the issues and problems identified by the MTE of England's RDP were also raised by stakeholders at a workshop organised for this project. In particular, stakeholders drew attention to:

- A lack of funding for the ERDP and the need for a better rationale to underpin that funding
- The lack of coherence between schemes
- The lack of an integrated approach to the use of schemes at farm level due to complicated application procedures, lack of awareness of some schemes and a lack of advice to farmers
- Concerns that Government targets such as Public Service Agreements were driving the use of schemes with too great an emphasis on sites and species to the detriment of achieving more sustainable development in the wider countryside.
- Environmental issues such as soil, air, water (resource protection) and historic environment are poorly addressed through the current suite of schemes.
- Forestry and woodland measures need to be improved.
- The difficulty of achieving environmental improvements at a landscape or catchment scale including how to agree objectives for such areas and, once agreed, how to get large numbers of adjacent farmers/landowners working together to meet those objectives?
- Insufficient emphasis given to sustainability overall and schemes being used in a piecemeal approach delivering variable results.
- Insufficient emphasis given to delivering environmental benefits through schemes such as HFA, RES and VTS.
- Small businesses often struggle to access some funds.
- Schemes overly bureaucratic and complicated and make application process difficult for farmers/landowners – facilitation to help farmers is lacking.

LEADER +

The Mid-Term Evaluation of the LEADER+ programme highlighted a number of shortcomings. In terms of quantitative outputs the Programme had, as of December 2003, delivered very little. This is due to the Programme's slow start and long lead-in times in areas in which community capacity has been limited. Consequently the programme is very underspent. The time lag between programme development and implementation (of at least 12 months) was highlighted as contributing to the loss of momentum of certain projects, although there is now evidence to suggest that the LEADER+ programme has started to build capacity in rural areas. Networking and co-operation is said to be the most underdeveloped of the LEADER+ specificities, although Local Action Groups (LAGs) appear to have worked hard locally to raise awareness of the programme. LAG managers also considered LEADER+ activity to be complementary to other rural development programmes, if overly bureaucratic, and in most cases took steps to ensure that this was the case through selection criteria.

Some LAG managers also believed programme funds should be used to support land managers in making adjustments as funding for the programme originates from the redirection of funds from pillar one to pillar two.

3.5 Conclusions and Recommendations

There appears to be strong recognition in England of the environmental problems associated with agricultural and forestry land uses and fairly comprehensive data on the state of the environment. Even so, concrete targets and priorities are lacking in many of the public documents reviewed for this study. Instead, broad statements of intent can be found, with some environmental issues given greater emphasis than others. The environmental improvements needed in relation to resource protection and biodiversity issues are reasonably clear but much less clarity can be found in relation to landscape, the historic environment and access issues. In attempting to pinpoint environmental priorities for the purpose of this study, it is notable that stakeholders consulted highlighted not only issues under generic headings such as water, biodiversity etc but also referred to the environment in a broader context of sustainable development. Ultimately, what they pointed to was the need for environmental issues to be considered in a much more holistic way and to be considered much more both within and alongside economic and social sustainability.

The changing nature of agricultural support, following the 2003 CAP reforms, must be factored in to future rural development planning in England. Farmers' responses to policy changes such as decoupling may well result in very different environmental priorities emerging in future; rural development policy and measures will need to be responsive to such developments. A good example is the likely reduction in beef (especially suckler cow) production in many areas that will make maintaining traditional landscapes and species rich grasslands more difficult in future. In addition to the CAP reforms changing environmental priorities in future, other issues such as climate change may mean a different approach needs to be taken to rural development. Hotter, dryer summers, wetter winters and more frequent and extreme weather events may require land use responses that are not currently encouraged or facilitated through rural development measures. For example, encouraging land use practices that could reduce the risk of flooding in low lying areas or using agricultural land to act as reservoirs for flood waters is not a priority of the current ERDP but could be addressed in future.

The ERDP is clearly seen as an important policy tool for responding to environmental priorities and the plan identifies a long list of priorities that the various schemes and measures should address. What are lacking from the plan are more explicit objectives and targets in relation to those priorities and a clear sense of how the various schemes and measures can help to meet them. Also, while the plan refers to measures being able to achieve multiple objectives, there is little real sense of how schemes and measures might work in complementary or more integrated ways. The MTE suggests schemes are primarily being used in a stand-alone way rather than together, in a more synergistic way and that this needs to be addressed in future.

England has made wide use of the options under the Rural Development Regulation by continuing a number of existing schemes and creating four new ones. By far the greatest proportion of funding is allocated to agri-environment schemes which are well placed to meet environmental priorities, particularly following the review of such

schemes and the announcement that there will be new Entry Level and Higher Tier schemes addressing a wider range of environmental issues. However, this study has identified a number of areas where agri-environment schemes could be more effective in terms of helping to meet environmental priorities:

- Greater emphasis needs to be given to addressing environmental priorities in relation to resource protection, the historic environment and access. While some schemes do target these issues they are addressed less well than biodiversity and landscape issues.
- Schemes need to be designed and delivered to give them much greater coherence both with other agri-environment schemes and with other project based schemes
- Schemes need to be used to deliver change at a larger scale e.g. in terms of whole water catchments, coherent areas of landscape character or natural areas. A step towards this requires being able to facilitate collective action by groups of farmers or landowners working towards common objectives. The current outputs of schemes are frequently seen as too piecemeal and fragmented.
- As a result of decoupling, consideration will need to be given to payment calculations and the extent to which agri-environment schemes offer real incentives to continue environmentally beneficial practices or change to those that are. There are real concerns that schemes may prove less attractive to some farmers in future if the SFP logically drives them to change farming systems completely e.g switch from livestock to cash crops such as potatoes or cease farming activities altogether e.g. fallowing large areas of land or withdrawing livestock grazing.

LFA support has historically been seen as an important socio-economic payment in upland areas. In terms of achieving environmental goals, the MTE found the HFA scheme to be ‘weakly linked to the purchase of environmental outputs. The enhancements – of which some are supposedly environmental – were found to constitute deadweight. These criticisms, in addition to those of the European Court of Auditors on LFAs generally in Europe, suggest that the rationale of LFA support needs to be reviewed and the potential of such support to deliver public benefits is considered.

In relation to project based schemes, the overall conclusions are twofold. First, that the schemes could be used much more effectively to meet economic objectives and encourage a much more innovative and diversified approach to rural businesses. Criticisms of schemes such as RES and the PMG funding too many of the same type of business ventures (both in terms of what they do and their size etc), and of benefiting too few recipients need to be addressed. Secondly, there is a sense that project based schemes could be used to much greater effect, particularly alongside the land based schemes, to respond to environmental priorities. For example, there is considerable scope to use RES to fund schemes targeted at water resources and environmental protection.

As well as a more integrated approach to the delivery of schemes, this study highlights the need for better business and environmental advice and training for

farmers and other rural businesses. A study for the National Audit Office⁷ suggests that in many cases, it is not lack of capital that is the barrier to farmers adapting their businesses to future needs, but a lack of advice and support in taking forward such adaptation. There are numerous examples of local initiatives (often funded and led by non-Government sources) and Government funded projects such as the Bowland Initiative that demonstrate the value of putting in place advice and facilitation services. The argument for not rolling out such services more widely is usually one of administrative cost but it is perhaps time to recognise that the benefits of such services may significantly outweigh their costs. Avoiding deadweight in schemes and not funding activities that would have taken place in any case are potential ways of saving money in other areas to fund advice and facilitation services. It is a widely held view among stakeholders familiar with the operation of schemes on the ground that focusing attention on this issue is one area to make significant improvements in terms of the outcomes of rural development support. To deliver environmental priorities, the nature of this support must not be dominated by business advice and training but should seek to include the environment as an integral part of sustainable business development.

⁷ (2004) Helping Farm Businesses in England. Report by the Comptroller and Auditor General HC 1028 Session 2003-2004: 16 September 2004. HMSO The Stationery Office.

4. Scotland

Introduction

This chapter presents the following:

- A review of the state of the environment in Scotland covering the following issues: water; soil; air; climate change; biodiversity; landscapes; historic environment and, access. The focus is primarily on environmental issues as they relate to land use, specifically agriculture and forestry.
- A summary of environmental targets and priorities drawn from SEERAD and its environmental agencies, relevant NGOs and stakeholder consultation.
- A summary of the Scotland Rural Development Plan (SRDP) including its environmental objectives, the measures and schemes in place and funding arrangements (with minor reference to Objective 1 and LEADER + measures and funding)
- An analysis of the performance of the SRDP to date (with minor reference to Objective 1 and LEADER + measures).
- Conclusions

The aim of this chapter is to assess how environmental priorities in Scotland are being currently being met through the SRDP and other related rural development funds and to highlight how they could be better met in future through the next round of rural development plans and programmes (2007-2013).

The information contained in this chapter has been drawn from a wide range of sources including websites and reports of the Scottish Executive Environment and Rural Affairs Department and the statutory countryside and environment agencies (Scottish Natural Heritage, Scottish Environment Protection Agency and Historic Scotland). Other reports and studies produced by farming, landowning and environmental stakeholders have been reviewed. A stakeholder workshop in Edinburgh was also organised as part of this project to gather views and information.

4.1 State of the Environment

This section reviews the state of the environment in Scotland in relation to land use under the following environmental themes: water; soil; air; climate change; biodiversity; landscape; historic environment and, access. The state of Scotland's environment is intrinsically linked to the fact that 6.1m hectares, or 79 per cent of Scotland's landmass is given over to agriculture. The majority of this land is remote and peripheral, reflected in the classification of 84 per cent of agricultural land, excluding common grazing land, as Less Favoured Areas. Of this, 98 per cent is classified as seriously disadvantaged due to the difficulties of farming such land.

Water

Water quality

Agriculture has an impact on water resources in terms of water quantity and water quality, as outlined in the water section for England. In Scotland the main problems relate to water quality, and primarily diffuse pollution. The Agriculture and

Environment Working Group stated that there has been a significant reduction in point-source water pollution from agriculture but that the contribution from diffuse pollution is significant in several respects, including from fertiliser run-off, organic waste, veterinary medicines, faecal pathogens and pesticides. SEPA report that diffuse pollution from agriculture and forestry affects 425 rivers, 55 lakes, 33 coastal water bodies and 30 groundwater bodies. This is more than any other industrial sector for each water body. Table 4.1 below shows the lengths and areas of water bodies affected by diffuse agricultural pollution.

Table 4.1 Water bodies affected by diffuse agricultural pollution

Rivers	Km
Mixed farming	586
Arable	284
Improved grassland	232
Estuaries	Km²
Arable	2.3
Lochs	Km²
Mixed farming	38

Sources of diffuse agricultural pollution and the resultant length/area of waters classified as polluted (SNH 1999)

Diffuse pollution can partially be attributed to the specialisation of modern agriculture leading to a substantial nutrient surplus on some livestock farms. It also results from inappropriate management when slurry or farmyard manure is applied excessively or to frozen or saturated soils. The resulting run-off affects the aquatic environment through the addition of nutrients and residual pesticides, which can eventually reach the marine environment. Excessive sedimentation is also a problem, as explained in the section on soils.

Eutrophication is of concern, especially in the intensively farmed areas in the east and north east. Several lochs of nature conservation importance, for example Loch of Harray, have been affected by outbursts of Canadian pondweed and dense phytoplankton blooms. The OECD 'permissible' and 'dangerous' limits have even been surpassed in some remote lochs. However this is attributed to forestry run-off and fish farm effluents rather than agriculture.

Freshwater acidification has also been recognised as a problem. Precipitation from elsewhere in Europe has affected the pH balance of freshwaters and resulted in wildlife losses. For example in Galloway there has been an observed decline in fish and riverine bird populations with localised extinctions.

Organic waste is also a concern, whereby faecal pathogens from manures and livestock can contaminate drinking water and decrease the amenity value of freshwaters and bathing waters.

Flooding

The management of agricultural land in Scotland affects both the risk and incidence of flooding events. In Scotland 6259km², or 8 per cent of the total mainland land area is prime agricultural land that lies on a floodplain. Flooding can have severe economic

impacts, not only to agriculture. For example the total economic loss associated with the Strathclyde flood in 2000 was £100m.

Drivers of problems

- Excessive or inappropriate use of fertilisers manures and pesticides in intensively farmed areas.
- Lack of farmer knowledge on soil management.

Soil

In general terms, problems relating to soil in Scotland are similar to those experienced in agricultural situations in other countries. These problems include soil compaction, soil erosion, poaching, and soil in water run-off. However evidence of the scale of any problems, or the rate of change is lacking. SNH note that ‘Soil changes are very difficult to determine as soils are not explicitly protected and hence data on the nature of the resource and its condition are unavailable for Scotland.’ However, SNH also notes that, ‘At present over 50% of the land area of Scotland is composed of soils with highly organic surface horizons that support ecosystems of natural heritage importance’.

Problems with soil have been reported as a series of generic causal relationships. For example, the Agriculture and Environment Working Group highlight that if damage increases through compaction, poaching and erosion then productivity decreases and the potential for diffuse pollution events increases. SNH states that the use of heavy machinery and continuous cropping leads to soil compaction, erosion and a reduction in soil organic matter. The natural regeneration of compacted topsoils can take up to three years. Soil compaction alters drainage patterns and increases the run-off of silt, nutrients, residual pesticides and sediment, all of which affect the aquatic environment. Excessive nutrient nitrogen loads are also a problem. The critical load of 10kg/ha of nutrient nitrogen in some peatlands has been surpassed.

The Mid Term Evaluation (MTE) of the Scottish Rural Development Programme states that soil erosion is not considered a major concern in Scotland due to the prevalent mild and wet climate leading to a high level of vegetative cover across country as a whole. The MTE states that there are some specific areas of concern, and includes ‘sandy soils near coast which are prone to wind erosion’ and ‘some hill and upland areas’. Data provided in the same document shows that 29 per cent of mineral soils in Scotland are at moderate erosion vulnerability and 26 per cent of organic soils are highly vulnerable to erosion.

SNH identified a series of pressures and impacts in relation to soils (see Table 4.2):

Drivers of problems

Some of the main drivers of problems in relation to soils are:

- Inappropriate management of land which is not entered into an AES. AES such as RSS include good management measures such as extensive cropping, flood plains, dune grazing.
- However AES ‘do not especially target land that is at high risk of soil erosion’ (MTE)
- Use of heavy machinery
- Continuous cropping

- Erosion increased by removal of hedges (20,000 km where lost in 1998 alone), growing of winter cereals, up-and-down slope cultivation, over frequent burning and overgrazing.
- Overgrazing leading to soil compaction and poaching.
- Lack of knowledge at the national level of problems with soils and any negative changes.

Table 4.2 Pressures and impacts in relation to soils in Scotland

Pressure	Examples of on-site impacts	Examples of off-site impacts
Agriculture and grazing of livestock	<ul style="list-style-type: none"> • Landform damage through ploughing, ground levelling and drainage • Loss of stabilising vegetation on dunes and consequent erosion • Soil compaction, localised erosion, loss of organic matter, reduction in biodiversity • Effects of excess fertiliser applications on soil chemistry and biodiversity; changes to nutrient status • Effects of pesticides on soil biodiversity 	<ul style="list-style-type: none"> • Changes in run-off response times arising from drainage • Increased sand blow from destabilised systems upwind • Episodic soil erosion leading to increased sedimentation and chemical contamination in lochs and river systems • Pollution of groundwater
Other land management changes	<ul style="list-style-type: none"> • Degradation of exposures and landforms • Disruption of natural drainage patterns (e.g. on saltmarshes) • Loss of topsoil and inversion/mixing of horizons • Change to soil structure • Soil contamination 	<ul style="list-style-type: none"> • Changes in run-off and sediment supply • Drying out of wetlands through local and distal drainage
Soil pollution	<ul style="list-style-type: none"> • Acidification of soils • Accumulation of heavy metals, hydrocarbons and other PTEs 	<ul style="list-style-type: none"> • Downstream impacts on watercourses • Contamination of groundwater
Soil erosion	<ul style="list-style-type: none"> • Deterioration of landforms • Loss of soil resources 	<ul style="list-style-type: none"> • Enhanced sedimentation streams and lakes • Changes in water chemistry

Source: Extract from Gordon, J.E. et al (2002).

Air

Emissions of ammonia (NH³) from agriculture have several environmental effects in Scotland. Primarily, atmospheric pollution of ammonia leads to the acidification of soils that, in turn, leads to the leaching of phosphates (eutrophication) and affects fish, plant and soil organisms. SNH note that the significant acidifying emission from agriculture is ammonia, and 80 per cent of all artificially produced ammonia originates from animal waste. In the last decade the reduction in ammonia emissions has changed very little, although the Gothenburg protocol target bid for a reduction of 16 per cent by 2010, based on 1990 values. A 14% decline in reduced nitrogen emissions (ammonia), largely from agricultural sources, is expected by 2010.

Drivers of problems

- Intensive pig, poultry and cattle production in localised areas
- High levels of nitrogenous fertilisers used in both arable and grassland systems, with the result that many farms are in nitrogen surplus.

Climate Change

Agriculture is a source of greenhouse gas emissions in Scotland. Around 69% of Scottish methane emissions arise from agriculture with cattle responsible for 49%. Agricultural emissions arise from enteric fermentation in livestock (91%) and the handling of their wastes (9%). Emissions are largely dependent on the numbers of livestock, which have fallen by 9% over the period 1990-2002, resulting from a decline in cattle and sheep numbers. Of the total emission of 17 kt of nitrous oxide in 2002, around 14 kt was from agriculture. Most of these were emissions arising from the agricultural soils category as a result of processes in the soil arising primarily from the leaching of fertiliser nitrogen to ground and surface water (27%), synthetic fertiliser application (26%) and wastes from grazing animals (20%). It is difficult to apply a number to the contribution of carbon dioxide as figures depend on assumptions for the rate of loss or gain of carbon in organic matter rich soils that predominate in Scotland. A carbon sink of -6.8 Mt CO₂ arises mostly from forestry and other woody biomass and the magnitude of this sink has increased by 22% over the period 1990-2002. There are also indirect emissions of greenhouse gases related to agriculture, associated with the manufacture of agricultural inputs such as fertilisers and the transportation of livestock and harvested crops.

A key problem associated with climate change is rising sea levels and the resultant flooding. It is anticipated that Scotland's climate will become wetter and more stormy and sea levels will rise, which will result in an increased flood risk both inland (adjacent to rivers and smaller water courses) and along low-lying coasts. The increased flood risk will be damaging to Scotland's economy and society. The Scottish Executive Central Research Unit (CRU) in 2001 attempted to predict future changes to flooding in Scotland, given predicted increases in precipitation, and noted that by the 2080s floods could be 20 per cent larger. The CRU also noted that in especially sensitive river basins, floods which presently occur on average once in fifty years could occur twice as frequently. The CRU also stated that sea level rises of between 80mm and more than 300mm have been predicted around Scotland's coast by 2050.

The Agriculture and Environmental Working Group noted that climate change will mean that environmental imperatives will have to be altered, but how they will change

is difficult to predict at the moment. However, given that agriculture is both a source and a sink of greenhouse gases, and that agriculture has been estimated to contribute to 40 per cent of total emissions in the UK, the role of agriculture in mitigating further climate change is unquestionable.

Drivers of problems

- Intensive livestock production
- High usage of nitrogenous fertilisers
- CO² problems are caused primarily by non-agricultural factors

Biodiversity

The strong correlation between farming practices and biodiversity is especially important in Scotland. Although much of the land is peripheral and poor quality in respect of agricultural production, the land has high value in terms of environmental quality and biodiversity. Scotland is internationally important for its heather moorland, upland blanket bog, lowland raised bog, machair and freshwater and seawater lochs, and 65 out of the total of 159 conservation priority habitats listed in the Habitats Directive are found in Scotland. However, problems relating to the intensification of farming have had a negative environmental effect on biodiversity.

The removal of boundary features is a key problem. Up to half of the hedges in Southern Scotland have been removed since 1945, leading to a decline in plants, insects and small mammals. Hedges, dykes, buffer zones and beetle banks have a range of benefits including acting as wildlife corridors, controlling the spread of weeds and housing over-wintering invertebrates. The decrease in the size of the farm workforce has meant that the maintenance of features such as hedges and dykes which host a range of wildlife have been neglected.

The change from mixed farming to specialisation in either arable or livestock farming has led to a decline in the overall diversity of farmland wildlife. A key indicator of the overall environmental wellbeing of an area is the prevalence of farmland birds. The move to the autumn sowing of cereals means there is a lack of winter stubble that provides a food source for birds. The increased use of pesticides (including pesticide drift into boundary features) has affected food supply as well resulting in a decrease in the numbers of farmland birds such as corn bunting and yellowhammer. The early cutting of silage also prevents the successful nesting of ground nesting birds, as does the decline in traditional farming practices such as hay making.

Other effects on biodiversity by agriculture, as noted by the Agriculture and Environment Working Group, are the pattern of fragmentation and degradation of habitats, reduced species diversity, land abandonment and deleterious changes to management practices (for example the seasonality of cropping). Other effects result from the drainage of wetland and removal of woodland remnants, the drainage, ploughing and reseeded of upland indigenous grasslands and moorlands, and nutrient enrichment adjacent to fertilised land. Other negative effects result from the felling of ancient forest, grazing of sheep and deer and the planting of non-native conifers.

The importance of certain agricultural practices should also be stressed as these are vital to the maintenance of many habitats in upland Scotland. Moorland, bogs and upland grasslands are an important habitat for more than 40 bird species that use

moorland as their sole or major breeding habitat. In the absence of agricultural management, heather burning and grazing by sheep and deer, much of upland Scotland would ultimately be colonised by trees and scrub. The challenge therefore lies in improving previously environmentally poor agricultural practices whilst maintaining those that are of great benefit to the habitats they intrinsically support.

SNH have noted some improvements in biodiversity and highlight the increased opportunities for wildlife generated by land in set-aside and in agri-environment schemes.

Drivers of problems

- Intensification of agricultural management
 - Removal of hedges and other boundary features
 - Change in cropping patterns
 - Move from mixed to specialised farming
 - Increased use of fertilisers and pesticides
- Land abandonment
- Loss of traditional skills
- Inappropriate management through lack of farmer knowledge

Landscape

The Landscape Character Assessment for all of Scotland has identified 274 distinct landscape types. Agriculture is one of the principle influences on the evolution of the Scottish landscape. Changes in agricultural practices and policies shape the look and feel of the landscape, and can alter its underlying characteristics. There is a diversity of landscapes in Scotland that reflect the way the land has been managed over many years. Hill farming has shaped the Scottish uplands with its characteristic sheepfolds and stone dykes, while crofting areas in the north and west are characterised by small-scale patchworks of pasture, walls and scattered dwellings. Forests and woodlands are also important landscape components.

The growing pressures on the traditional landscape result from the economics of farming and forestry. Decreasing returns from farming can lead to the abandonment of farmland, and hence the management practices which had previously maintained it. Similarly, the need to boost farm incomes has increased the pressure for farmers to diversify from mainstream farming activities. Diversification can lead to an increase in built development, especially on farms near population centres, or changes to land use, for example the introduction of golf courses. Furthermore, telecommunication masts located on agricultural land can add to the visual clutter of the landscape. Therefore it has been recognised that the ‘qualities of perceived wildness, remoteness and tranquillity in some areas of Scotland are relatively fragile’.

Scotland’s tree cover, which extended to about 17% of Scotland’s land area in 2000, includes conifer plantations (covering about 15% of Scotland) as well as semi-natural woods of broadleaved species and Scots pine (covering about 2% of Scotland). Afforestation increased sevenfold between the 1940s and 1980s, mainly through conifer planting on moorland and peatland, but showed no statistically significant change in land cover terms during 1990-1998. The area of native woodland increased by 34% between 1984 and 1999. Natural regeneration of woodland has increased since 1995 with 3,132 ha being established in this way by 2000.

Drivers of problems

- Intensification of farming practices
- Land abandonment
- Diversification from farming

Historic environment

Historic Scotland recognise that the historic character of the environment is important both to quality of life and sense of identity, and stress that careful and active management of the historic environment is necessary for its survival. Good stewardship is one of the key principles and it is noted that all actions should include long-term strategies for the management, conservation, use, maintenance and monitoring of historic elements, following the principles of *The Stirling Charter: Conserving Scotland's Built Heritage*. Historic Scotland call for the historic environment to be used and managed in a sustainable way. Changes to management practices have effected the historic environment, for example with the removal of boundary features.

Drivers of problems

- Loss of local craft skills
- Climate change/pollution
- Erosion/soil degradation
- Transport
- Rural development

Access

The demand for public access to countryside has been growing rapidly in Scotland with just over a quarter of all Scottish adults participating in open-air recreation at least once a week. The recent changes to Scottish legislation mean the right of access is extended to all land and inland water for any recreation purpose. The trend to opening up the countryside has benefits for both the public and for private businesses e.g. through tourism opportunities but can also result in land use conflicts.

Case Study 4 (Appendix 3) explores issues relating to providing public access in lowland areas and looks at how rural development measures could be used to support such expansion.

Drivers of problems

- Inappropriate behaviour by a minority of access users
- Insufficient path networks and lack of or poorly maintained infrastructure.

4.2 Environmental Targets and Priorities

This section identifies any existing Government statements and/or targets under the main environmental headings and records the views of key stakeholders as expressed at a workshop organised as part of this project.

Water

The Agriculture and Environment Working Group identified diffuse pollution to water as one of three priority environmental issues for Scottish agriculture for the next five to ten years. The Scottish Executive verified this priority, and highlighted the importance of the voluntary code on pesticide usage and the need to raise awareness of the PEPFAA (Prevention of Environment Pollution From Agricultural Activity) Code. The Scottish Executive also noted the need to 'prioritise riparian corridors with a view to reducing diffuse pollution, increasing biodiversity, improving flood attenuation and enhancing the landscape', as well as the importance of developing a Farm Nutrient Budget, as part of the Working Group's 'Ten Point Action Plan for Farmers and Crofters'. The Scottish Executive launched the Four Point Plan to minimise diffuse pollution in 2002. This included a guide for farmers to draw up a risk assessment for manures and slurries and to receive advice on water margin management. The Scottish Executive stated that the Plan is 'an important contribution to protecting the water environment'.

SEPA's Diffuse Pollution Initiative (DPI) aims to quantify and characterise the diffuse pollution problem in Scotland, assess the effectiveness of management measures to control diffuse pollution and to educate and train environmental advisors with the overall aim of changing practices. The Scottish Executive also stresses the importance of Nitrate Vulnerable Zones (NVZs). By 2002, 13 per cent of Scotland was to be designated as NVZs with the provision of capital grants to farmers to improve slurry storage facilities in NVZs. Perhaps, more significantly, will be the Water Environment and Water Services Bill which will implement the EU's Water Framework Directive. The drive for compliance with good chemical and ecological status in all surface waters by 2015 'will introduce a new regime for the management and protection of Scotland's water environment'.

Stakeholders debated over the extent of diffuse pollution from agriculture and noted that water quality and lowland flooding could also be attributed to causes beyond agriculture (urbanisation for example). It was questioned whether RDR money should be spent on water pollution as this would go against the principle of 'polluter pays'. The importance of the WFD was widely acknowledged and linked into another argument on the need to improve the recreational use of inland waterways. Stakeholders recognised the negative effect of intensive livestock systems in South West Scotland, the importance of NVZs in the North East, and that river quality is improving. Water management and flooding were also expressed as priority issues.

Soil

The most recent statements relating to the management of soils date to the 2002 report of the Agriculture and Environment Working Group entitled 'Custodians of Change', and the subsequent response by the Scottish Executive.

The Agriculture and Environment Working Group commended 'adopting good soil conservation techniques (e.g. avoiding cultivation right up to the stream bank reduces potential for sediment loss and/or direct inputs of fertilisers and pesticides to surface waters; establishing good ground cover in autumn-sown crops on sensitive soils; reducing seedbed cultivation to keep a coarser tilth)'. The same report recommended that the use of machinery and access by animals to compacted areas of soil should be restricted when soil moisture content is at, or close to field capacity. Damage through

poaching should also be reduced by limiting the access of stock to wet soils and fencing off sensitive areas such as river banks. Soil in water run-off could be reduced by the maintenance of plant cover over the whole year, or by reducing the time interval where bare soil is present and increasing the use of contour ploughing.

The Scottish Executive acknowledged the 'Ten Point Action Plan for Farmers and Crofters' composed by the Working Group. One action point was 'To sample and record soil properties across their holdings at a spatial, and temporal frequency that is appropriate to regional conditions and the farming system employed', and another was to 'Survey farm drainage systems and consider opportunities for reducing sedimentation and diffuse pollution through the use of wetlands, filter beds and collection and reuse of rain water'.

The Mid Term Review of the SRDP, also from 2002, showed the requirement for all farms in agri-environment schemes to conform to Codes of Good Agricultural Practice (COGAP) and General Environmental Conditions (GECs) and so protect against soil erosion through restrictions on cultivation. The newly introduced cross-compliance requirements for Good Agricultural and Environmental Condition seek to minimise soil loss and deterioration.

Soils were mentioned by stakeholders as an issue, but not discussed in any depth. It is therefore difficult to verify or significantly acknowledge whether stakeholders regard soils as an environmental priority for Scotland. In relation to this, and other environmental priorities, stakeholders suggested that better agri-environment schemes could improve the situation.

Air

No specific targets have been found yet in the available literature.

During discussions with stakeholders air pollution was not expressed as a major concern, and when it was the emphasis was in relation to climate change.

Climate Change

As stated in the section on England, the UK government is now giving climate change a high priority, although the focus is mainly on CO² emissions from non-agricultural sources such as transport rather than those that originate from agricultural sources, such as methane. Although specific targets are lacking at the moment, in order to reduce greenhouse gases from farming, interest is growing in renewable energy and the role of farmland in carbon sequestration.

Stakeholders raised climate change as an issue both in terms of its impacts on agriculture and the environment and the need for an increase in renewable energy, for example through the use of energy crops, in order to mitigate against the impacts of climate change.

Biodiversity

Biodiversity and habitat protection is one of the three priority environmental issues identified by the Agriculture and Environment Working Group for the next five to ten

years. The Scottish Executive welcomed this as well as the need to develop a Farm Biodiversity Action Plan as part of the 'Ten Point Action Plan for Farmers and Crofters'.

The implementation of the local Biodiversity Action Plans (LBAPS) was raised as important alongside the UK BAP as part of the international obligations formed by the Convention on Biological Diversity. For example, many of the UK Biodiversity Action Plan priority species of invertebrates in Scotland depend upon unimproved grassland, including the marsh fritillary butterfly and narrow-bordered bee hawk moth.

Sites have been designated under the Birds and Habitats Directives. According to the RDP, there are 117 Special Protection Areas (SPAs) in Scotland under the Birds Directive, and 25 more were being considered for addition by 2000. The Rural Stewardship Scheme (RSS) gives additional points to applications for Natura 2000 sites which would include the management of sites designated under the Birds and Habitats Directives, and where their management would benefit species in the UK BAP.

In more general terms the aims of the Scottish Executive are: to halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats; to increase the awareness, understanding and enjoyment of biodiversity, and engage many more people in conservation and enhancement; to restore and enhance biodiversity in all urban, rural and marine environments through better planning, design and practice; to develop an effective management framework that ensures biodiversity is taken into account in all decision making; and, to ensure that the best new and existing knowledge on biodiversity is available to all policy makers and practitioners.

SNH outline a list of actions, differentiated according to various timescales, such as increasing financial support for management of wildlife habitats, improving participation in agri-environment schemes, providing training and support and promoting research into habitat management. There are 15 objectives altogether.

Stakeholders agreed that the loss of crofting systems could have a negative impact on biodiversity although resulting wilderness could also have benefits. Although key habitats and species have been identified, integration into wider policies has been limited. More research on the spatial analysis of habitats and interactions was suggested.

One stakeholder questioned how the delivery of biodiversity can be encouraged in a commercially sustainable manner that is also socially acceptable. Another recognised the need for the preservation and restoration of semi-natural habitats at the landscape scale, and there was consensus on the need to protect and enhance the best sites for nature conservation. This included the need to maintain extensive mixed high nature value farming systems, for example by retaining cattle in mixed grazing systems. The importance of sustainable grazing in maintaining certain habitats was also recognised, as was the necessity to maintain the fragile farming systems in the north and west of the country for environmental or biodiversity reasons. Others debated the need to provide habitat networks across the country, especially in the lowlands. Stakeholders

also addressed the lack of integration and compartmentalisation of different objectives, claiming that individual initiatives had too narrow a focus. Schemes tackling biodiversity were also regarded as too prescriptive and focused on outputs rather than outcomes.

Landscape

SNH has set out six principles to guide its efforts towards safeguarding and enhancing the distinctiveness, diverse character and scenic quality of Scotland's landscapes. Of these, one is that all landscapes deserve care, some landscapes warrant special safeguard and that landscapes are a shared responsibility.

One stakeholder noted the tensions apparent between crofters, in making it a commercially viable activity, and a need for more houses or holiday homes and windfarms. Others raised abandonment of land as an important environmental problem in a general debate on land use change and the tension between the intensification and extensification of farming as well as the fragmentation of habitats.

Historic Environment

It is Historic Scotland's policy to ensure that the historic environment is managed in a sustainable way, helping to meet the needs of modern life without compromising the ability of future generations to understand, appreciate and benefit from it. The Stirling Charter (2000) states that: actions taken in respect of Scotland's built heritage should secure its conservation for the benefit and enjoyment of present and future generations; that there should be a general presumption in favour of preservation (no element of the built heritage should be lost without adequate and careful consideration of its significance and of all the means available to conserve it); and thirdly, Scotland's built heritage should be managed in a sustainable way, recognising that it is an irreplaceable resource.

Stakeholders recognised the significance of cultural landscapes and the fossilisation of crofting.

Access

The Land Reform (Scotland) Act 2003 clearly sets down in statute a presumption in favour of access, if taken responsibly, over most areas of land and inland water. The Scottish Outdoor Access Code - a comprehensive guide to responsible conduct - was approved by the Parliament in July 2004. Both came into effect on 9 February 2005.

Stakeholders' views fell into two groups. One group raised the need for an emphasis to be placed on the enhancement of the countryside and biodiversity in those areas that are closest to large population centres, in conjunction with a need to increase access to the countryside (Case Study 4 explores this issue). This conflicted with another view that access should be minimised in order to avoid negative impacts on biodiversity.

Other Issues Raised by Stakeholders

Stakeholders in Scotland raised a number of cross cutting issues for consideration as environmental priorities. The need for a greater joining-up of environmental

objectives and integration of policies was expressed, a debate that linked into the need to substantiate the scale at which objectives or strategies are implemented: at the local, regional or national, and whether spatial planning should occur at the ecological or landscape scale. The remit of agriculture within the broader environmental, social and economic framework to achieve environmental aims and sustainability goals was also considered. Omnipresent questions regarding the profitability of farming in determining the sustainability of farm businesses were also addressed, alongside the accompanying question as to whether social factors, such as an aging farming population, can guarantee the long term management of the countryside. A requirement to improve training and advice was also considered an overarching issue, with the need to recognise whether advice, once disseminated, results in uptake. Stakeholders noted disparities in uptake according to age, education, access and available resource; issues that would need to be addressed if the environmental priorities outlined above are to be successfully targeted.

Stakeholders supported the expansion of broadleaf woodland and improving the 'woodland experience'. Stakeholders noted the varying roles for woodland of recreation, carbon sequestration, economic activity, for example timber production and the role of woodland in flood sensitive areas (including a link with the WFD). The need for an integrated forestry strategy that links into spatial planning at the landscape scale was identified.

4.3 RDR Measures in Scotland

The Scottish Rural Development Plan 2000–2006 was drafted during the latter part of 1999 and approved by the European Commission in December 2000. The Plan draws together a number of measures, such as the Countryside Premium Scheme, that had previously been financed under separate legal provisions and budgets.

The following sections: set out the environmental priorities identified in the original SRDP; list the schemes and measures available to farmers and landowners in Scotland and show the break down of funding between the measures; review the effectiveness of the SRDP to date drawing on published evaluations and studies and, record the views of stakeholders, expressed at a workshop organised for this project, on the effectiveness of the SRDP.

Environmental priorities

The Scottish RDP 2000-2006 identifies the following environmental issues:

Designated Areas. The SRDP states that much of Scotland is recognised to be of a high environmental quality and of European significance, and as such the need to continue to protect all designated areas is underlined. Designated areas include SSSIs, National Nature Reserves (NNRs), Special Protection Areas, Special Areas of Conservation and National Scenic Areas.

Biodiversity. The need to assess the state of the environment beyond designated areas is expressed. Local Biodiversity Action Plans (LBAPs), in development at the time

the plan was written, are described as tools that will guide environmental improvement work and arrest some of the decline in biodiversity that had been experienced in the years leading up to the implementation of the SRDP. A more specific priority is described in relation to farmland with several objectives: to reverse biodiversity losses; to preserve the beauty, interest and character of farmland; to protect wildlife and natural habitats; and, encourage opportunities for people to understand and appreciate the countryside .

Losses of biodiversity are described on *lowland arable farms* in relation to hedgerow removal, which has contributed to a reduction in the extent and diversity of wildlife habitats. The loss of wildlife rich wetlands, a change to autumn-sown cereal crops, growth of silage rather than winter stubble or hay meadows and the increased use of agro-chemicals are given as examples. On *lowland livestock farms* the loss and increased fragmentation of semi-natural grasslands and a subsequent decline in species richness is highlighted. The decline of species such as butterflies is attributed to intensive grassland management. In *upland livestock farms* an increase in red deer numbers has had an adverse effect on the composition of plant communities and the area of heather moorland has decreased following conversion to rough grazing. Changes to the management of *crofting* areas have affected species rich habitats such as machair.

Habitat Change. The decline in the total area of grassland, mire and heather moorland indicate changes in biodiversity. Data provided shows that the overall hedgerow length decreased from 40000km to 20000km between 1940 and 1980.

Climate change. The SRDP states that on an annual basis Scotland's forests absorb c. 10 per cent of the carbon dioxide emissions attributable to Scotland and that large sequestration gains are likely to come from forests growing high quality timber (which will be put to long-lived end uses) on long rotations in complex forest ecosystems that are established on soils with low organic content. The increased use of wood as a fuel, as a substitute for the burning of fossil fuels is also stated, though the degree to which this negates climate change is questionable.

Native woodlands. The creation of new native woodland is regarded as especially valuable if it can be located so as to create links between existing native woodlands. The biodiversity benefits of using natural regeneration wherever possible in creating new native woodlands on a large scale are recognized. The issue is an environmental priority because just two per cent of the land area, or just over ten per cent of the area of forest and woodland, is natural origin native woodland, and that which remain is seriously fragmented.

Enhancing the biodiversity of other woods and forests. There is considerable scope to increase the biodiversity of other woods and forests by increasing the area of native species and encouraging the development of natural processes within them. The need to improve forest structure and composition is particularly important in upland coniferous forests and extending the rotation age between felling.

Land abandonment as seen in other parts of Europe is not currently an issue in Scotland. However it is acknowledged that there is a longer term risk that land abandonment could increase if farm viability is threatened further, which would have

a negative impact in environmental terms where the diversity of habitats is currently maintained by traditional or extensive agricultural practices⁸. The SRDP also states that in some cases land abandonment that results in native woodland regeneration could improve the biological diversity of a former agricultural holding.

Access and community involvement are described as important in contributing to the quality of rural life.

Air pollution. Nitrogen dioxide is considered to be the source of ambient air pollution in rural Scotland, although the key priority outlined is to reduce the need to travel rather than anything more directly linked to agriculture.

Water quality. Diffuse pollution from agriculture is highlighted as one of the most important causes of poor water quality and current projections show that unless significant improvements occur in pollution control from farmland then diffuse agricultural pollution will be the most important source of river pollution by 2010. Areas specifically affected by this are the more intensively farmed areas on the east coast.

These issues accord with the data gathered for the purposes of this study.

The specific environmental priorities for Scotland, as set out in the RDP, are as follows.

Priorities for the rural environment

The SRDP states that the measures set out in the plan ‘should help to sustain environmentally friendly farming practices, thus preserving the natural beauty of Scotland’s rural landscape, with spin off benefits to other activities such as tourism’. The importance of agriculture to Scotland in terms of scenery and biodiversity and the need for farmers to manage land that maintains and improves landscape quality and biodiversity is recognised.

The two key priorities in the Plan, and the measures put in place to achieve them are below:

1. To assist the future viability and sustainability of Scottish farming and forestry
 - i) Measure 1 – Support for Less-Favoured Areas
 - ii) Measure 2 – Forestry
2. The encouragement of farming practices which contribute to the economic, social and environmental sustainability of Scotland’s rural areas.
 - i) Measure 1 – the Agri-Environment Programme – to build on the strengths of extensive land management practices in Scotland in order to enhance biodiversity and protect the environment.

The SRDP is not as explicit as the ERDP in terms of specific environmental objectives. However, a reading of the SRDP reveals what could be considered some broad environmental priorities.

⁸ While the current RDP states that land abandonment is not a problem in Scotland, stakeholders consulted for this project felt that abandonment is an issue and references to it were made by the Agriculture and Environment Working Group.

Nature Conservation and Biodiversity

This is evident as a priority given the emphasis placed on complying with international obligations such as the Convention on Biological Diversity (being implemented by the Local Biodiversity Action Plans), and by designating Natura 2000 sites under the Birds and Habitats Directives. At the time the SRDP was written there were 117 Special Protection Areas (SPAs), as classified under the Birds Directive, as well as 131 Special Areas of Conservation (SACs), as implemented under the Habitats Directive. There are also over 1400 SSSIs. Overgrazing and undergrazing are both described as a problem, for example in a range of natural and semi-natural habitats.

Water

Legislation and verifiable standards for water pollution, including the groundwater regulations and the Code on the Prevention of Environmental Pollution from Agricultural Activity (PEPFAA) are described.

Air

A commitment to reducing air pollution is described in the legislation for clean air and restrictions on making muirburn.

Soil

A commitment to completing the designation of Nitrate Vulnerable Zones is mentioned as are regulations on the use of pesticides.

Historic Environment

Legislation on ancient monuments and archaeological areas is mentioned and requires, in the context of farming and crofting, permission to change land use, to remove trees or hedges and to clear stones.

Landscape and Public Enjoyment

Many references are made in the SRDP of the importance of Scottish scenery to the environment and the economy.

Schemes and measures

The SRDP provided funding for three schemes:

- Less Favoured Areas
- The Agri-Environment Schemes:
 - The Rural Stewardship Scheme – this was conceived as a new agri-environment programme to encourage the adoption of environmentally friendly farming practices in order to maintain and enhance the landscape, wildlife and historic interests in Scotland’s countryside. The RSS will give preference to applications that include the management of sites which are designated under the Birds and Habitats Directive and where management would benefit species in the UK BAP. All designated areas will continue to be protected. This scheme replaced Environmentally Sensitive Areas and the Countryside Premium Scheme.
 - The Organic Aid Scheme – will support and encourage the expansion of organic production methods to increase the amount of environmentally friendly agricultural production

- The Forestry Schemes
 - Farm Woodland Premium Scheme
 - Scottish Forestry Grant Scheme

The SRDP states that the above measures will encourage and maintain sustainable farming practices that protect the environment and provide incentives for compliance with Good Farming Practice. The Articles within Regulation 1257/99 to which these schemes relate are set out below at Table 4.3.

Table 4.3 SRDP schemes in relation to RDR measures

Articles in 1257/99	Schemes in Scotland
Investment in agricultural holdings (Articles 4-7)	None
Training (Article 9)	None
Less Favoured Areas (Articles 13-21)	Less Favoured Areas
Agri-environment (Articles 22-24)	Rural Stewardship Scheme and the Organic Aid Scheme
Processing and Marketing of agricultural products (Articles 25-28)	None*
Forestry <ul style="list-style-type: none"> • Afforestation of agricultural land (Article 31) • Other forestry measures (Article 30) 	Farm Woodland Premium Scheme (FWPS) Scottish Forestry Grant Scheme (SFGS)
Article 33 <ul style="list-style-type: none"> • Setting up of farm relief • Marketing of quality ag products • Basic services for rural economy • Renovation & development of villages • Diversification of ag activities • Ag water resources management • Development/improvement of infrastructure • Encouragement for tourism and craft activities • Protection of the environment in connection with agriculture 	No schemes, but there are two measures in Scotland which have been chosen to operate outside the framework of the SRDP*

*In Scotland, measures which could be considered Article 33 were included but described as measures which fall outside the framework of the plan. This includes a scheme for the marketing and processing of agricultural products and the diversification of agricultural activities. These have been financed by the state.

In total, five schemes were brought under the umbrella of the SRDP and a total of €1.2 billion of EU and Government money committed for the period 2000-2006. This figure includes national top-ups and funds generated through modulation. Under the Objective One programme, a transitional programme for the Highlands and Islands was implemented for 2000-2006. Figure 4.1 shows the proportion of expenditure according to each measure. €56m was spent on the Leader + programme.

Figure 4.1 SRDP Financial Allocation by Budgetary Measure 2000-2006

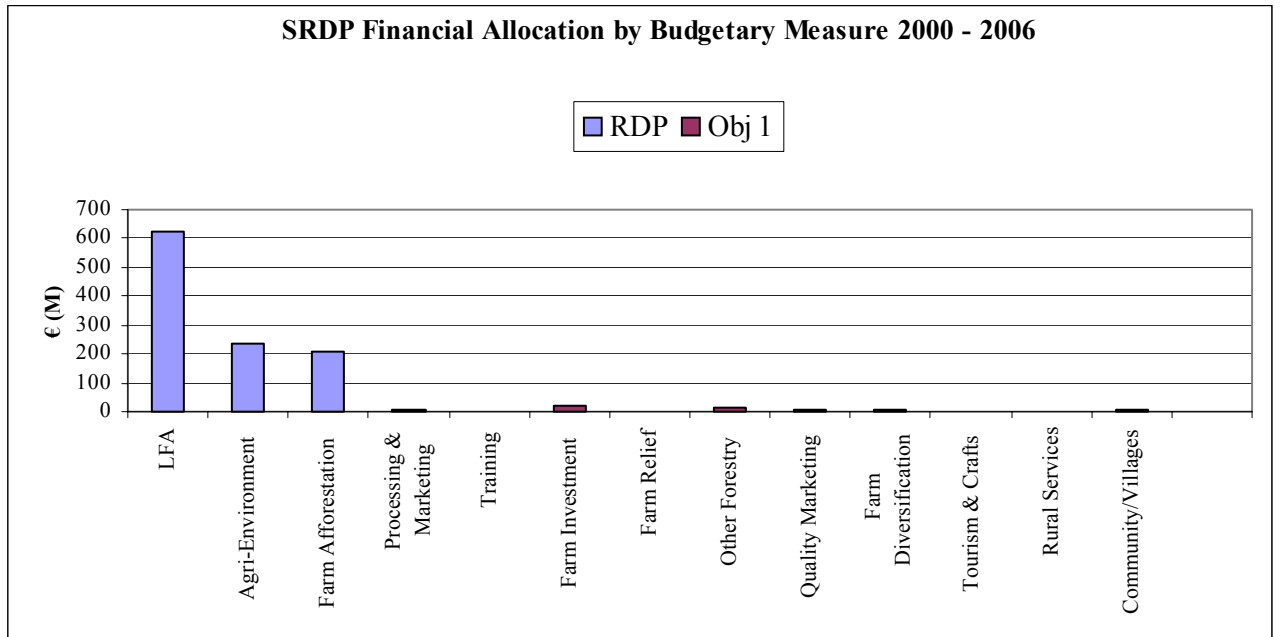
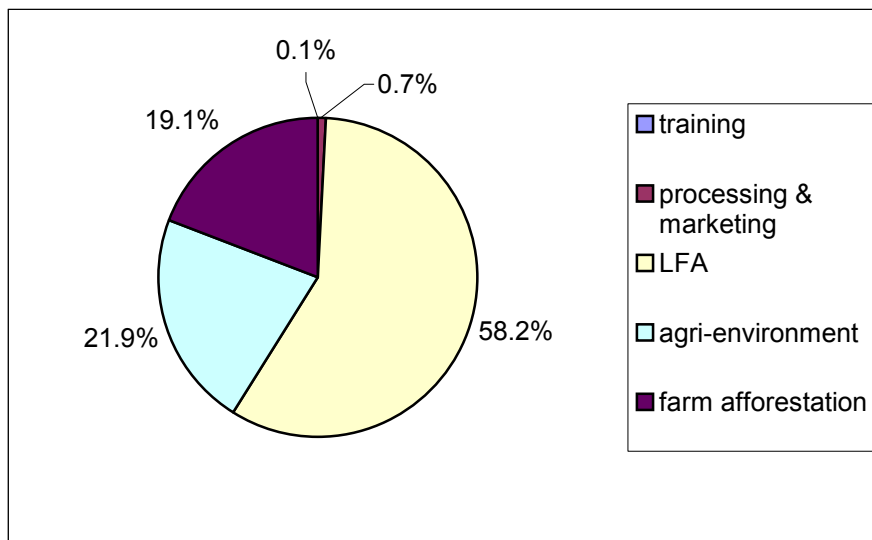


Figure 4.2 shows the relative proportions of total public funding for the main measures under the SRDP.

Figure 4.2 SRDP Financial Allocations by Measure 2000-2006



These figures highlight a number of key points in relation to the environment in rural development as supported by CAP Pillar II in Scotland:

- The limited use made in Scotland of the potential range of RDR measures.
- The dominance of LFA support attracting 58% of the total funding.
- Given the planned existing expenditure, Scotland does not meet the proposed EU minimum shares of spend under two of the three axes in the proposed European Agricultural Fund for Rural Development nor under the LEADER heading (Table 4.4). Some 27.8% of funding would need to be shifted from Axis 2 to meet the minimum requirements for Axes 1, 3 and LEADER or new money provided from national budgets.

Table 4.4 Estimated balance of measures in Scotland compared to EU proposals for EAFRD

Axis	Approximate current share (%)	EC proposed share (%) 2007-2013
1. Competitive farming and forestry	3.8	Min 15
2. Land management	90.8	Min 25
3. Other rural development	0.7	Min 15
LEADER	4.7	Min 7

4.4 Performance of RDR Measures to Date

The only significant evaluation of the new schemes introduced through the SRDP has been the Mid Term Evaluation (MTE) of rural development programmes that took place in 2003. This MTE was a requirement of the European Commission; all Member States had to undertake full and independent evaluations of their rural development programmes and submit them to the Commission by the end of 2003. The requirements for the MTE are set out in European legislation and in guidance issued by the Commission. Evaluators were required to answer an extensive list of common evaluation questions.

The following comments on the effectiveness of the SRDP are drawn from the MTE which is publicly available on the Scottish Executive website at:

<http://www.scotland.gov.uk/library5/rural/srdpvbs-00.asp>

The MTE gives a positive assessment of the SRDP and stated that the main objective of ‘ensuring environmental issues are taken into account’ has been met. The only key criticism is the narrow scope of the SRDP, which limits its ability to meet the full objectives of the RDR 1257/1999. Recommendations are provided to improve the specific schemes.

The key findings of the SRDP MTE are:

1. The SRDP has a narrow focus in comparison to the original objectives of the Rural Development Regulation, and this is attributed to Scottish Devolution and limited availability of funds.
2. All schemes are performing well in terms of uptake and are administered effectively.

3. 33 per cent of the total agricultural area in Scotland is now maintained under the Codes of Good Agricultural Practice (COGAP) and General Environmental Conditions (GECs). ‘This is a substantial achievement and set to increase further’.
4. There is very little relevant data to fully assess the environmental impacts that have occurred as a result of the implementation of the CPS, OAS and RSS. Anecdotal evidence suggests that the schemes could in the future lever increased environmental gain.
5. The environmental quality of land within agri-environmental sites is being enhanced.
6. Reductions in the use of chemicals and fertilisers have occurred amongst participants of the agri-environment schemes.
7. Forestry schemes have increased the area of wooded area on previous agricultural and non-agricultural land by 24,352 hectares between 2000 and 2002. The schemes are delivering environmental benefits through improvements to the landscape and through increasing biodiversity for both habitats and species.
8. The agri-environment schemes have delivered a range of environmental improvements, including increased wildlife, regeneration of heather, reduced chemical fertiliser use, increased biodiversity and increased environmental awareness.
9. The land reform in Scotland in 2003 has focused attention on access to land and the opportunity to use funding within the schemes to fund and manage access to land to reduce conflict between land managers and the public at large could be utilised.
10. Some imaginative suggestions of how to achieve correspondence and co-operation between the different schemes are needed.
11. Agri-environment schemes are bringing about changes in attitude and practice amongst farmers.
12. The MTE also notes that uncertainty caused by the 2003 CAP reform would have an effect on the level of scheme uptake by farmers.

The consultants make a key comment in relation to the scope of the SRDP:

‘We highlight the close fit of the SRDP objectives with the RDR objectives. We also highlight the fact that these objectives focus mainly on agriculture. As the policy context has moved on since 1999 to be much wider, there is an argument for the SRDP to widen its objectives to be more holistic in a rural development and environmental sense. This widening is subject to the constraints of the RDR and to funds being available. Therefore, we note this point for future programmes rather than making any specific recommendation about widening the SRDP objectives within the remaining time of this programme.’

More specific findings relating to individual schemes are summarised as follows:

Less Favoured Areas

- Scottish LFAs are environmentally on par in terms of agri-environmental scheme uptake, but have generally low levels of stocking density. If a pro-active environmental outcome is sought through this scheme, it would require some amendment to the payment criteria. The LFAs are described as solely maintaining

farming systems, rather than as a scheme that specifically delivers environmental outcomes.

- Suggested change: if specific environmental benefits are sought then some element of the LFA funds should be made available for this purpose or some component of agri-environmental scheme funds should be earmarked specifically for LFA claimants.

Organic Aid Scheme

- There is strong evidence to suggest that the objectives of the OAS, which includes assistance with environmentally friendly farming, are being met.

Rural Stewardship Scheme

- There is strong evidence to suggest that the RSS is delivering environmental and biodiversity benefits due to the increase in the areas of land under management.
- Suggested change: No major changes were recommended although a desire to increase uptake, especially among the more commercial farms that have low environmental value, is outlined.

Woodland Grant Scheme

- The WGS is providing new habitats for wildlife, including Capercaillie.
- Support for the management of ancient and semi-natural woodlands is being provided.
- The WGS has provided an alternative land-use to agriculture.

Farm Woodland Premium Scheme (FWPS)

- Grants have been provided to target the delivery of environmental benefits,

Specific findings in relation to soil and water quality, biodiversity, landscape were also given in an annex dedicated to the agri-environment programme:

Soil erosion – the agri-environment schemes as a whole do not especially target land that is at high risk of soil erosion, although management measures within the RSS do target the reduction of soil loss.

Soil quality – between 2000 and 2002, 149,010 hectares were entered into the OAS, which prohibits the use of artificial fertilisers and promotes mixed cropping.

Water quality – 75,131 hectares of land is now subject to SEPA's top ten management prescriptions (including extensive cropping and the management of water margins).

Biodiversity – the increase in the number of corncrakes 1993-2002 was significantly higher in areas where agri-environment scheme uptake was high.

The effectiveness of LEADER+

There are 13 Scottish LEADER + Local Action Groups with the following overall objective:

‘To pilot and communicate innovative approaches to rural development that will promote the sustainable economic, environmental and social development of Scotland’s rural communities.’

The Mid Term Evaluation of the Scottish LEADER + programme was not available at the time of writing.

4.4.4 Stakeholder comments

In a workshop organised for this project, stakeholders discussed the efficacy of the various schemes in meeting environmental objectives.

Stakeholders agreed that the *Rural Stewardship Scheme* was very prescriptive in terms of the measures that farmers had to implement. However, this did not subdue applications, as the scheme became oversubscribed (verified in MTE). Stakeholders agreed that those partaking in the scheme saw it as positive and were very supportive of it. The whole farm approach was welcomed, but the lack of dedicated project officers, with advice only provided at application stage, was criticised. The *Organic Farming Scheme* was seen as a positive force but not as important as in England as traditional mixed farming systems still exist in Scotland and are already close to organic farming systems. In environmental terms, the *Less Favoured Areas Scheme* was seen as a blunt instrument by stakeholders. This conforms with the view expressed in the MTE that the LFAS is weak in delivering environmental outcomes. Stakeholders expressed concern as to whether payments made under the scheme reached the most fragile businesses and that the purpose, objectives and recipients of the scheme were subject to an ongoing, large, politically sensitive debate. No clear views on the *forestry schemes* were made by stakeholders.

Stakeholders raised a key cross-cutting problem in that measures were boxed and separate and suffered from a lack of integration. This was raised in terms of the need for a co-ordinated scheme that integrates, for example, both woodland and farming management. Stakeholders also noted some gaps in the SRDP. These included a lack of funding for both new entrants and early retirement, a lack of training options, wider rural development measures and support focused on national parks. The overall lack of funding for the SRDP was seen as the main problem. The importance of the Water Framework Directive in directing future environmental standards was also raised.

Stakeholders also discussed the farm business development scheme that assists farmers to diversify – however this scheme is outside the scope of the SRDP and funded from national reserves, rather than the EU.

4.5 Conclusions and Recommendations

Of all the four UK countries, Scotland has made least use of the possible measures under the RDR. The MTE attributes this to Scottish Devolution and the limited availability of funds, the latter being a view that stakeholders consulted for this study concurred with. Some 90% of the total available budget is spent on measures that would fall within Axis II (land management) of the proposed EAFRD, with 58% of total funding being spent on the LFA measure. The MTE notes that LFAs can be seen more as maintaining farming systems rather than as a scheme that specifically delivers environmental outcomes.

Given the range of environmental priorities identified in Scotland by this study, the dominance of the LFA measure in the SRDP is of some concern and suggests that many opportunities for environmental management and enhancement offered by the RDR are being overlooked. However, the policy climate in which the SRDP is operating has undergone significant change in Scotland in recent years. '*A Forward Strategy for Scottish Agriculture*' proposed the introduction of land management contracts (LMCs) that would represent a 'radical new support system that could pay farm businesses for the economic, social and environmental benefits needed by their area'. Any recommendations for future rural development policy and programming in Scotland need to be considered in this context. The model for LMCs is based on a three tier structure consisting of:

- **Tier 1: An annual base payment to farmers** – the SFP plus cross compliance is seen to constitute this Tier
- **Tier 2: LMC Menu Scheme:** introduced in 2005, farmers who enter this scheme can choose from a menu of options including, for example, training, management of linear features, nutrient management, improving access and a woodland plan. Each farm has a maximum allowance that can be received in return for selecting and carrying out options from the menu.
- **Tier 3: Top-up payments** – likely to consist of the type of payments currently found in RSS and OAS and still under development.

The development of the LMC model would appear, in principle, to address many of the criticisms levelled at rural development programmes and potentially offers a more integrated approach to farm support. Rolling out such a programme and achieving significant uptake could do much to address environmental priorities in Scotland if the menu is sufficiently comprehensive. Stakeholders argued for a wide range of measures in LMCs including woodland grants, Natura 2000 funding and landscape measures. Local targeting of LMCs was also considered to be necessary. A major constraint on LMCs is likely to be funding, or lack of it, but decisions to increase modulation rates to at least 10% by 2007 will help in this regard. However, if environmental priorities are to be met in Scotland, other sources of funding such as LEADER will also be required.

One specific issue that is not clear within the context of LMCs is the role of LFA support. Its place within the LMC model needs to be clarified and overall consideration given to the purpose and performance of the LFA scheme both in socio-economic and environmental terms with a view to enhancing its role in achieving environmental outcomes.

The success of LMCs is likely to be highly dependent on the delivery and support mechanisms, such as advice and training, put in place. Stakeholders consulted for this study highlighted poor provision of advice and support for scheme applicants and overall, a lack of training provision. This is an issue that needs to be given greater consideration in future.

5. Wales

This chapter presents the following:

- A review of the state of the environment in Wales covering the following issues: water; soil; air; climate change; biodiversity; landscapes; historic environment and, access. The focus is primarily on environmental issues as they relate to land use specifically agriculture and forestry.
- A summary of environmental targets and priorities drawn from the Welsh Assembly and its environmental agencies, relevant NGOs and stakeholder consultation.
- A summary of the Wales Rural Development Plan (WRDP) including its environmental objectives, the measures and schemes in place and funding arrangements (with some reference to Objective 1 and LEADER + measures and funding)
- An analysis of the performance of the WRDP to date (with some reference to Objective 1 and LEADER + measures).
- Conclusions and recommendations

The aim of this chapter is to assess how environmental priorities in Wales are currently being met through the WRDP and other related rural development funds and to highlight how they could be better met in future through the next round of rural development plans and programmes (2007-2013).

Since the establishment of devolved government in the UK in 1999 and the creation of the National Assembly for Wales, most policy decisions on land use matters have been devolved to Wales, although European policy remains a UK government responsibility. The National Assembly has made an over-arching commitment to sustainable development and is taking steps to build this commitment into all policy areas. The development of Welsh policies on agriculture and other land use issues are reflected in this chapter.

The information in section 1 is drawn from the two ‘State of the Environment’ reports (SoER) produced by CCW and the Environment Agency Wales in 1999 and 2003, while that for section 3 comes largely from the Welsh RDP and Objective 1 programme plans and their respective mid-term evaluation reports. Data and stated objectives from a range of published sources is also complemented by informed comment from stakeholders consulted during the course of this study, including (unattributed) views expressed at a one-day seminar held in Llandinam in early September 2004.

5.1 State of the Environment

Water

Wales relies extensively upon the quality of its water environment for economic activity, water supply, landscape, recreation and biodiversity. Over 90% of designated Special Areas for Conservation (SACs) in Wales contain water dependent habitats and species. The majority of data on water in Wales concerns river water quality,

reflecting the fact that reportable or classified river length in Wales is approximately 5,000 km and the actual total river length is nearer 24,000 km. There are around 600 lakes in Wales over 1ha in area but the vast majority of these have no reportable water quality data. The Environment Agency's draft characterisation study identified around 23% of all reportable rivers and 56% of those lakes assessed as being at risk of failing to achieve good ecological status because of degradation of the physical habitat (hydro-morphology).

The tables below show that the percentage of river lengths of 'good' chemical quality in Wales has reached a plateau in recent years of about 93 per cent. However, the percentage of river lengths of 'good' biological water quality declined by more than ten per cent between 1995 and 2000 (reversing improvements gained in the previous five years). The causes of this reduction are a combination of increased flooding and diffuse pollution from farming. An 'aesthetics survey' of Welsh rivers in 2000 classed 44 per cent as being of either poor or bad quality.

Nevertheless, the general status of river invertebrates shows that the biological quality of classified waters in Wales is good or very good. New indicators of water status will be introduced through the EU Water Framework Directive, including classification based upon other biological groups and also physical habitat quality, also the classified river length is likely to be increased and quality data will include classified lakes.

Table 5.1 Chemical River Water Quality - percentage of river lengths by quality

	1990	1995	2000	2001
Good	86.3	93.2	93.4	92.5
Fair	11.3	5.3	5.2	6.0
Poor	1.6	1.4	1.3	1.3
Bad	0.8	0.1	0.1	0.3

Table 5.2 Biological Water Quality - percentage of river lengths by quality

	1990	1995	2000
Good	75.7	84.8	75.8
Fair	21.4	14.6	22.4
Poor	2.5	0.5	1.5
Bad	0.5	0.1	0.3

The impact of agriculture on water quality is variable throughout Wales and determined by the predominant land uses and management practices. Concentrations in Welsh rivers of the main plant nutrients (phosphate and nitrate) are generally much lower than those found in the midlands and south-east of England; however, rivers on the Welsh borders and in other intensively farmed areas (Wye, Dee, Anglesey, Pembrokeshire) have phosphate levels associated with river eutrophication. A recent

CCW/EAW study for NAW found that eutrophication of Welsh lakes, largely due to phosphate bound to soil particles, is a more widespread problem, occurring in Anglesey, Pembrokeshire and south-east Wales. It also found that soil and sediment pollution is likely to be widespread in some parts of Wales, of which the likely causes are poaching, poor stock management and increased speed of run-off associated with overgrazing. In contrast for nitrates, by 2003 only 3 per cent of Wales had been designated as NVZ under the Nitrates Directive.

- Acidification of upland lakes and rivers is a significant threat to Welsh water quality. Extensive acidification in upland watercourses recorded in 1984 had improved slightly by 1995, but populations of invertebrates, trout and dippers remain seriously impacted. It is estimated that 12,000 km (c.50 per cent) of streams in Wales are affected.
- Salmon, sea trout and brown trout have declined in number in Welsh rivers. The reduction in numbers of large spring salmon is particularly marked. In addition the number of coarse fisheries may be low in relation to recreational demand. Silting of spawning gravels and habitat damage are occurring as a result of the diffuse sources of soil and sediment pollution as described above.
- A survey of 15 catchments in west Wales in 1998 demonstrated gross organic pollution from cattle at 13% of sites. Two-thirds of sites were mildly or not polluted.
- Toxic chemicals used in sheep dips are a major, and growing, threat to the insect life of many streams and rivers with severe implications for fish, water birds and other animals higher up the food chain. In 1998, sheep-dip pesticides (organophosphates and/or synthetic pyrethroids) were found in stream water at 75% of the 107 sites that were monitored in sheep-rearing areas. Water quality standards for one or more sheep dip pesticides were breached at 29% of the sites. Some 126 km of streams were biologically affected within the area surveyed, suggesting that 1,200km of streams could have been damaged by sheep-dip pesticides in the whole of Wales.
- Historical records indicate that algal blooms in coastal waters have been a periodic natural occurrence. However, the concentration of blooms of *Phaeocystis* between Liverpool Bay and the Menai Strait in north Wales, around Aberystwyth and in Carmarthen Bay suggest an influence of enhanced nutrient inputs in these areas arising from sewage, agricultural run-off and industrial discharges. Concentrations of nutrients and algae in the Irish Sea have risen steadily since the 1960s, so this problem appears to be increasing.
- Diffuse pollution of water by pathogens is estimated as creating a risk (20% probability of failure) of guideline standard failures on 46 out of 78 identified bathing beaches in Wales.
- Rising levels of water abstraction are causing damage to both the freshwater environment and surrounding wetlands across many parts of Wales.
- A study for CCW examined physical and chemical changes in 30 lakes in Wales, and found that only 6 of these had not seen significant change in acidity or phosphate levels since about 1850, based upon interpretation of plankton records within the lake sediments (palaeolimnology). The study concluded that most change was due to recent enrichment by a combination of sewage and agricultural diffuse pollution.

Drivers of problems

- Excessive or inappropriate fertiliser applications resulting in pollution of water courses, wetlands, coastal waters and acidification of lakes.
- Poor stock management leading to soil and sediment pollution of rivers.
- Lack of adequate sheep dip storage and disposal.

Soil

According to the State of the Environment report, one of the key adverse impacts of agriculture and forestry in Wales is soil erosion. This represents a loss of a vital natural resource and has adverse effects on river life. The full extent of erosion effects is unknown, but soil types and slopes vulnerable to erosion are quite extensive, especially in the Welsh uplands where erosion of peat is a particular concern because of the associated release of carbon. In addition, an EA characterisation study (2004) found that 23 per cent of Welsh rivers are at risk from diffuse pollution by sediments.

The key drivers of these problems include overgrazing of marginal farmland, including at supplementary feeding sites, by livestock, as well as inappropriate machinery use on erosion susceptible soils, which can occur under either farming or forestry management. Erosion can also be triggered by badly designed or maintained forest drains. Erosion is exacerbated by high rainfall typical of the uplands in western Britain.

Drivers of problems

- Overgrazing, inappropriate machinery and badly designed or maintained forest drains have resulted in soil erosion.

Air and Climate Change

Ammonia from farming is contributing to the acidification of Welsh habitats, although the main causes of the significant acidification of upland habitats and water bodies are industrial. Agriculture currently contributes around 80% of atmospheric ammonia emitted in the UK. Forestry in acid sensitive catchments has also led to acidification problems in Wales. Coniferous forests are effective at capturing pollutants from the air; these pollutants react with soil and waters with low buffering capacity, leading to acidification. The sources of these pollutants may well be outside Wales. Despite improved air quality, the impacts of acidification upon freshwater ecology are slow to reverse.

The Greenhouse Gas Inventory for Wales (2004) shows that the largest source of *methane* emissions in Wales is agriculture (70% of Welsh methane emissions), with cattle responsible for 43% and sheep a further 27%. Agricultural emissions arise from enteric fermentation in livestock (93%) and the management of their wastes (7%). Emissions are dependent on the numbers of livestock and have decreased by almost 6% over the period 1990 to 2002. Wales accounts for around 15% of total UK agricultural emissions of methane. Carbon dioxide emissions from land use change and forestry have decreased by approximately 15% between 1990-2002. Total Welsh emissions of *nitrous oxide* were around 11 kt in 2002, of which 8.9 kt (83%) was from agriculture. Most of these were emissions arising from the agricultural soils category as a result of processes in the soil arising from wastes from grazing animals (31%),

leaching of fertiliser nitrogen to ground and surface water (27%) and synthetic fertiliser application (19%).

Most climate change scenarios forecast increased rainfall for Wales that will mainly fall in winter, with the possibility of increased storminess and intensity of rainfall. This could have far reaching consequences, for example increased soil erosion and shorter cropping periods. The storage of slurries and manures could be a problem with higher rainfall, in that farms would need higher capacity storage and/or more sophisticated water separation facilities, implying significant new investment. Conversely, summers may be drier leading to crop stress and possible increased water storage demands.

Drivers of problems

- Ammonia from farming contributing to acidification of Welsh habitats.
- Methane production from livestock farming
- Nitrous oxide emissions from farming practices such as the use of nitrogen fertilizers.

Biodiversity and landscapes

Of the priority habitats and species in the UK biodiversity action plan, 13 key habitats and 54 key species occur in Wales. The habitats of significance in Wales are:

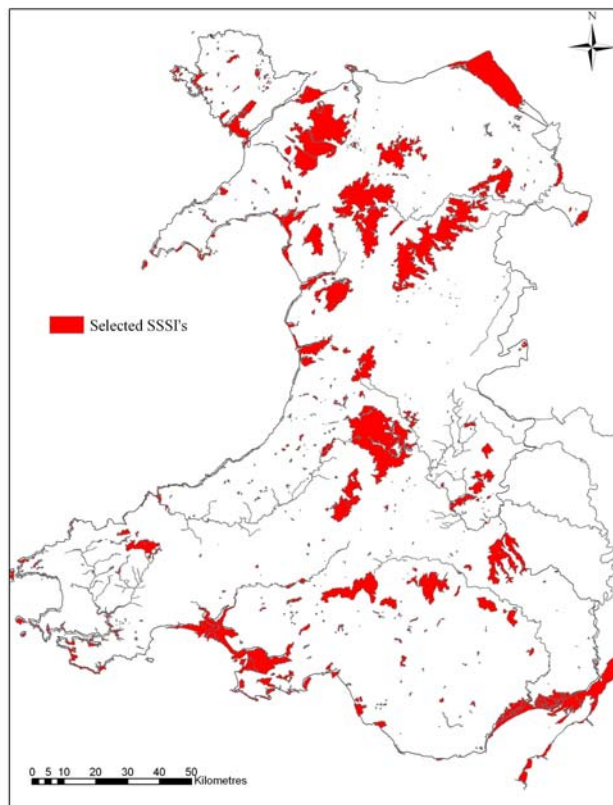
- upland oak wood
- lowland heathland
- limestone pavement
- ancient and/or species rich hedgerows
- cereal field margins
- coastal and floodplain grazing marsh
- lowland purple moor-grassland
- rush pasture
- fens and reed beds
- mesotrophic lakes
- saline lagoons and sea grass beds

CCW estimated in 2000 that at least eight of these habitat types are declining to a greater or lesser extent than in previous decades, either in quantity or quality, or in both. For example, it is estimated that one quarter of the total length of Welsh hedgerows was lost between 1984 and 1990, with lack of management accounting for greater losses than deliberate removal. Countryside Survey 2000 (Defra) indicated that between 1990 and 1998, although loss of upland habitats in England and Wales was slow, the quality of some vegetation types continued to decline. For example, upland vegetation in some areas showed signs of N-enrichment leading to the takeover of swards by N-loving species.

The uplands, lowlands and coastal plains of Wales support a diversity of aquatic ecosystems making them internationally important for biodiversity and renowned for their landscape value. Upland lakes represent some of the most southerly strongholds for oligotrophic aquatic habitats, which are highly vulnerable to even minor changes

in nutrient status. The EA's characterisation study found that 42% of all lakes in Wales are at risk from diffuse pollution. Upland streams and blanket bog are also critically important habitats for biodiversity in Wales, both as habitats in their own right and, for bogs, acting as a hydrological source and 'sponge' for the water cycle as a whole, within Wales. The main rivers in the principality support some rare species such as Shad and Lamprey and the highly threatened freshwater pearl mussel. The main sources of risk to these rivers are diffuse and point source pollution including by agriculture from sheep dipping, liming and poaching by livestock, as well as physical damage, abstraction and non-native species (Environment Agency, 2004). Nevertheless, these rivers remain generally less modified than rivers in England and thus have particular landscape value. Figure 5.1 below indicates the high proportion of Welsh SSSIs containing features considered to be directly water dependent.

Figure 5.1 Map of Wales showing SSSIs containing water dependent features



The 54 species within Wales for which biodiversity action plans have been prepared include eight species of mammals, six birds, three reptiles and amphibians, two fishes, 20 invertebrates, seven flowering plants and seven ferns, mosses, liverworts or lichens. Many species are faring less well because their habitats have been lost to development and agriculture, damaged by intensive farming practices or lack of appropriate site management, as well as over-abstraction, nutrient enrichment and acidification of water bodies.

Characteristic and previously widespread upland species of birds and plants are in decline due to overgrazing in particular. The uplands cover 40% of the land surface of Wales and about 16% of the uplands are SSSI. CCW reports that in the Welsh hills and mountains, losses of heather moorland have been as much as 44% between 1946 and 1984 on Berwyn, but only 5% or less in west Wales. A large proportion of the remaining 80,500 hectares of upland heath is in poor condition, most of it caused by heavy grazing by sheep and by inappropriate burning practices.

Fragmentation of lowland heath in Wales is a problem. The UK has 58,000 ha of lowland heathland of which approximately 12,000 ha occurs in Wales. Lowland heath cover is now highly fragmented and is considered to be a rare and threatened habitat. The most significant areas in Wales occur in Pembrokeshire, Glamorgan and Gwynedd, where undergrazing is a significant concern.

Coastal areas in Wales are diverse and valuable, including wide mud and sand estuaries and long sandy beaches, rocky cliffs and mobile shingle or boulder beach. Coastal defences, sea level rise, dredging for aggregates and fisheries management are the main threats to these habitats in Wales. CCW states that cliff top grasslands are being abandoned as they are no longer viable to farm, dune systems are also becoming over-stable and soft cliffs are under serious threat.

Agricultural intensification has played a large part in habitat decline and fragmentation in Wales over recent decades. Semi-natural grasslands have been improved, woodlands suffer from lack of tree and shrub regeneration through grazing by livestock at relatively high densities, heather cover has been replaced by moorland grasses through overgrazing by sheep and hedgerows removed or neglected through time-saving, mechanised management.

Wales has more sheep per hectare than any other country in Europe. The number of sheep increased significantly in the last few decades, encouraged by EC subsidies and price supports, although the increase was partially reversed following policy changes in the 1990s (see table 5.3). Consequently, overgrazing is the main cause of upland heath decline in upland Wales. However, loss of upland habitat diversity due to undergrazing is also thought to be a future risk in some areas. Uncertainty about future grazing levels and trends is a key issue as a result of the combined effects of changing CAP support and new legislation (eg on Commons Management). ‘Good agricultural and environmental condition’ (GAEC) requirements may promote better grazing management in future. Under the GAEC, farmers must regularly rotate supplementary feeding sites in order to avoid poaching and are expected to introduce an adequate number of livestock to avoid undergrazing, although no exact stocking densities are prescribed.

Table 5.3: Total numbers of sheep in Wales 1971-2003

	1971	1993	1996	2001	2003
Total No sheep/lambs (millions)	6.0	11.2	11.0	9.9	9.9

Source: SoE (1999) for 1971 and 1996, Welsh Assembly, 2004 Census for 1993, 2001, 2003.

The area of agriculturally improved grassland in the lowlands stands at almost one million hectares, nearly a half of the land area of Wales, and contains so few species that it has particularly low biodiversity value. Flower-rich semi-improved grassland, which retains some diversity of species, amounts to less than a tenth of this area.

Further reduction in the area in Wales devoted to arable farming can be anticipated in future, due to the uncertainty of arable production caused by weather (eg recent summer weather).

Remaining semi-natural habitats in the lowlands are threatened by farming and other changes of use – one study recorded significant losses of important grassland habitat on 25% of repeat visits to lowland sites between 1992 and 2001 (SoER, 2003). Butterflies are still in serious decline, especially the Marsh Fritillary. Most unimproved lowland grassland losses have been due to a combination of development, agricultural improvement and neglect.

Broad-leaved semi-natural woodland covers barely 4% (82,600 hectares) of the land area of Wales. It is one of Wales' richest wildlife habitats and a prominent feature of many valley landscapes. Of the 188 rare and declining plant and animal species recorded in Wales for which the UK Government has Action Plans, 55 are associated with broad-leaved woodland.

A key driver of woodland biodiversity decline is a lack of appropriate woodland management. This is a critical issue for private woodlands as a significant proportion of semi-natural Welsh woodland is privately owned, located on farms and highly fragmented. By contrast, the National Assembly's forest estate (40% of the woodlands of Wales) has been independently assessed and certified as being sustainably managed (The Sustainable Development Action Plan, 2004-2007, NAW, 2004).

Welsh farm woodlands are often neglected and subject to uncontrolled grazing by livestock, and there are also problems from invasive species such as rhododendron. Both overgrazing and rhododendron prevent regeneration, while increasing deer numbers in some areas may also contribute to this problem. Conifer plantations, expanded in many areas of Wales in the post-war period, often have low value for wildlife and can be insensitive to the landscape.

Drivers of problems

- Removal or neglect of hedges through time-saving, mechanised management.
- Intensive farming practices, over-abstraction of water, nutrient enrichment and acidification of water bodies.
- Overgrazing and inappropriate burning of heather.
- Fragmentation and undergrazing of lowland heath habitats.
- Prevention of regeneration in valuable broadleaved woodlands from inappropriate grazing by livestock and lack of control of invasive species.

Historic landscapes and features

Precise data on the extent and quality, and trends in these, of the historic landscape resource in Wales is scarce, but there is a general presumption that many valuable features and landscapes have been lost or have seriously deteriorated over the past 60

years or so. There is a lack of awareness of the importance of this historic landscape among policy makers and the general public.

Based upon data from 1995, SoER Wales (2003) suggests that 15 percent of SAMs were deteriorating to some extent, though in only 2% of cases was this considered severe. The deterioration of a proportion of Scheduled Ancient Monuments (SAMs) is identified as being principally due to natural decay, erosion by livestock, agricultural operations, visitors, and overgrowth by vegetation. A review of the historic environment in Wales had started by the time of publication of the SoER 2003.

Case Study 3 (Appendix 3) explores the issue of land use impacts on historic landscapes and features and looks at how rural development measures could be used to support improved management.

Drivers of problems

- Lack of awareness of the importance of historic landscapes and appropriate management practices.

Access

The proportion of open country (as defined by WAG including unfenced mountain, moor, heath and registered common land) is estimated to be almost half of the total land area of Wales, or 800,000 to 1 million hectares.

Wales has a network of 33,000 kilometres of public rights of way. Findings from the latest Wales Rights of Way Condition Survey 2002 (CCW, 2003) show that only 41% of paths are properly signed where they join a metalled road and that 17% of other furniture (e.g. stiles, gates, etc) are in an unsatisfactory condition. A serious problem was reported every 650m compared with one every 2kms shown in a similar survey of England's rights of way (Countryside Agency, 2000). By this measure, the path network in Wales is broadly three times worse than its counterpart in England.

The authors of the Welsh survey conclude that 'taking a pragmatic view of the network and ignoring those issues that might have been easily bypassed by a user, the results show that around half of the Welsh network was judged to be unsatisfactory and about one third was unusable. The general picture across a number of indicators is that over the last decade the condition of paths in Wales has remained either unchanged or has improved slightly.'

Drivers of problems

- A combination of poor observance by farmers of their duties to maintain the surface and general accessibility of PROW and a lack of adequate resources for Highways Authorities to actively maintain and enhance them.

5.2 Environmental Priorities and Targets

The development of an 'Environment Strategy for Wales' was initiated in April 2004 and the final Strategy document will be published in autumn 2005. The purpose of the Strategy is to establish a vision for the environment in Wales. It will bring together existing commitments, provide a more coherent framework for addressing environmental priorities and form a key part of the Assembly Government's programme for delivering sustainable development. It will also take forward work on

the draft soil and biodiversity strategies. As this is an ongoing process, it is difficult to find clear, comprehensive and up to date statements of environmental priorities and targets from other extant policy documents. A few key strategic documents are summarised in this opening section, however.

The **Wales Spatial Plan** (WAG, approved 2004, due to be published in early 2005) provides a summary of environmental issues and major actions. Environmental objectives include:

- Manage the environment comprehensively with respect to its distinctive characteristics, so that it contributes to sustainable development, including maintaining soil carbon, reducing contamination, managing diffuse pollution sources to water, protecting landscapes and enhancing habitats.
- Adapt the land-based economy to focus on high value-added products, and links with tourism and recreation; this should support the enhancement of landscape and biodiversity.

The **Sustainable Development Action Plan 2004-2007** states NAW's statutory duty to make a scheme to promote sustainable development. This is the second plan and it includes a series of actions and targets. One of the Top Ten commitments is to introduce a targeted top tier agri-environment scheme to encourage co-operative action, bringing about wider environmental benefits in the countryside across farm boundaries.

Farming for the Future: a new direction for farming in Wales (NAW, 2001) presents a new vision for farming, targeted at becoming more environmentally sustainable. Three key environmental indicators are proposed:

- the proportion of agricultural land under an agri-environmental agreement, or which is organic or in conversion to organic status;
- the population of farmland birds; and
- the populations of farmland species other than birds.

The report also lists 52 action points, few of which include specific targets but many represent broad commitments to making changes towards more sustainable agriculture. Updates on progress are reported to the Environment, Planning & Countryside Committee of the National Assembly.

Water

The SoER (1999) states that the policy of water pollution prevention advice needs to continue in order to reduce organic pollution from farms. The same report also states that further safeguards are also necessary to prevent pollution incidents from the disposal of sheep dips.

The environmental strategy for Farming Connect (see section 5.3), endorsed by WAG, aims to achieve cleaner rivers by reducing pollution. It seeks to provide specialist advisers to help farmers produce Nutrient Management Plans in order to reduce nutrient losses to the environment.

WAG's Sustainable Development Action Plan for Wales 2004-2007, states it will take action on diffuse pollution, as required under the Water Framework Directive. A

consultation on the issue as it relates to agriculture is planned in February 2005. The WFD establishes the framework for future environmental objectives with respect to aquatic environments (rivers, lakes groundwaters, transitional and coastal). These are summarized as a requirement;

1. To prevent the deterioration in the status of all surface water bodies
2. To protect enhance and restore all surface water bodies to achieve good ecological status.
3. To protect and enhance all heavily modified and artificial water bodies to achieve good ecological potential
4. To prevent or limit the input of pollutants to groundwater bodies and to protect, enhance and restore all groundwater bodies to achieve good groundwater status
5. To achieve any standards and objectives for Protected Areas (e.g. water dependent Natura 2000)

An objective within the Spatial Plan for Wales is to manage diffuse pollution sources to water in order to protect landscapes and enhance habitats. These statements follow those in the SoE report (1999) which highlighted the need for Integrated River Basin Management.

Soil

The Welsh Soil Strategy is currently being drafted. The SoE report (1999) indicates what the Soil Strategy could contain by noting that erosion can be triggered by overgrazing, concentrations of livestock, badly designed or maintained forest drains, and damage by heavy machinery. Under new cross compliance conditions following the 2003 CAP reform, farmers will need to comply with nationally set standards for soil erosion, soil organic matter and soil structure and it is anticipated that these standards will be identified in the strategy. All farmers receiving direct aid payments under the CAP will need to complete a soil management checklist and implement improved management practices if any problems are found.

The EA Wales has, as a key performance target, the aim of reducing the number of soil pollution incidents to less than 44 by 2006/07.

One action point from 'Farming for the Future' (NAW, 2001) is that the National Assembly will investigate the potential for farmers to generate income from local recycling of organic waste.

Air and climate change

WAG is committed to playing its part in achieving the UK's Kyoto target of a 20% reduction in carbon dioxide emissions by 2010. The National Assembly Government stated in 2001 that it will commission research to identify ways in which changes to farming and forestry practice might reduce greenhouse gas emissions and increase carbon sequestration from the atmosphere.

The 'Farming for the Future' document states that the National Assembly Government will co-ordinate the production of a biomass strategy.

The 2004-2007 Sustainable Development Action Plan states that WAG will ensure that its development policies on farming, forestry and the countryside help to conserve the carbon in Welsh soils. The Spatial Plan states that soil carbon is to be maintained and that Wales' contribution to climate change should be reduced, for example by protecting existing carbon sinks. The Plan also states that WAG will review the action it can take to mitigate Wales contribution to global warming. The EA state that new, whole-farm measures are needed to promote better management of soil, water and air to minimise the release and impact of ammonia from agricultural activities.

Biodiversity

The Wales Biodiversity Group, in a report to the National Assembly for Wales, stated the following aims in 2002.

1. To maintain and enhance biological diversity within Wales, paying particular regard to:
 - overall populations and natural ranges of native species and the quality and ranges of wildlife habitats and systems;
 - internationally important and threatened species, habitats and ecosystems;
 - species, habitats and natural and managed ecosystems characteristic of local areas;
 - biodiversity of natural and semi-natural habitats where they have been diminished over recent decades
2. To increase public appreciation and enjoyment of biodiversity and recognition of its value wherever it occurs.
3. To integrate biodiversity fully into policies and programmes as part of Sustainable development

EA Wales, in its Corporate Plan for Wales 2004-07, has, as a key performance target, to get at least 90% of EA owned SSSIs into favourable condition by 2006/07. EA Wales also has a number of other targets, set out in the same document, to help contribute to the UK Biodiversity Action Plan.

The Wales Spatial Plan has a targeted action to develop future agri-environment schemes which link environmental and social goals and increasingly deliver results on a geographical scale to deliver maximum benefits in terms of biodiversity. This is likely to be through the top tier AES that is planned to complement the new Tir Cynnal entry level scheme and Tir Gofal.

Woodlands for Wales: The strategy for trees and woodlands in Wales (NAW, 2001) includes among its five principles a commitment to a diverse and healthy environment. Three priorities are to:

- i) conserve and enhance biodiversity of woodlands;
- ii) conserve and enhance the landscape of Wales and
- iii) better integrate woodlands with other countryside management.

Environmental benefits are expected to emerge from the commitment to introduce continuous cover silvicultural techniques (50% of the public forest estate to be transformed to continuous cover over the next 20 years). Clear-fell areas will be replanted with species appropriate to specific sites, taking account of local ecological objectives, the carbon balance and economic potential where that is appropriate, or be left to natural regeneration (NAW, 2004-2007). The policies should result in an

increase in mixed age and species woodlands with landscape and ecological benefits. The system of forestry incentives is currently being revised to deliver these policies and to help private owners and managers deliver public benefits. The new scheme will be compatible with UKWAS to assist private owners to obtain accreditation for sustainable woodland management. Appropriate woodland expansion will also be targeted, and a review group will report in 2005 on incentives for woodland expansion.

Indicators and targets are being developed to monitor delivery of Woodland for Wales. The preliminary draft indicator for a healthy and diverse environment is 'area of native woodland in satisfactory condition' and the achievement of Biodiversity Action Plan targets.

Large-scale habitat restoration/re-creation is supported in Wales in a variety of WAG and agency policy documents. Specific aims of this include:

- more native woodlands and semi-natural grasslands,
- more marshland/reedbeds and other more natural coastal habitats (wintering wader numbers are in decline), as well as
- the restoration of long stretches of rivers that have been seriously acidified and have not yet recovered even though atmospheric depositions have now declined (40% of rivers' headwater streams are acidified).

There are some examples of restoration in action, e.g. 92ha of lowland heath re-creation on St David's Airfield in Pembrokeshire. Such projects recognise and build upon a perceived need for landscape-scale approaches to biodiversity, and more landscape diversity in Wales.

More innovative approaches are also being considered. For example, FC Wales recommends 'adapting land use practices particularly in the uplands to mitigate against flooding in the lowlands', implying tree planting of native species, or establishing other kinds of permanent cover/ water management features with similar properties.

Skills and Services

There is a widespread perception among government agencies and stakeholders that land managers need wider skills today than in the past, and many are not best equipped to respond to this need. More flexible management prescriptions in agri-environment schemes, for example, depend on land managers having a good understanding of desired outcomes. Broader skills training in sustainable resource management is needed. Landowners also increasingly need to be environmental scheme administrators – these require an ability to deal with more complex processes/negotiations, by comparison with receipt of pillar 1 CAP subsidies. Such engagement between land managers and specialists is a two-way process involving learning, over a period of time. Echoing these views, EA Wales (2004) has asked for a government sponsored 'environmental manager' training scheme and stated that environmental and business advice also needs to be joined up.

Historic Landscapes

Cadw: Welsh Historic Monuments (the historic environment agency within WAG) aims to improve the public's understanding of the historic landscape of Wales, at both the national and local levels (Cadw, 2003). In its view, a balance has to be found between the need to conserve the essential character and variety of different landscapes, while at the same time allowing them to continue to evolve in response to modern needs. The Tir Gofal agri-environment scheme aims to safeguard archaeological and historic features, including traditional buildings.

The Register of Welsh Historic Landscapes (Cadw/CCW/ICOMOS) records landscapes of historic interest and provides an important guide for conservation purposes. The Spatial Plan for Wales highlights the need for the preservation and promotion of Wales' rich historic environment and reflects its wider contribution to economic and social regeneration and sustainability. Cadw's characterisation of the historic environment will be important when taking spatially targeted actions, in this context.

Some stakeholders call for stronger community 'ownership' and appreciation of the historic environment for economic regeneration, as well as integration of the management of the historic environment with that of the natural environment.

Additional stakeholder concerns

Stakeholder discussion raised many uncertainties surrounding the pros and cons of the recent CAP reforms. Some believe they could increase pressure for enterprise simplification, implying further loss of mixed farming, and reductions in stock that are more difficult and expensive to look after, as well as a reduction in the farm labour force. Measures to support the maintenance of rare and traditional breeds including ponies, sheep and cattle both for their own sake and for the opportunities they can offer for more sensitive management of rough land, were therefore suggested. Stakeholders also raised a concern that the SFP payment restrictions on converting land from permanent pasture to forested land, under the CAP reform, may compromise woodland expansion. More generally, stakeholders express concern that policies should aim to increase the diversity of land cover types (including more cropping) and to increase the diversity of management of intensive grassland (varied sward heights, cutting regimes, stocking regimes etc).

There is also a strong desire for a more truly effective integration of land-use planning and policy instruments in Wales to achieve habitat mosaics and effective networks in the landscape. A more integrated approach between organisations/stakeholders on environmental issues is called for, teasing out common goals and understanding differences. Finally, greater integration between environmental and social delivery mechanisms is sought. There is a perception that RDR policies are not sufficiently integrated at the top to enable the protection of landscape character and value and stimulate the development of new and dynamic landscapes. The Wales Spatial Plan should be complemented at a lower, more local level by integrated spatial planning for land use. Questions need to be addressed such as: What services should landscape supply? There is a need to translate this into practical processes through joined up thinking.

Some stakeholders express concern about the implications of the growth of non-farming landholders in Wales, as it is felt that current policies lack the necessary means of influencing their land management. Many can afford not to produce anything and are therefore not attracted by the incentives of agri-environment schemes. Many might benefit from management advice, but there are no publicly funded sources targeting them (Farming Connect is only for farmers – see 5.3 below). On the other hand some of these buyers have very strong environmental objectives and/or are innovative, and may initiate new farming enterprises. WAG statistics suggest that 10 – 11,000 holdings in Wales are not registered under IACS and only c.12,000 holdings are making a full-time living from agriculture. Further big changes to increase the significance of this phenomenon are expected over the next 20 years. Thus there may be an important environmental need to raise awareness, understanding and skills / training and appropriate management among new, non-farming land holders, and different approaches will be needed because conventional agricultural ones may not be appropriate.

There is stakeholder interest in promoting more action to promote biomass and wood energy, as well as other small scale/ appropriate renewable energy generation e.g. hydrological, wind, in Wales.

5.3 RDR measures in Wales: the Welsh RDP and Wales' Objective 1 Programme

Overview

The RDR is implemented in Wales via the Rural Development Plan for Wales 2000 – 2006 for the majority of measures and in most parts of the principality. However, a considerable proportion of the country falls within the West Wales and the Valleys Objective 1 area, in which the ‘non-accompanying’ measures of the RDR are delivered under the Objective 1 programme, Priority 5, measures 1-5 and 7. The National Assembly has attempted to co-ordinate delivery of policies across Objective 1 and other areas by adopting common delivery mechanisms for several of the RDR schemes, as follows.

- Farming Connect is an integrated farm advisory and technical support service representing a distinctive Welsh approach to supporting farm adaptation. It brings together R&D and technology transfer through bespoke ‘Development Centres’, with farm level advice, training audits and business planning offered by a network of approved, independent advisors. Farming Connect serves as the ‘gateway’ to RDR farm investment and farm diversification grants (Farm Improvement Grant (FIG) and Farm Enterprise Grant (FEG)), as well as a route to access training grants for farmers, farm timber processing aids and agri-tourism project support.
- Processing and marketing aid for farmers and processors is delivered through the all Wales Agri-food Action Plan, by its strategic partnership.
- All the main RDR forestry aids in Wales are delivered through the FC Wales under the Woodland Grant Scheme (WGS).
- Rural community schemes and local environmental action grants (Article 33 of the RDR) are channelled through the Welsh European Funding Office (WEFO) in Objective 1 areas, and through the Department of Environment, Planning and Countryside (NAW) and the Welsh Development Agency (WDA) elsewhere.

Nevertheless, all are mainly delivered by 'local strategic partnerships' led by the local authorities.

Environmental priorities and goals in RDR programmes in Wales

The Welsh RDP 2000-2006 identifies two key sustainability objectives which the Plan intends to help achieve:

- effective protection of the environment including climate change, protecting wildlife and habitats, landscapes and historic buildings;
- prudent use of natural resources, ensuring that alternatives to non renewable resources are developed to replace oil and gas and that water, fisheries and forests should be used in a sustainable way.

The Welsh RDP 2000-2006 identifies a range of environmental issues. In a SWOT analysis (p116) the decline of wildlife habitats due to the intensification of agriculture is recognised as a weakness. The continuing intensification of agriculture leading to further losses in biodiversity is recorded as a key threat. The need to reverse the trend and adopt environmentally friendly farming practices is expressed. Specific environmental priorities identified by, and as expressed in the Plan are listed below (our emphasis).

Key strategic priorities for agriculture and forestry (p147):

- to become more sustainable economically, with the emphasis on premium, branded products with an *environmentally-positive image*;
- to improve innovation through the adoption of new business skills and *environmentally sensitive agricultural best practice*;
- to improve market links by promoting collaboration among producers and co-operation between producers and processors;
- to broaden the economic base of rural Wales by assessing the potential for alternative crops, *organic horticulture*, *energy crops*, herbs and aquaculture;
- to help farming families adapt, to take informed decisions on the future of family members, and to diversify sources of income.
- planting a *broader range of tree species*, appropriate to local ground conditions and local needs;
- the development of new markets and products;
- assisting businesses to adapt, and adding value to timber much nearer to woodlands and local communities;
- managing woodlands for the benefit of recreation, tourism and *the environment*.

These strategic priorities also form the sectoral priorities for agriculture and forestry listed in the WRDP (p155). Further emphasis is placed on the need for Welsh agriculture to become more sustainable environmentally and ecologically.

One of the eight key tourism priorities (p148) is:

- support for the development of key niche markets including *eco-tourism*;

Key environmental challenges for the plan are listed (p152) as:

- to improve the management of countryside access to *protect the environment* while promoting the enjoyment, awareness and interest of the public;
- to encourage a greater degree of *integration* in land use management;

- to *reduce and manage the waste* generated in the countryside and coast;
- to promote the *sustainable use of the coast's resources* for economic, environmental, and social benefit and to enhance the quality of the coastal environment and the wildlife it supports;
- to promote all forms of onshore and offshore *renewable energy* schemes together with energy conservation schemes.

RDR Schemes and measures in Wales

WRDP - Agri-Environment Schemes

Tir Gofal, the all-Wales, whole farm agri-environment scheme, was launched in 1999 and is delivered by CCW on behalf of WAG. It has been developed to ensure it meets the requirements of the UK Biodiversity Action Plan as well as contributing to the management of the Natura 2000 network. The principal objectives of Tir Gofal are:

- to benefit wildlife on agricultural land by promoting positive management of existing wildlife habitats and by encouraging habitat restoration and re-creation;
- to protect characteristic rural landscapes and promote the management and restoration of significant landscape features;
- to protect the historic environment, including both historic landscapes and features by encouraging farming practice compatible with their conservation and enhancement;
- to deliver public access to the countryside under Article 33 of the RDR, which is integrated into the delivery of the Tir Gofal programme at local level.

Wales also has an Organic Farming Scheme to encourage farms to convert to organic production methods that can be beneficial to the environment.

WAG has recently received EC approval to launch a new entry level agri-environment scheme under the WRDP, from 2005. This scheme will be called Tir Cynnal.

WRDP - Less Favoured Area Aid

The RDP includes Tir Mynydd, the LFA support scheme that replaced Hill Livestock Compensatory Allowances in 2001. This offers basic, differentiated compensatory payments per hectare for farmers in the SDA and DA areas of Wales, and also 'top-ups' designed to reward specific environmental/mixed farming systems (eg where a holding retains cattle as well as sheep).

WRDP - Forestry Aids

The Farm Woodland Premium Scheme (FWPS) Wales offers compensatory aid for farmland afforested under Article 31 of the RDR and WGS Wales offers a variety of grant aid to private foresters and forestry groups for a range of forest establishment and management actions.

Non-accompanying measures

Under the WRDP and Objective 1 programme, new all-Wales schemes were created to assist agricultural adaptation:

- Farm Improvement Grant (for productive investments on agricultural holdings)

- Farm Enterprise Grant (to encourage farm diversification)
- Processing and Marketing Small Grant (for small scale aids to processors/marketing ventures)
- Processing and Marketing Grant (for larger grants to this sector)
- A range of schemes to assist with training (for both farm adaptation and forestry purposes)

Also, a small number of schemes promoting wider rural development goals in areas outside Objective 1 in Wales has been funded under Article 33 of the Regulation, as part of the Welsh RDP.

Structural Funds (EAGGF Guidance funding)

The Objective 1 Programme for West Wales and the Valleys, Priority Five, targets rural development and the sustainable use of natural resources. There are nine measures in Priority 5, of which only 1-5 and 7 are EAGGF funded under Reg 1257/99, namely:

1. Processing and marketing of agricultural products (Art 25-28)
 - Sectoral priorities for lamb and beef, dairy and organic sectors through the marketing of quality agricultural products (no precise scheme names but descriptions, for example ‘promoting Welsh food’). Delivered primarily by the Processing and Marketing Grant Scheme of the Wales Agri-Food Action Plan, overseen by WDA.
2. Training services to help farming adapt and diversify (Art 9)
 - Training on technology transfer, skills development (for example, sustainable forestry management) and business development. Delivered by the Farming Connect initiative.
3. Forestry (Arts 29-31)
 - One objective is to encourage the sustainable use of resources.
 - Delivered by Forestry Commission Wales largely using WGS and project funding such as in the *Cyd Coed* project.
4. Promoting the adaptation and development of rural areas (Art 33, indents 5-7, 10, 12)
 - Aims include to provide a broader range of well-paid job opportunities and to provide opportunities for farmers to develop additional non agricultural income streams.
 - Non-agricultural support delivered through Local Partnerships. Advisory schemes in agriculture delivered through Farming Connect. Farm diversification into non-farming enterprises funded by Farm Enterprise Grant Scheme (FEG).
5. Investment in agricultural holdings (Art 4)
 - Aims to target support on the improvement and redeployment of production and the diversification of farm activities.
 - Funds Farm Investment and Farm Enterprise Grant (FIG and FEG) schemes delivered via Farming Connect.
7. A sustainable countryside – enhancement and protection of the natural environment and countryside management (Art 33 indents 8 and 11)
 - Aims to improve the management of countryside access to protect the environment and promote the enjoyment, awareness and interest of the public.

LEADER + in Wales supports community-based initiatives to implement integrated, high quality strategies for local sustainable development. Its aim is ‘To pilot innovative approaches to rural development which will contribute to a more sustainable society, economy and environment for rural Wales.’ There a total of seven Local Action Groups in Wales for the 2000-6 period, of which three were pre-existing LEADER groups funded under previous programmes while four are new. The Welsh European Funding Office (WEFO) was set up in 2000 to oversee most of the non-agricultural delivery of RDR-supported and broader Structural Fund programmes in Wales.

Table 5.4 Summary of RDR Schemes in Wales

Articles in 1257/99	Schemes in Wales	2000-4 delivery*
Investment in agricultural holdings (Art. 4-7)	Farm Improvement Grant (Art 4) Farm Enterprise Grant (Art 4)	Farming Connect
Training (Art. 9)	Training Schemes	Farming Connect
Less Favoured Areas (Art. 13-21)	Tir Mynydd (Art 14 (3))	Direct from NAWAD
Agri-environment (Art. 22-24)	Tir Gofal Organic Farming Scheme	CCW for WAG NAWAD
Processing and Marketing of agricultural products (Art. 25-28)	Processing and Marketing Small Grant Processing and Marketing Grant	Wales Agri-Food partnership
Afforestation of agricultural land (31) Other forestry measures (30)	Farm Woodland Premium Scheme (FWPS) Woodland Grant Scheme (WGS)	Forestry Commission Wales
Article 33 Basic services for rural economy (indent 5) <ul style="list-style-type: none"> • Renovation & development of villages (indent 6) • Diversification of agricultural activities (indent 7) • Agricultural water resources management (indent 8) • Encouragement for tourism and craft activities (indent 10) • Protection of the environment (indent 11). 	Project funding for local community and local environmental action grants awarded by WEFO in Objective 1 area, and by WDA/NAWAD elsewhere.	Via local partnerships in each unitary authority area across all of Wales, working to agreed local strategies. Includes LEADER +, Obj 1 and other local partnerships

Figures 5.2 and 5.3 indicate the planned expenditure of public funds on the different RDR measures in Wales, within both of the main programmes (RDP and Objective1) and including state aid ‘top ups’ funded wholly by domestic funds, 2000-6. Each individual RDR measure is given a separate column and for the sub-measures of Article 33 of the Regulation, these are divided into a number of distinct categories, namely:

- ‘other environment’ (which notably includes some of the capital items within Tir Gofal),
- tourism and crafts,
- rural services and
- community/village development initiatives.

Note that ‘farm diversification’ here includes both diversification within agriculture (Article 4 of RDR) and diversification into non-agricultural enterprises (Article 33 sub-measure), which could not be separated here because they are not distinguished separately in the Objective 1 documentation.

Figure 5.2 Planned expenditure on RDR Measures in Wales, 2000-6 (Million Euro), by source of funding

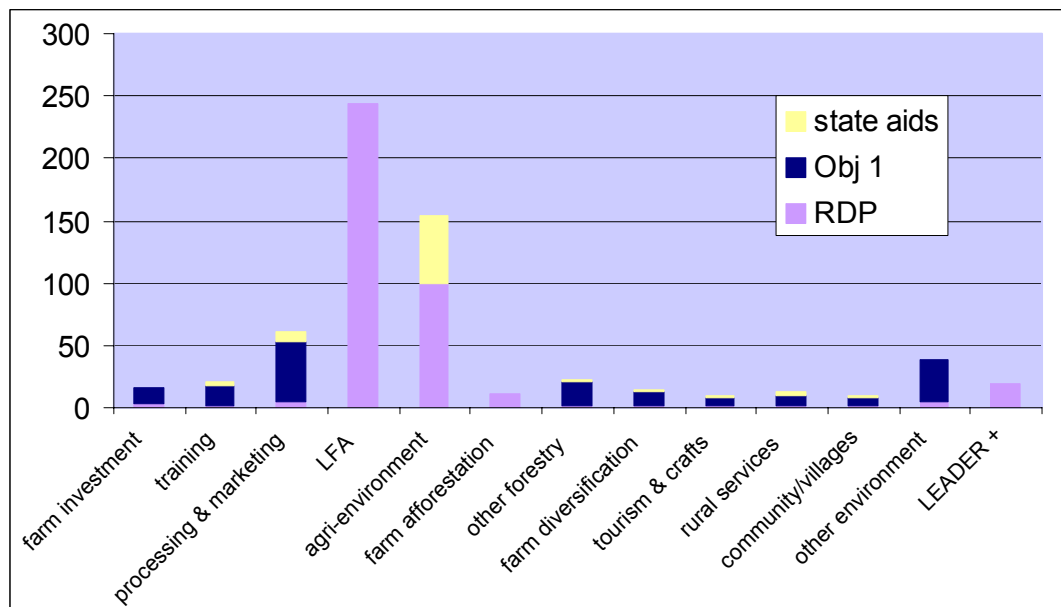
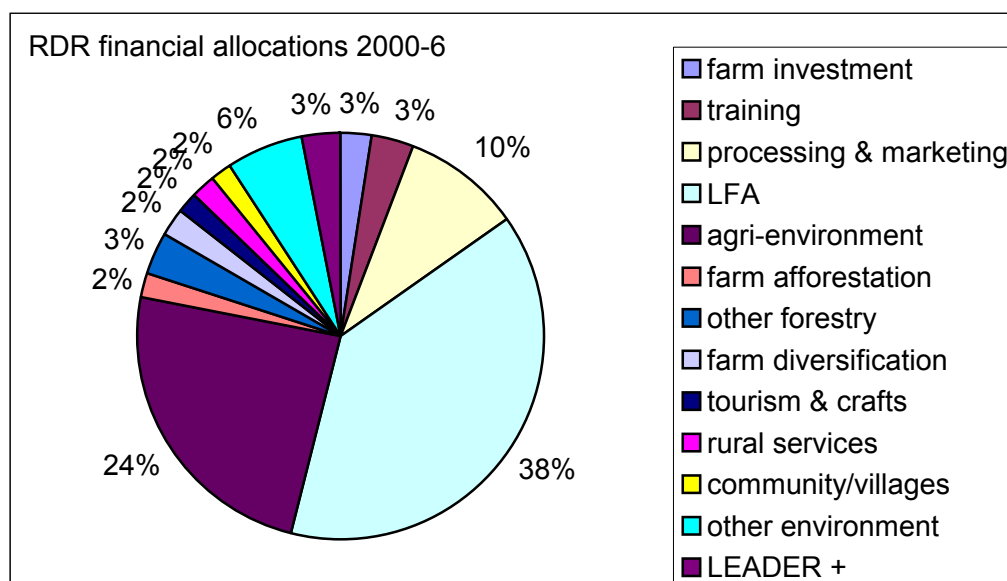


Figure 5.3 Planned expenditure on individual RDR Measures in Wales, 2000-6, as proportion of total planned RDR spend in Wales



These figures highlight a number of key points in relation to the environment in rural development as supported by CAP Pillar II in Wales:

- The high proportion of total public aid that is devoted to the Tir Mynydd LFA scheme and the Tir Gofal agri-environment scheme, which together account for around two-thirds of all planned spend over the period. However, it should also be noted that a relatively large proportion of Tir Gofal spend is not EU-cofinanced; the Welsh Assembly has decided to fund the scheme to a greater extent from domestic sources, in order to enable its continued expansion (as illustrated by the ‘top up’ element shown in figure 5.1).
- The relative lack of funding outside Objective 1 areas for all the ‘non-accompanying’ RDR measures for broader rural development and farm adaptation.
- Given the planned existing expenditure, Wales broadly meets the proposed EU minimum shares of spend under each of the three Axes in the proposed EAFRD (Table 5.5). Expenditure on Axis 1, 3 and LEADER measures would need to increase by relatively small proportions to meet the EU requirements.
- Compared to Scotland, Wales has made use of most of the measures available under the existing RDR.

Table 5.5 Estimated balance of measures in Wales compared to EU proposals for EAFRD

Axis	Approximate current share 2000-2006 (%)	EC proposed share 2007-2013 (%)
1. Competitive farming and forestry	16	Min 15
2. Land management	67	Min 25
3. Other rural development	14	Min 15
LEADER	3.0	Min 7

5.4 Performance of RDR measures to date

Official Evaluations

The Welsh RDP underwent a formal Mid-Term Evaluation for the European Commission conducted by Agra CEAS consulting in November 2003 (WEFO, 2004).

Overall, the authors of the MTE stress that whilst the relevance of the RDP Wales to the EU Rural Development Regulation is clear, its relevance to rural problems in Wales is less certain. Although strengthened in the wake of events such as the foot and mouth disease outbreak, the authors claim that the RDP, with its focus on farming, contains weaknesses in its failure to address wider rural issues such as poor transport infrastructure and out-migration of younger people. However the RDP schemes are generally thought to have an appropriate rationale and reasonably clear objectives. The Organic Farming Scheme, Farm Enterprise Grant and Tir Gofal are considered to have the most positive impact, whilst Tir Mynydd and the Farm Improvement Grant have the least impact (although still positive).

Summary of MTE and other key findings in relation to specific schemes in WRDP

Farm Improvement Grant, Farm Enterprise Grant and Small Food Processors Grant

- Increased income on participating holdings
- Improved job security
- Minority of FIG participants improved the environmental impact of their farming.
- Low uptake/level of awareness of FEG and PMSG among farmers

Training

- Only taken up to a small extent.
- As training can assist overcoming barriers to entry to some RDP schemes, training should be used as a bridge to facilitate take up.
- However, within Wales as a whole, Farming Connect figures show that ELWA has so far trained over 1300 members of farm families in IT (CCW, pers. comm).

Tir Mynydd

- The scheme is considered to be a positive influence on maintaining farming in the hills and uplands.
- Has made a contribution to the viability of rural communities.
- Half of Tir Mynydd respondents indicated they had undertaken landscape, environmental or animal welfare improvements as a direct result of receiving Tir Mynydd support. Hedgerow creation/renovation is the most commonly undertaken activity.
- A disproportionate share of resources is absorbed by Tir Mynydd and its total budget should be reduced in favour of other schemes.

Tir Gofal and the Organic Farming Scheme

By December 2004, Tir Gofal covered over 300,000 ha of land in Wales under more than 2,400 agreements. This represents about 15% of the total land area in Wales but a slightly higher proportion (19 per cent) of total farmland area.

According to the MTE, all land enrolled in these schemes provides landscape benefits in terms of visual coherence, protection of cultural identity of farmed land and societal benefits through access. However it also states that the benefits may be relatively unimportant environmentally in the national context, as neither scheme is geographically targeted. Defra has stated that Tir Gofal does not have the clarity of environmental targets and explicit weighting for BAP contributions that are desirable.

The MTE points out that while Tir Gofal agreement areas do not necessarily correlate with those areas deemed at risk from soil erosion, prescriptions under the scheme, such as stocking restrictions and buffer zones, are preventing or reducing the level of erosion.

Chemical contamination of soils has been reduced or prevented by OFS (which proscribed the use of plant protection chemicals and artificial nutrients) and Tir Gofal (which supports extensification). However, the MTE expresses reservations about the economic justification for continuing payments under the OFS after the conversion period as it is argued that paying for public goods as a by-product of producing a marketable good is less efficient than using policies specially designed with this output in mind.

CCW believes that the scheme is 'playing an important role in achieving BAP targets'. For example, bird numbers on Tir Gofal farms that have chosen arable and root cropping options are above average. The socio-economic evaluation of Tir Gofal noted the following:

'It is clear that Tir Gofal has helped to bring about a high degree of change in management practice (on farms). Even where respondents indicated they they would have made changes without the support of the scheme, these would typically have been smaller in magnitude.'

The Condition of Rights of Way Survey (CCW, 2003) found that on those farms participating in the Tir Gofal scheme the proportion of PROW classified as unusable was very slightly higher than the Welsh average, contrary to expectations. These farms need to comply with legal obligations relating to the management of rights of way as a condition of the Tir Gofal agreement. Following on from the CRWS survey, CCW has made significant changes to TG procedures to identify and remedy any access problems, working closely with the Ramblers Association and Highway Authorities (CCW, pers. comm).

Cultural and historic benefits from Tir Gofal - by the end of 2002, Tir Gofal agreements covered some 4,368 historic sites, and around 1,445 km of man-made linear objects such as earth banks, hedges, fences, walls, etc. were under agreement by the end of 2002. The provision for more sensitive management of historic sites and objects under the scheme may therefore make a significant contribution to this objective, within Wales.

In discussion with stakeholders, it was stated that a lack of attention to water quality within Tir Gofal should be addressed. However, figures from CCW (2004), show that approx. 600km of buffer zones and 450km of streamside corridor have been created under Tir Gofal agreements and around 30,000ha of wetland, fens and peat bog were under agreement. Prescriptions for these habitat types restrict nutrient applications, liming, the use of pesticides and place limits upon stocking densities.

Processing and Marketing Grant

- As a result of better processing facilities production costs decreased whilst the quality of output improved.
- Increase in quality of agricultural products purchased locally.

Woodland Grant Scheme/Farm Woodland Premium Scheme

- About 500 hectares per year have been created since the inception of the RDP. By 2012 this will result in a carbon sequestration of around 12kt per year following a rising trend from c. 2kt in 2000.
- Just over 30,000 hectares of woodland is recorded as ancient, semi-natural or native. Just over 80,000 hectares of woodland are of a type which is covered by a woodland HAP.

Article 33 Measures

- The MTE came too soon to analyse the success of Article 33 but in general, positively viewed as one of few genuinely rural development, as opposed to agriculturally related, instruments in the RDP.

Objective 1

The Mid-Term Evaluation of the Objective 1 Programme for West Wales and the Valleys (CRG Research, Cardiff University and Fitzpatrick Associates, 2003) gives the following main conclusions on the programme to date.

- Driven largely from the bottom-up, with systems responding to project ideas rather than initiating them.

- Underspend between commitments and payments made is between 10-15% which needs to be addressed.
- Projects have insufficient access to guidance, weakening dissemination of best practice.
- Resources should be increased for the RDR measures for promoting the adaptation and development of rural areas and forestry, although little is said in relation to the success of these measures.

There were two general points made with specific reference to Priority 5. Despite the large number of measures, the MTE reports that there was little evidence of a poor fit between projects and the measures under which they were being funded. There was also strong evidence from the project sample that this Priority is contributing to the sustainable use of natural resources, especially projects under Measures 7 and 8 (although M8 is ERDF, not RDR, funded).

The MTE presents some conclusions on the progress that has been made with each individual measure. Further numerical information can be found from WEFO's 2004 Measure Updates.

1. Processing and marketing of agricultural products
 - No local projects have so far been approved, only large schemes (MTE).
 - Slow rate of conversion from commitment to spend (MTE).
2. Training services to help farming adapt and diversify
 - As of December 2004, 45 schemes funded. This measure is now closed as no further funding is available.
3. Forestry
 - Strong evidence of meeting the goal of sustainable use of natural resources.
 - Heavily committed financially. The measure is now closed as no further funding is available.
4. Promoting the adaptation and development of rural areas
 - Potential overlap with this measure and Priority 3 (community economic regeneration), due to low coverage of Priority 3 in rural areas (MTE, p39). Projects funded exceed targets significantly.
5. Investment in agricultural holdings
 - Some underspend was anticipated (MTE). Also, a significant imbalance between Farm Improvement and Farm Enterprise Grants was reported, with applications for the former outnumbering the latter by a ratio of 15:1, compared to the original intention of a 50:50 split (MTE). This may indicate an overly conservative stance by FC advisors and/or farmers towards options for farm business enhancement.
6. A sustainable countryside
 - enhancement and protection of the natural environment and countryside management: the following table shows performance against targets set (WEFO):

Table 5.6 Overview of progress on WRDP targets

	Activities	Target	Forecast to date
Outputs	Access management projects	50	264
	Land management projects	150	1,342
	Resource management projects	100	38
	Results		
	Gross new direct jobs	120	52
	Kilometres of managed access	1,100	551
	Hectares brought under sustainable management	6,000	40,879
	Kilometres of traditional boundary created or renovated	1,000	571
	Land managers adopting energy efficiency and conservation measures	1,000	266
	Number of land managers adopting comprehensive energy and conservation measures	750	11
	Hectares of buffer zones alongside farm watercourses managed	75	43

Source: WEFO (2004)

Key points from the beneficiaries survey in the MTE include:

- The overwhelming majority of beneficiaries felt they had derived significant benefits from the project and would recommend the project to others
- Just under 60 per cent of respondents agreed with the view 'I would have done the sort of things I did on the project anyway.'
-

(NB these points refer to no particular Priority and hence may not be relevant to Priority 5).

During 2003 an internal evaluation of *Farming Connect* was conducted by WEFO. The report concluded that in future, capital grants should be realigned to the priority areas of the environment and support for entrepreneurship, and that an environment strategy should be fully integrated into all aspects of Farming Connect, to enhance its performance in relation to the environment. These recommendations would suggest, therefore, that the current service is insufficiently targeted in line with strategic priorities and misses important opportunities to promote environmental goals. It is too early to judge whether and to what extent the new environmental audit component of the Farming Connect service will address these issues.

Leader +

From the Mid-Term Evaluation of the Leader + Programme, it was concluded that:

- The programme provides a cohesive strategic link and implementation framework relevant to local current needs.
- At all Programme levels, the environment was regarded as the crosscutting theme of LEADER+ with most potential to impact positively on the designated areas.
- A sufficient range of performance indicators need to be developed which represents the width and depth of the Programme objectives and aims.
- Recommendations and analysis in the MTE are general, and hence it is difficult to determine environmental impacts in relation to the programme's goals.

Stakeholder comments on performance

The following text is drawn largely from discussions at the stakeholder workshop in September 2004.

Agri-environment schemes

Stakeholders say that scheme establishment and running costs (e.g. project officers) are an investment, not an overhead and should be recognised as such. Success should be measured by outcomes, not number of agreements or hectares enrolled. Current scheme targets are subject to duplication, conflict, and lack synergy. They should be better planned and integrated with the emerging strategies for Wales. Stakeholders also see a need for more co-operative approaches to agri-environment schemes to deal with diffuse pollution issues and common land management, and to deliver a landscape scale approach to species protection (eg for marsh fritillary). Currently, collaborative agreements are not possible for all measures. A 'top level' agri-environment scheme could address this and will be piloted in future.

At present, the prescriptions for biodiversity management are considered too uniform, and there was a suggestion to reintroduce 'randomness', or more local flexibility. New prescriptions to deal with structural problems now faced by these schemes, (for example. the loss of cattle from some areas, and the trend towards monoculture) as well as dealing with prescriptions for individual field parcels, are also suggested.

Under OFS, organic conversion can be a problem for tenants holding land rented from different landlords – many face difficulties co-ordinating landlord approval / commitment.

There is a growing demand for small scale environmental management targeted at those who currently fall largely outside the net of the main schemes. This includes management of urban fringe and other non-agricultural land; as well as special measures to address the diversity of SAC sites plus their context and linkages to surrounding land uses. Tir Gofal cannot proactively target farms with special sites, although it is available to anyone who is willing to undertake to farm land in accordance with its prescriptions.

The financing of schemes was regarded as problematic. A stop-start approach to schemes and running out of cash has been a problem for Tir Gofal. Some areas need bigger incentives - existing schemes might have been more successful if an extra top-up payment could have been targeted to specific areas. In general there is a need to base payments on the cost of delivering environmental outcomes and not simply on income foregone.

The linkage between individual schemes could be improved – all land-based scheme delivery should be integrated as far as possible to make money go further and ensure beneficiaries are not confused. The links between WGS and TG are good, but interaction with OFS is poor. Monitoring and compliance checks need to be streamlined.

The new Entry Level Scheme, Tir Cynnal, is regarded by stakeholders as mainly for awareness raising: it should be useful, positive, and complementary to Tir Gofal,

adding value e.g. via a requirement for farm planning, and addressing areas and issues not well tackled by TG to date, eg resource management. The scheme will bring some farms into a scheme who would otherwise would not have entered.

Tir Mynydd

Historical precedent has tended to give extra weight to the LFA within the suite of RDR spending in Wales, and this has been used to justify the proportion of funds allocated to it. But there is a poor match between the money going into LFA and the priority given to its goals versus other legitimate and more pressing RDR needs, particularly taking into account current environmental priorities. For example, it does not recognise the potential carbon storage utility in upland peat soils.

Forestry Schemes

The WGS should focus on public good aspects of forestry more. Some feel it is only weakly effective, grant aid is too reactive and general woodland expansion is under-funded. The native woodland expansion scheme has been more effective and Tir Gofal has played an important role in promoting farm woodland management and planning, encouraging scheme entrants to consider WGS alongside their agri-environment commitments.

Other Non-accompanying measures and their delivery

Stakeholders were largely very supportive of farming connect in Wales, but suggested it could be better focused on a wider range of issues beyond farm productivity. Initially its most evident output was new farm buildings, supported with FIG funds (this funding has now ceased). Business advice in Farming Connect is perceived as too 'standardised' and its quality variable, although improving. Targets tend to measure number of events held or numbers of attendees, rather than evaluating what training has been delivered. The emphasis is too process-, not outcome-led.

Structural fund rural measures and the role of WEFO

Some believe Objective 1 has been too driven by crude targets, and the audit requirements are too heavy – there is a need to streamline / co-ordinate, and create continuity of systems between the different project funds.

There appears a 'bizarre mix' of WEFO and Non-WEFO parts to the Welsh programmes, with criticisms of duplication between Tir Gofal and smaller, local environmental schemes funded via WEFO and delivered by the local authorities using Article 33.

WEFO relies on delivery via local partnerships, many of which are claimed to be too slow and poorly-directed to enable a good strategic input into achieving programme aims. More 'capacity building', to improve the effectiveness of partnerships, is suggested. Some partnerships appear only to support their own members' projects, so non-members are effectively excluded from funding.

WEFO schemes – including LEADER + and Objective 1 EAGGF projects - are felt to be too diverse, presenting a 'cascade of complexity' to potential applicants. WEFO is seen as invisible, non-communicative, appearing to have no sense of urgency or

timeliness, and money is drawn down too slowly. There may be too many referrals upwards and too much time spent servicing partnerships. The different regulations aimed at ensuring fairness are too convoluted, resulting in a very complicated process. Some believe it would be preferable for WEFO funds to be targeted in order to do fewer things, better.

The required match-funding for WEFO grants can be difficult to get from other public sector bodies (due to their own constraints eg 'core' funds, etc). Organisations have needed investment in order to access funds, which is a barrier to smaller organisations (especially NGOs). This favours bigger organisations getting most of the funding. Problems are created by retrospective funding which means that organisations have to support 3 – 6 months' cash flow before receiving grants. Success in getting grants may be based on ability to fill in forms rather than quality of proposals. There needs to be special treatment for small grants and bodies – a simpler application system, coupled with more effort on promotion and support.

Overarching concerns

Stakeholders believe that the RDR measures in Wales are based too much on segregated thinking, which causes gaps or duplications in programmes as well as missed opportunities. Some called for a spatial plan specifically for the Welsh environment, to enable more spatially differentiated and integrated objectives for biodiversity, landscapes, historic and natural resource protection. Schemes should aim at developing sustainable businesses rather than just delivering scheme objectives. Joined-up thinking should be the underlying principle. The approach to agricultural investment should be integrated with agri-environment scheme goals - if we need cattle to graze uplands we shouldn't have removed all cattle shed grants from FIG, but retained the grants where they would achieve environmental benefit.

Many believe the RDP needs to be better targeted at basic resource conservation, covering soil, air and water. In future it is hoped this will be achieved partly through Tir Cynnal and through improved training, using the Farming Connect service. Some feel that better training packages to reduce diffuse pollution should be provided to back up effective delivery of all RDP measures (Tir Gofal, FIG and FEG, etc), and that cross compliance (including GAEC soil plans) under the new Single Farm Payment in 2005 is only a starting point for resource protection in Wales. The funding emphasis on farmers can be a problem for woodland enhancement/management and other areas of concern. Tourism and craft grants receive only a small proportion of money (especially in the non-Objective 1 area), but post-FMD, this is now considered a major economic sector.

5.5 Conclusions and Recommendations

Of all the UK countries, Wales appears to have the most 'joined up' approach to delivering RDR goals within its territory, using a small number of schemes and/or key delivery approaches and thus attempting to achieve a more coherent overall result in relation to key strategic goals. The most notable weakness here, particularly in view of future trends and stakeholder concerns, would seem to be the complete separation of 'farming' schemes and delivery systems from non-farming ones.

Whilst the aim of streamlined and integrated design and delivery of measures is certainly laudable, this approach makes it particularly difficult to evaluate the existing

performance of measures and delivery systems against specific environmental targets and priorities, since the broad-brush evaluation of integrated mechanisms rarely asks such specific questions. Nevertheless, the following needs and opportunities would seem to be key to ensuring a more effective delivery of RDR/EAFRD funds against environmental priorities and targets, in the future.

Key needs and opportunities

- While cross compliance and GAEC, combined with the economic effects of decoupling as a result of the 2003 CAP reform, should reduce the pressures of overgrazing in many upland areas of Wales, existing and future land management schemes will still have a central role in promoting positive management for landscapes and biodiversity. Given the current balance of resources going into Tir Mynydd and Tir Gofal, it would seem sensible to seek to enhance the environmental role of the former, while continuing to expand the latter. The planned new approach to agri-environment schemes in Wales should be used especially to achieve landscape-scale effects through careful targeting and promotion of suitable measures.
- There seems likely to be a continuing and possibly increasing need to focus land management resources on arresting and reversing habitat fragmentation and decline in the lowlands; however this may require an equal focus upon non-farmed or currently unmanaged areas alongside the predominantly farmland management focus of Tir Gofal. While some such work has apparently been supported under the Objective 1 programme via local partnerships, there is a need to ensure that this is complementary to, and consistent with, TG actions so that both add up to a coherent whole.
- There is a continuing need to promote more environmental management of farm woodlands and it appears that to date, the current suite of WGS incentives, acting in the broader context of IACS and pillar 1 CAP supports, has been insufficient, although promotion via agri-environment scheme entry has been positive. The solution may well require a combination of enhanced land management incentives being offered alongside more effective development of market/leisure use opportunities for these woodlands, if there is to be any significant change in the current situation, due to the low level of farmer interest in managing woodlands for anything other than livestock shelter. This would suggest an enhanced role for the ‘other forestry’ measures in the RDR in future, to seek to develop innovative and effective commercial management options for farm woodlands, building upon the valuable work already done in Wales by Coed Cymru.
- If Farming Connect continues to be the main delivery service for agricultural adaptation in Wales then the environmental component of the assessment needs to be strengthened and more fully integrated into the business advice package. In addition, Farming Connect advisors need to be made aware of the full scope for:
 1. environmentally-related business opportunities (eg in tourism, leisure, new technologies and landscape management for non-farming landholders/local communities);

2. investments and related management strategies on farms to raise environmental standards;
3. more environmentally sustainable development planning on farms.

However, such awareness and expertise is perhaps more likely to be held by non-farming sources of business and land management advice/expertise than by the current service, implying a need for better networking, training and/or more interchange between the different sources of relevant skills and knowledge, in Wales. This could be one reason to argue for a 'bridging of the farm : non-farm divide' in rural delivery in the region.

- Improved treatment of access needs and opportunities is needed both within Tir Gofal and more generally across the range of programme measures to enhance the public's ability to benefit directly from RDR investment.
- In general, more emphasis upon experimentation and innovation within the programme, especially in respect of achieving environmental sustainability and local synergies between environment and development, would be beneficial. Further research and experimentation into actions to promote climate change mitigation, bioenergy generation and the identification and support of the historic environment, could all be usefully pursued. The scope to pursue these aims by working through the emerging network of local partnerships in Wales should be given more attention and effort.

6. Northern Ireland

This chapter presents the following:

- A review of the state of the environment in Northern Ireland covering the following issues: water; soil; air; climate change; biodiversity; landscapes; historic environment and, access. The focus is primarily on environmental issues as they relate to land use specifically agriculture and forestry.
- A summary of environmental targets and priorities drawn from the Department for Agriculture and Rural Development, Department for Environment and their environmental agencies, relevant NGOs and stakeholder consultation.
- A summary of the Rural Development Plan for Northern Ireland (RDPNI) including its environmental objectives, the measures and schemes in place and funding arrangements (with some reference to Structural Funds and LEADER + measures and funding)
- An analysis of the performance of the RDPNI to date (with some reference to Structural Funds and LEADER + measures).
- Conclusions and recommendations

The aim of this chapter is to assess how environmental priorities in Northern Ireland are currently being met through the RDPNI and other related rural development funds and to highlight how they could be better met in future through the next round of rural development plans and programmes (2007-2013).

The information contained in this chapter has been drawn from a wide range of sources including websites and reports of DARD, DoE, environmental NGOs and others. A stakeholder workshop was also held in Northern Ireland to gather views and information.

6.1 State of the Environment

Water

Eutrophication of water is a significant issue in the region. Both N and P are leaching from farmland into a number of high ecological quality, important lochs and coastal areas, as well as rivers, in the region. Several distinct aquatic habitats have been identified as priorities in the NI Biodiversity Strategy, namely aquifer-fed naturally fluctuating waterbodies (turloughs); eutrophic standing waters, mesotrophic lakes, marl lakes and Crowfoot Rivers, and all are considered under threat from eutrophication.

The significance of the N problem is indicated by the fact that the whole of Northern Ireland, like the Republic of Ireland, is likely to be designated as a Nitrate Vulnerable Zone in the near future – government consultation on this proposal ended in August 2004 (DARD/DoE, 2004). However, the DARD view in the preamble to the RDRP (2000) was that Nitrates are less of a problem in Northern Ireland than in other areas of the UK, implying that the main issue is phosphates, in this regard.

In the consultation on the proposals for designating new NVZs (DARD/DoE, 2004), eutrophication is cited as a major environmental problem throughout Northern

Ireland. In the major eutrophic water bodies of Lough Neagh and Lough Erne, the nitrate loading attributed to agricultural sources is approximately 75% and 92% respectively. These waters are important natural resources particularly for fisheries, recreational use, amenity and conservation value and as sources of drinking water.

The two causes of eutrophication are recognized by DoE and DARD officials as being:

- excessive nutrients entering watercourses from domestic sources (claimed as being caused both by sewage treatment discharges and septic tank leakage in areas without mains drainage, where increased house building may have overloaded land absorption capacity); and
- agriculture.

The major cause of diffuse pollution from farms appears to be livestock wastes from intensive beef and dairy farming (arable farming is relatively insignificant in NI), where slurry is applied to land at high levels and in vulnerable periods (e.g. over winter on pasture land when the grass cannot take it up). This issue is acknowledged in DARD consultations, the RDR MTE report and DoE reports (e.g. the NI biodiversity strategy).

Increased stocking densities, sward improvement, upland reclamation, wetland drainage and canalisation have affected all NI rivers. All these changes have resulted in water flowing more quickly and with greater force to its destination, and subsequently creating problems such as:

- Soil erosion and siltation
- Loss of the natural water storage capacity of uplands and floodplains
- Increased risk of flooding and conversely increased periods of water shortage
- Loss of wetlands and their ability to purify water exacerbating problems like:
 - Increased leaching and run-off of nutrients
 - Increased eutrophication
 - Poor ecological water quality.

DARD has identified the upgrading of slurry store capacities and dirty water/clean water separation systems as priorities for action and will soon launch a new Farm Waste Grant Scheme for this purpose (as a state aid – DARD, 2004). However, it has discounted promoting alternative ‘ecological systems’ approaches to managing leachates, regarding this technology as being unproven as suitable in the NI context. Some stakeholders (WWF) believe it might be a cost-effective approach, in certain circumstances.

Drivers of problems

- Inappropriate storage and disposal of livestock manure
- Increased stocking densities

Soils

Overgrazing does not present a significant problem over most agricultural land in Northern Ireland (RDRP), although there have been some examples of environmental degradation (poaching etc) in upland sites where common grazing rights exist. However, some NGOs suspect that this low level of official concern about soils may underestimate the significance of soil issues in the region (WWF, pers comm).

Air

The Greenhouse Gas Inventory for Northern Ireland (2004) shows that the largest source of *methane* emissions in Northern Ireland is agriculture (91% of NI's emissions), with cattle responsible for 80%. Agricultural emissions arise from enteric fermentation in livestock (89%) and the management of their wastes (11%). Emissions are dependent on the numbers of livestock and have increased by 6% over the period 1990 to 2002, resulting from an increase in cattle and sheep numbers. Northern Ireland accounts for around 13% of total UK agricultural emissions.

Of the total emission of 9.0 kt of *nitrous oxide* in 2002, around 7.9 kt (88%) was from agriculture. Most of these were emissions from the 'agricultural soils' category, as a result of processes in the soil arising from, in order of magnitude:

- leaching of fertiliser nitrogen to ground and surface water (28%)
- wastes from grazing animals (21%)
- synthetic fertiliser application (21%)
- manure used as fertiliser (13%)
- atmospheric deposition of ammonia (NH₃) and oxides of nitrogen (NO_x) (7%)
- ploughing in crop residues (1%)
- improved grass (1%)
- histosols (i.e. high organic content soils) (0.2%)
- cultivation of legumes (<0.1%)

A relatively small emission (0.6 kt) comes from the treatment of animal wastes (manure management). Agricultural emissions in Northern Ireland are around 9% of UK agricultural emissions.

Looking ahead, climate models predict that Northern Ireland will see warmer wetter winters, with drier summers. The frequency of extreme weather events such as flooding may increase as rainfall patterns change. The timing of natural events and the balance of species in the environment may change. These effects may well increase some of the emissions noted above.

Drivers of problems

- Intensive livestock production systems
- Inappropriate waste management

Biodiversity and Landscapes

The 'Proposals for a Biodiversity Strategy for Northern Ireland' shortlist the main issues affecting biodiversity in Northern Ireland, as summarised by Table 6.1.

Table 6.1 Factors Affecting Biodiversity in Northern Ireland

Agricultural systems and support	<ul style="list-style-type: none"> • Increased specialisation and intensification of improved grasslands and arable crops • Agricultural improvement and overgrazing • Loss and degradation of small-scale habitats and landscape features • Drainage for agriculture • Agricultural abandonment
Forestry and forest management	<ul style="list-style-type: none"> • Forest and tree loss • Afforestation • Forest management
Coastal and marine management	<ul style="list-style-type: none"> • Food chain impacts of over-fishing and by-catch • Damage to benthic habitats from trawling and dredging • Disturbance and habitat damage from shellfish collecting • Aquaculture • Oil pollution from shipping • Direct habitat loss and fragmentation from developments and land reclamation • Disruption of natural geo-morphological processes e.g. by dredging • Disturbance and damage from recreational activities
Water use and management	<ul style="list-style-type: none"> • Water abstraction • Drainage and flood prevention measures • Wetland engineering (e.g. river engineering for flood control or navigation, dam construction) • Eutrophication • Fisheries management • Disturbance and damage from recreational activities
Construction and development	<ul style="list-style-type: none"> • Direct habitat loss and fragmentation from developments and land reclaim • Pollution • Oil pollution from shipping (chronic and accidental) • Dumping and infilling
Tourism and recreation	<ul style="list-style-type: none"> • Disturbance and damage from recreational activities • Loss of habitat to recreational use e.g. golf courses and tourist developments
Peatland management	<ul style="list-style-type: none"> • Peat cutting • Drainage • Overgrazing • Nutrient enrichment and acid rain
Introduced species	<ul style="list-style-type: none"> • Gross habitat change caused by introduced species e.g. colonisation of mudflats by <i>Spartina</i>. • Competition, hybridisation or predation etc from introduced species

There have been significant declines in semi-natural habitats and related biodiversity and landscape character, affecting a variety of priority habitats in the region, including peatlands (blanket and lowland raised bogs), heather moorland, wetlands and species-rich hedgerows. NI special sites are designated as ASSIs (areas of special scientific interest), and DoENI reports that these are declining in quality and not meeting favourable condition requirements. Details for a selection of priority habitats are as follows:

- Traditional field boundaries are declining in both extent and quality in many areas – hedgerows in particular, from neglect or time-saving mechanized over-management. Northern Ireland has the greatest density of hedgerows in the UK, with an average of 17 kilometres of hedge per square kilometre. Decline is apparent from the NI Countryside Survey (DoENI) as well as the monitoring of NI's five ESAs over the period 1995-9 (DARD). A hedgerow removal rate of 0.5% per annum was recorded between the 1960s and 1991, and the Countryside Survey for Northern Ireland (CSNI) indicates this has only slightly slowed since then (see Table 6.2).
- Coastal and floodplain grazing marsh have been significantly lost and fragmented as a result of successive arterial drainage schemes in many areas. As recently as the 1980s two major rivers and their tributaries (the Main and Blackwater) were arterially drained for agricultural improvement. The Blackwater scheme was 50% funded by Europe through the European Agricultural Guidance and Guarantee Fund (EAGGF). The scheme had an immediate and serious impact on wetland biodiversity, particularly breeding waders which declined by 52% at Blackwater sites between 1986 and 1992.

Table 6.2 Examples of significant habitat changes from Northern Ireland Countryside Survey 2000

NI Primary Habitat	% overall change (1992 to 1998)	Suggested reason
Perennial ryegrass	+ 23%	Agricultural intensification and specialisation leading to greater uniformity of farm habitats
Cereals	- 30%	As above
Other agricultural grassland (ie less intensive with higher species diversity)	- 30%	As above
Species-rich wet grassland	- 37%	Agricultural land-use change
Wet bog	- 21%	Peat cutting and conifer planting
Upland wet heath mosaic	- 20%	Increased grazing pressure
Dry heath mosaic	- 27%	Increased grazing pressure
Hedgerows	- 4% (length)	
Earth banks	- 10%	

Changes to the broad habitat types are also significant, with Improved Grassland increasing by 33% and Fen, Marsh and Swamp decreasing by 19% and Neutral Grassland by 32%.

The picture for important species is equally of concern. Since 1980, research in Northern Ireland by WWF, the RSPB and UWT has indicated the following:

- Corncrake and chough – one pair of each, breeding in 2003
 - Barn owl – unknown, but very low numbers
 - Irish Hare – steep decline
 - Lapwing – 66% decline – possibly only 2000 breeding pairs left
 - Yellowhammer – approx 75% decline and contraction of range
-
- Little precise data exists on the decline in upland heath in NI but it is known that this habitat type was historically much more extensive than today, and that a significant 20th century decline in the Mourne mountains has been due to a combination of long-term sheep overgrazing and recreational pressure.
-
- Fragmented semi-natural habitats in the lowlands are still threatened by farming and other changes of use – particularly by housebuilding, which frequently occurs in open countryside.
 - Forests are under-represented in Northern Ireland compared with European average of 31 per cent and only cover six per cent of the land area, but are expanding at the rate of 700 hectares per year. However the bulk of woodland cover is planted coniferous woodland, which is less biodiverse than broad-leaved and mixed semi-natural woodlands.

In reporting the CSNI results, Cooper and McCann (2001) assess these changes as “*indicative of land-use intensification and representing a net decline in landscape-scale habitat biodiversity.*” As indicated in the table above, agricultural change has been a major driver in encouraging specialisation in NI production to concentrate upon mainly grass-based livestock systems at the expense of more mixed farming systems. Increasingly monotonous, monoculture lowland areas have become dominated by improved grassland managed primarily for beef and dairy production.

At the same time, some deterioration in upland habitat appears to have been caused by insensitive forestry and peat extraction.

Drivers of problems

- Intensification and specialization of agriculture including grassland improvement, overgrazing and drainage
- Neglect of features such as hedgerows or inappropriate management
- Expansion of coniferous woodland

Access

The Region has a relatively low density of Public Rights Of Way (PROW) by comparison with other parts of the UK, and under-promoted access opportunities for local people and visitors. Due to the distinctive historic situation and patterns of land use and ownership in Northern Ireland there is a very small number of PROW in existence. In terms of length, most PROW are very short and opportunities for

walking through the wider countryside are severely restricted in comparison to the networks throughout the rest of the UK. Most recreational walking opportunities and assured access is confined largely to country and forest parks, National Trust Land and private land through Permissive Path agreements, which are negotiated by the District Council (CAAN, pers. comm.). Each year, two million visits are made by members of the public to forests and they are therefore an important access resource (RDRP).

Due to the small amount of PROW no condition survey is carried out in NI (CAAN, pers. comm.). However, the situation is demonstrated by the Ulster Way long distance path which was reappraised in 2002 ('The Future of the Ulster Way', EHS, 2003). Only 3.9% of the entire route is a PROW (23 miles, of 587 miles). In the survey, 65% of councils responding recorded access difficulties, including the path being overgrown or impassable, the absence of waymarkers and landowners refusing access, as in the Belfast Hills. With the prominent exception of parts of the Mourne mountains and immediately around the Causeway coast, there is a widespread perception among government officials and NGOs in NI that access remains an underexploited environmental opportunity for the region.

Agricultural specialisation over many decades has probably contributed to this situation, as fields have enlarged and boundaries been removed. Apparently farmers are very reluctant to enable or increase access opportunities because of liability issues.

Drivers of problems

- Low density of Rights of Way
- Lack of or ineffective maintenance of Rights of Way
- Reluctance of farmers to enable or increase access

Historic environment

One issue raised by stakeholders but for which it has not been possible to track down data, is concern about the quality of the built environment in rural areas. There is an apparent poor quality of vernacular buildings and a lack of integration with local landscape character. Stakeholders also claim that inappropriate types of new buildings are allowed under permissible development. Despite the existence at regional level of design guidance, it appears this is not often followed at the local level by the local planning authorities.

Public and political awareness of, and support for, environmental goals

Generally, government officials and environmental groups in NI agree that the environment has a relatively low profile in the region and that there is a reluctance to invest in the environment unless this can be shown to deliver improved employment or incomes. This issue arises because of the disadvantaged economic situation of Northern Ireland within the UK and EU since the 1980s, although the situation has improved significantly since the relative stabilisation of the political situation in recent years. Because of the perception that jobs and incomes are more important than the environment, there is a need to do more to promote genuinely sustainable development in which both economies and environment benefit.

Drivers of problems

- Low profile of environment with economic goals given higher priority

Rural culture and heritage

NI has a distinctive rural heritage and culture bound up with its unusual farm structure, among the UK regions. Small and part time farms are a particular feature invested with cultural, heritage and social importance by government and stakeholders alike. Around 2/3 of NI farms are pluri-active with very low farm incomes and a relatively significant proportion on low household incomes as well. It is felt that these farms are ill-equipped to compete in increasingly open EU markets on commodity production alone, yet the current pattern of agricultural production in NI is heavily concentrated in commodity beef production for export markets. Farm diversification and added-value branding and marketing initiatives, funded largely through EAGGF schemes, have met with only limited success, to date. Training initiatives, also EU-funded and operated mainly by the public sector agricultural colleges in NI (thus largely free to all farmers), have been more popular but stakeholders remain concerned that part-time farms in particular lack the skills, interest and knowledge to ensure good environmental management.

The NI traditional structure of large numbers of small and part time farms, particularly in marginal areas, is seen both as an asset (in cultural terms) and a handicap (in economic terms). The original pattern of farm structures probably has its origins in centuries of semi-subsistence farming by a largely peasant, catholic rural community. It could be argued that CAP support mechanisms in the LFA – both the pillar 2 LFA aids and the pillar 1 livestock payments – have tended to support the persistence of small farms against prevailing market trends, in these areas. The evidence from successive evaluation of LFA aids in the 1990s and 2000s would tend to support this, and in addition, it has been an explicit objective of DARD policy to attempt to conserve the traditional structures of small farms in the LFA areas through that scheme. Nevertheless, increasingly strong market signals appear to have been working against this over the past 10-15 years and decoupling in 2005 seems likely to potentially increase the opportunities for farmers in these areas to change the ways in which they choose to manage the land.

The current system appears to create a situation where many farms suffer from inadequate household income because neither their agricultural nor their non-farm income sources are sufficient. However, it seems increasingly unlikely that agricultural support alone – whether from the LFA scheme or pillar 1 SFP – will be sufficient to address the income needs of these households. In this context, pillar 2 agri-environment and rural development-type aid, targeted and tailored more explicitly to low income, pluriactive farm families and even non-farm income support measures may well prove more useful than simple CAP subsidy mechanisms in addressing the economic needs of this group. However, the implications of such developments could well be for greater structural change in these areas, in the medium term, which could lead to changes in farm family culture and traditions, including those of land management. This tends to suggest a need for greater clarity about what the basic environmental aims are, in seeking to preserve small farms in NI.

Drivers of problems

- Distinctive farm structures threatened by low household income and need to compete on increasingly global markets.

6.2 Targets and Priorities

Many of the priorities listed in this section come from the Northern Ireland Biodiversity Strategy (2002). The Northern Ireland Biodiversity Group proposed 76 measures to support biodiversity conservation until 2016, which have been approved as the Northern Ireland Biodiversity Strategy (2002). Relevant actions are given in the sections below, but not exhaustively. The full list of recommendations is available at:

<http://www.ehsni.gov.uk/natural/biodiversity/biostrat.shtml#5.2>

<http://www.ehsni.gov.uk/pubs/publications/biodiversityproposals.pdf>

Water

The Northern Ireland Biodiversity Strategy contains the following goals:

- i) develop and implement a eutrophication control strategy;
- ii) Prepare and implement management plans for all catchments, in co-operation with the authorities in the Republic of Ireland where appropriate;
- iii) Seek to have nutrient management introduced on all 'high risk' intensive farms in Northern Ireland.

The combined policy statement on rural development in NI by WWF, RSPB and UWT says the following:

In tackling these issues, all stakeholders agree that the voluntary route is more cost effective than economic instruments, the costs of infraction, and other EU legislation. However, this does not mean that the *need* to address water quality standards is optional. CAP review offers a solution, either through legislation with cross compliance, or preferably on a more assisted basis, via modulation. However, with the Water Framework Directive (WFD) clock now ticking, government needs to be more proactive. For instance, the Drainage (NI) Order 1973 needs modernising urgently so that it reflects DARD's adoption of the environment as one of its four key strategies and becomes fully compatible with the new priorities of CAP.

There is an urgent need for increased communication and co-operation within and between all departments and agencies involved in, and affected by, the implementation of water legislation.

Soils and air

DOE Northern Ireland is committed to the UK Climate Change Programme, both in terms of cutting greenhouse gas emissions, and examining likely impacts and adaptations which need to be considered. DOE works closely with UKCIP (the UK Climate Impacts Programme) to see how to prepare for the impacts of climate change.

Biodiversity and landscapes

The NI Biodiversity Strategy contains many relevant goals, expressed as actions. A number of these are now out of date following the 2003 CAP reform, but some are still relevant and include:

- i) All new or revised policies, strategies and programmes for farming and related activities should be assessed for their impact on biodiversity.
- ii) Address biodiversity priorities fully and consistently in all development plans.
- iii) Review and, if necessary, strengthen the protection given to protected sites and sites of local nature conservation importance during the planning process.
- iv) Planning regulations should be reviewed and, if necessary, amended to ensure that Environmental Impact Assessments are carried out on all projects that may have biodiversity impacts and that these are carried out to recognised standards.
- v) Place duty on all public bodies to promote biodiversity on their land and through their activities.
- vi) Review and reissue the Northern Ireland policy statement on Peatland Conservation
- vii) Complete and implement conservation plans or conservation objectives for all ASSIs, SPAs and SACs.
- viii) Implement UK habitat and species action plans in Northern Ireland.
- ix) Assess the conservation status of poorly known elements of biodiversity.

Actions for forestry are also listed:

- i) Protect remaining areas of native woodland and provide incentives for their management.
- ii) Maintain and improve the sustainable management of commercial woodland and promote research that could lead to improving the biodiversity value of conifer woodland in Northern Ireland.
- iii) Provide and distribute information and encourage woodland owners to manage their sites for the benefit of biodiversity.
- iv) Introduce stronger controls over the loss of woodlands of biodiversity value.
- v) Increase woodland cover, especially that of native broadleaved woodland.

At the workshop, the following views were expressed:

- The lowland areas of NI could benefit from more diversity of land uses (including more cropping) and more diverse grassland management (*eg* varied sward heights, cutting regimes, stocking regimes etc), for biodiversity and landscape reasons. Stakeholders also raise the issue of a lack of, and/or decline in, skills in landscape management, among farmers in these areas.
- The uplands of NI require more sensitive management tailored to the precise ecological requirements of individual sites. In some cases this implies lower stocking densities.

It is unclear to what extent overgrazing continues to be a significant issue for NI upland areas, but the DARD increase in minimum stocking rates from 0.2 to 0.4

LU/ha for land receiving Less Favoured Area Compensatory Allowance support in 2004 does not seem to have led to environmental complaints among stakeholders.

Access

The Biodiversity Strategy includes action points regarding access issues:

- i) Integrated tourism development and environmental conservation strategies should be adopted for the main areas of Northern Ireland where wildlife interest and tourist potential coincide.
- ii) Ensure that the impacts of recreational activities are well understood and that these impacts are ameliorated through the development of codes of conduct for individual recreational activities or byelaws.

More generally, the DoE's Environment and Heritage Service (EHS) aims to apply sustainable, best practice techniques in order to provide an environment for all to enjoy countryside recreation and to provide enhanced appreciation of the environment⁹. Also, the Countryside Access and Activities Network (CAAN) ensures that the recreational use of the countryside is managed in a high quality and consistent way and aims to encourage recreation¹⁰.

Stakeholders and government officials believe that low public access contributes to relatively low environmental awareness among the resident urban communities, leading to a weak profile for the environment in NI policy generally. Most stakeholders raise the access issue without prompting as something that hinders their ability to 'sell' the environmental cause to the public or the politicians. The WWF, RSPB and UWT recommend:

- There is a need for government to address the strong need and desire for guaranteed recreation opportunities for rural and urban dwellers alike.
- Guarantees in the form of simple and fair liability legislation are urgently required to ease the blockage created by lack of access.

Historic environment

Some stakeholders call for a greater focus by government on identifying, recording and seeking to protect the historic features and landscapes of rural Northern Ireland.

Cross cutting issues

Environmental awareness raising. Generally, environmental stakeholders in NI indicate a view that government in NI does not yet take these issues sufficiently seriously. They cite low resourcing of DoE and its EHS, low levels of understanding of the issues in DARD and a reluctance to prioritise the environment over social and economic concerns, as key issues in this regard.

Stakeholders and government officials believe **green tourism** is under-developed and has potential, both for non-NI visitors and for residents in and around Belfast and Derry who perhaps don't appreciate what is on their doorstep, and there is scope for more visitor centres and low-impact recreation.

⁹ <http://www.ehsni.gov.uk/pubs/publications/CPPolicyMarch04.pdf>

¹⁰ http://www.ehsni.gov.uk/natural/country/country_access.shtml

Stakeholders see important scope for **more environmentally-influenced business**. There are few examples of locally-branded high value outputs from a high value environment, or direct selling associated with catering, or production for specialist butchers and restaurants. It has been suggested (PWC, in press) that as Belfast commuters increasingly move out to live in rural areas this should be an attractive market for value-added local products as well as tourist/leisure businesses.

Institutional factors

There is a strong perception of a lack of communication between Government Departments within N Ireland, leading to a weak strategic approach to the planning and implementation of rural development measures, and low awareness among rural actors of the wide variety of rural funds on offer.

Some NGOs have suggested more training should be given to frontline staff who are in contact with the farming community to make them more aware of the range of financial packages that are available and the impetus should be on bringing people together at more local area. It is felt that government policies are slow to change and too reactive (e.g. to the availability of EU funding), rather than proactive.

6.3 RDR measures in Northern Ireland

Because the whole of Northern Ireland is an Objective 1 transitional area for the programming period 2000-6, and because of its particular history of conflict, the RDR measures are currently delivered through three different EU programmes using two agricultural funding streams:

- The accompanying measures of the RDR (EAGGF Guarantee budget) are delivered under the **Rural Development Regulation Programme (accompanying measures) for Northern Ireland**, while
- the non-accompanying measures (EAGGF Guidance budget) are delivered through both the **Building Sustainable Prosperity (Objective 1) Programme (BSP)** and the **PEACE II Programme** (a special Structural Fund programme to promote peace and reconciliation in Northern Ireland). Originally the PEACE II programme ran from 2000-4 but it was announced in the summer of 2004 that the programme would be extended to 2006, with further funding from the EU.

Under BSP, RDR measures fall exclusively under priority 4 – Agriculture and forestry, and include the following:

- Article 9 training
- Articles 25-28 Processing and marketing aid
- Article 33 submeasures: Farm Relief and Farm Management Services, Basic Services for the Rural Economy and Population, Renovation and Development of Villages & Protection and Conservation of the Rural Heritage, Diversification of agricultural activities and activities close to agriculture to provide multiple activities and alternative incomes, Development and Improvement of Infrastructure connected with the Development of Agriculture, Encouragement for Tourist and Craft activities, Protection of the environment in connection with agriculture, forestry and landscape conservation as well as the improvement of animal welfare, and Financial Engineering.

Under PEACE II, RDR measures fall under several priorities and measures:

- 1.6 Article 9 training for farmers (*Information Communication Technology (ICT) for Agriculture, Focus Farms, and Supplier Group Facilitation*)
- 1.7 Article 33 Diversification of agricultural activities and activities close to agriculture to provide multiple activities or alternative incomes - *the Rural Employment Opportunities Programme and Obtaining Alternative Employment initiative*
- 1.9 Article 4 Investment in agricultural holdings – *support for collaborative projects to improve quality and environmental standards*
- 1.10 Article 33 Basic services for the rural economy and population - *the Rural Retail Programme and ICT development initiative*
- 2.9 Article 33 Renovation and development of villages and protection and conservation of the rural heritage - *Broadening the Framework; Developing Civic Society; A Peaceful Environment; Promoting Safe Communities; Rural Mediation Service; and Village Halls Advisory Service initiatives*
- 2.10 Article 33 Encouragement for tourist and craft activities - *Local Identity, Heritage & Culture initiative*
- 5.6 Article 33 Agriculture and rural development Cross-border co-operation – *the Cross-border Community Development initiative and cross-border diversification projects*

Adding to this complexity, DARD NI has put together its own so-called ‘**Rural Development Programme for NI**’ (RDPNI) which combines some, but not all, of the above listed BSP and PEACE II measures with LEADER + and INTERREG rural funding and a range of measures funded using the EU Fisheries fund, FIFG, as well as a regional rural tourism initiative funded under PEACE II but using ERDF funds. The remaining BSP and PEACE II RDR measures are standalone parts of these larger SF programmes and are delivered by DARD but independently of the DARD RDPNI.

Environmental priorities and objectives in NI RDR programmes

It would not be productive here to give an exhaustive account of the treatment of the environment in the texts of these various programming documents. In overview, a brief summary can be provided for each of the key texts, as follows.

The RDRP identifies its priorities as:

- the maintenance of a viable farming community within the LFAs
- the conservation and enhancement of the agri-environment
- the afforestation of agricultural land.

In the preamble, the following environmental priorities are discussed:

- loss of habitat and biodiversity in agricultural land is acknowledged
- a significant problem of eutrophication of waterways is highlighted, although this is attributed jointly to farm and non-farm sources. The Plan states that ‘Northern Ireland does not have a significant problem with nitrates’

- reduced farm incomes may result in outcomes equivalent to land abandonment in some areas. This is linked to serious economic difficulties facing the farm sector, although farm sales and land price data do not indicate any significant exodus from the land.
- overgrazing problems are limited and being tackled through cross compliance.

In BSP, the 3 objectives for *Priority 4 - agriculture, rural development, forestry and fisheries* are strongly economic. Only one mentions the environment as follows: To increase the efficiency and effectiveness of the agricultural industry whilst maintaining the region's largely extensive, environmentally friendly farming image.

No environmental issues are identified under 'needs' for this priority, although under the list of 'actions' to address needs, 'support for the forestry programme to extend woodland cover and assist the sustainable development of existing forests' is mentioned. Under 'developing capacity', the need to train agri-food sector workers and managers in environmental management is noted, and under 'support for capacity building in the wider community', the aim of assisting rural communities to identify, articulate and respond to specific environmental needs is listed alongside economic and social ones. Finally, the development of 'natural resource rural tourism' is a target of support under the actions.

In PEACE II, the five priorities of the programme are economic renewal; social integration, inclusion and reconciliation; locally based regeneration and development strategies, an outward and forward looking region and cross-border co-operation. An initial preamble on the environment in the programme plan states that it is an important asset in its own right and in social and economic terms. It acknowledges a number of weaknesses in the NI environment including diminished landscapes, low woodland cover, a lack of species rich grassland, low levels of waste reduction and recycling and excess enrichment of waters. It further mentions that a number of threats to the environment arise from economic growth and development.

Environmental sustainability is listed as one of the horizontal principles underlying all PEACE II aids, and described as meaning that 'the transitional programme supports only economic activity which is at least environmentally neutral and includes much that seeks to protect and enhance the environment. Projects will be favoured which benefit environment, raise environmental awareness and all projects must comply with domestic and EU environmental legislation.

Schemes and measures

The RDRP comprises the Less Favoured Area Compensatory Allowance Scheme, the agri-environment schemes - Environmentally Sensitive Areas, the Countryside Management Scheme and the Organic Farming Scheme - and afforestation of farmland under the Farm Woodland Premium Scheme.

Less Favoured Area Compensatory Allowance

In Northern Ireland the majority - 65 per cent - of the agricultural land in the region is within the LFA, 40 per cent is SDA and 25 per cent DA. In addition, because these areas tend to be characterised by smaller farm holdings, more than two-thirds of all farms in Northern Ireland are mainly within the LFA. Today, the LFACA in Northern

Ireland is by far the largest spending element within pillar 2, absorbing around 260 Million Euro/year, or 46% of total public spending (see figure 6.1).

In Northern Ireland, the Agenda 2000 reforms led to the following changes to the LFA scheme:

- The shift from headage to area-based support was phased in over the period 2001-2003 via the use of a ‘safety net’ mechanism reducing the scale of winners and losers from one year to the next – this has now come to an end;
- Some basic standards of good farming practice were devised, to attempt to prevent removal or deliberate damage to traditional field boundaries, overgrazing and inappropriate supplementary feeding on LFA land;
- All farmers in the LFA were offered a free training course to help them to understand and apply the new good farming practice standards;
- A funding ‘taper’ was applied, restricting overall payments to those with particularly large holdings.

ESAs were the first agri-environment scheme, introduced in 1988. There are 5 ESAs: Antrim Coast, Glens and Rathlin Island, Mournes and Slieve Croob, Slieve Gullion, West Fermanagh and Erne Lakeland, and Sperrins. They cover approximately 220,000 hectares, equivalent to 20% of agricultural land in Northern Ireland. In all areas the main environmental interests are landscape and biodiversity.



Figure 6.1 Map of ESAs in Northern Ireland

Environmentally Sensitive Areas in Northern Ireland

The scheme is based upon an annual management payment, is voluntary and not selective, and is aimed at all landowners or tenants (minimum 5 year tenancy) of agricultural land of at least 1ha within a designated ESA. All agreements are whole farm and run for 10 years. From 2001 all are required to:

- follow the Good Farming Practice and General Environmental Requirements for the whole farm,
- follow specific management prescriptions for habitats and features,
- develop and follow a nutrient management plan for the whole farm,
- attend environmental training programmes.

In ESA agreements, if a ‘priority habitat’ is present on the farm, then it must be entered into special management – this covers species-rich grassland, upland breeding

wader sites, wetlands, moorland, lowland raised bogs, broad-leaved farm woodland/farm scrub, land adjacent to lakes, coastal farmland and parkland. 'Optional habitats' can also be subject to special management at the farmers discretion, including arable fields managed for wildlife, winter-feeding sites for swans and geese, Lapwing breeding sites, Buffer strips by ASSIs, NNRs, woodland and rivers, traditional orchards and field boundaries. A minimum of one habitat, other than improved / arable or unimproved grassland, must be subject to special management in each agreement.

The Countryside Management Scheme (CMS) was introduced in 1999 to cater for valuable areas on farms outside ESAs. CMS is essentially the same as the revised and current ESA scheme, including identical categories and requirements for priority and optional habitats, but it is discretionary and only the best applications get funding.

The RDR measures funded under BSP and PEACE II were listed earlier, but together include most of the non-accompanying measures of the Regulation except support for young farmers and early retirement, and some sub-measures under Article 33 (land reparation, support for damage due to natural disasters). However, in many cases the uses made of each RDR measure are precisely tailored to address specific elements of the broader socio-economic programmes within which they sit. Hence, for example, although Article 4 farm investment aid is available under PEACE II, this is offered only for *collaborative group farm projects* seeking to improve their competitiveness through investments to lower costs or enhance environmental standards, rather than in any more general way (as would be the case in many other countries). Finally, it is worth noting that the concept of offering support for early retirement has recently been reviewed in NI and a new scheme developed which has been put to the EC for approval in 2004 as a state aid.

The public sector budget devoted to the various RDR measures in NI programmes is shown at Figure 6.2, and in total amounts to 567m Euro over the programming period (7 years for BSP and RDRP, five years for PEACE II, funds from EU and domestic sources combined).

Figure 6.2 Planned RDR public sector funding by measure in NI, 2000-6

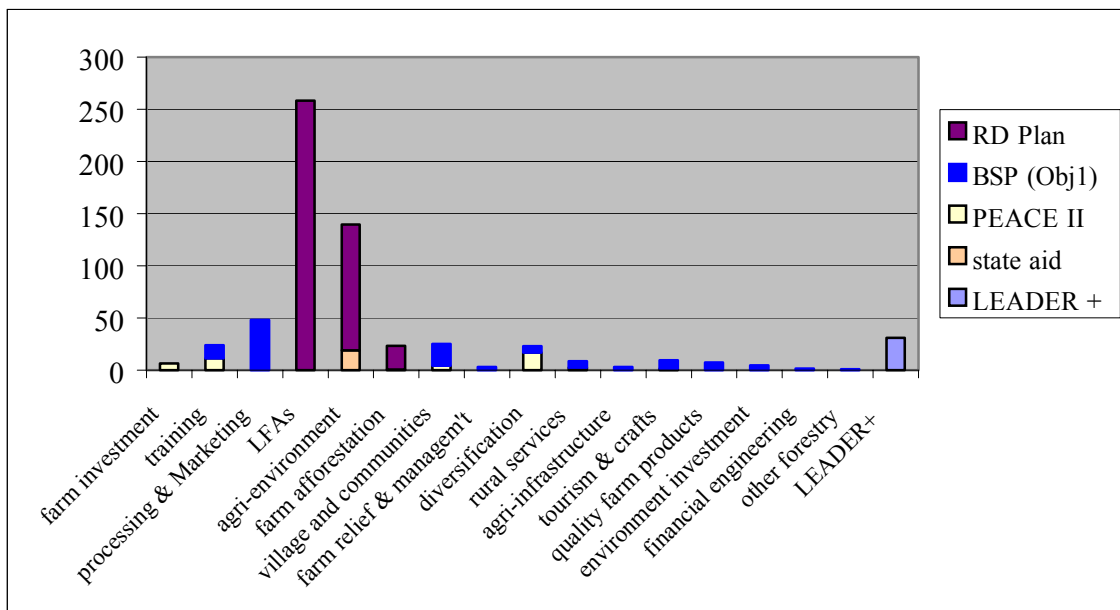
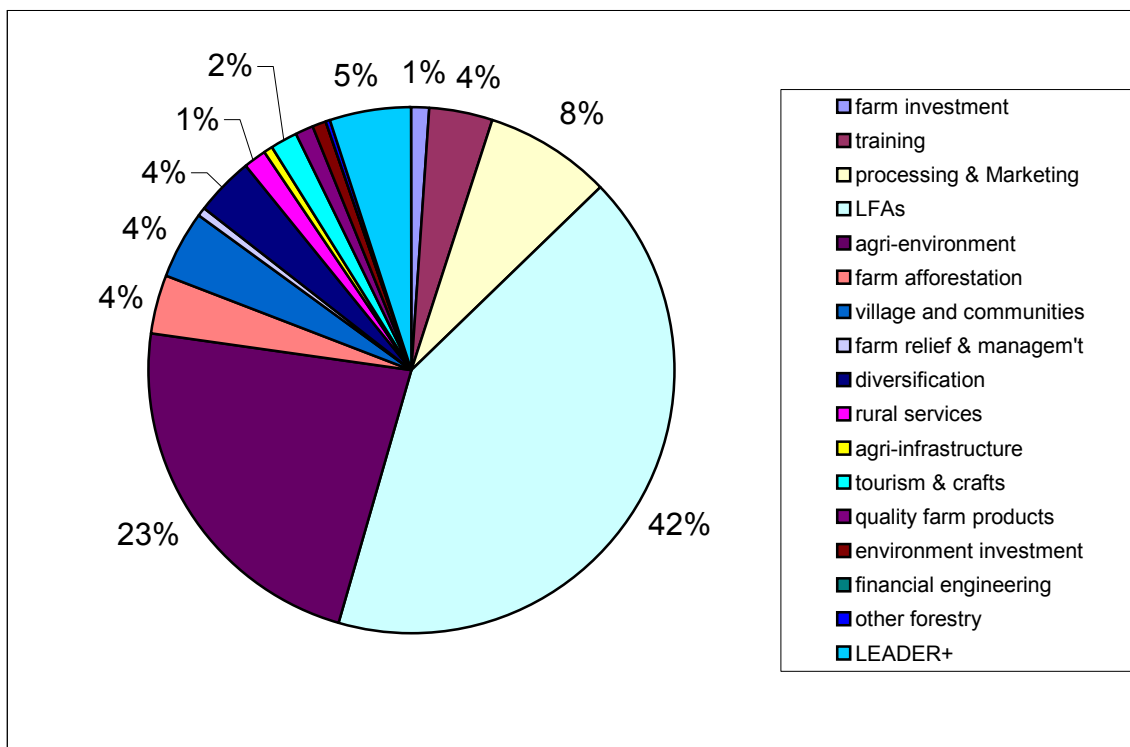


Figure 6.3 shows the relative proportions of total public funding planned for each RDR measure under the various NI programmes.

Figure 6.3 Proportionate Planned Public Spending on RDR Measures in NI, 2000-6



These figures highlight a number of key points in relation to the environment in RD as supported by CAP Pillar 2 in Northern Ireland:

- by far the largest share of public funds (almost half) is devoted to the Less Favoured Area aid in the region;
- while the proportion and scale of funding for agri-environment measures in NI has been increasing since the early 90s and is boosted in the 2000-6 period by UK voluntary modulation, it currently remains lower than the combined sums devoted to agri-forestry and broader rural development measures through BSP and PEACE II;
- looking ahead, it is to be expected that the region will cease to qualify for Objective 1 transitional funding in the next programming period. This could radically reduce the availability of EU funds for all measures beyond 2007 (because of lower co-financing rates for all) but is particularly likely to affect budgets for the non-accompanying RDR measures;
- given the existing planned expenditure profile, NI already broadly meets the proposed EU minimum shares of spend under the four new axes for the draft EAFRD (Figure 6.4), although with slightly less for axis 3 and LEADER than the proposals allow.

Figure 6.4: Estimated Balance of Measures in NI Compared to EU Proposals for EAFRD

Axis	Approximate current share (%)	EC proposed share (%) 2007-2013
1. Competitive farming and forestry	15.6	Min 15
2. Land management	67.6	Min 25
3. Other rural development	11.7	Min 15
LEADER	5.1	Min 7

6.4 Performance of NI RDR measures to date

The Mid Term Evaluation of Measures funded by the EAGGF (pillar 2 only) in Northern Ireland was undertaken by DTZ Pieda in 2003, and is the best starting point for examining the effectiveness of all the various measures because it brings them together into a single report. However, more detail concerning the environmental effectiveness of particular measures including the agri-environment schemes, LFA aid and article 33 projects under both PEACE II and BSP has also been gathered from a number of additional research reports and discussions with key organisations in NI. The stakeholder workshop also provided a useful additional source of informed comment on this issue.

The Less Favoured Area Compensatory Allowances scheme for Northern Ireland

In 2002-3, DARD undertook an internal review of the LFACA scheme (as reported by DTZ Peda – not published or available to this study). From this it proposed a small number of modifications designed primarily to address potential unintended side-effects of the 2000 scheme introduction. These were introduced in 2004, and comprised:

- Removal of the taper mechanism.
- Extension of the scheme to enable goat and deer producers to become eligible.
- An increased minimum stocking rate to 0.4 LU/ha, with reduced payments for those with stock densities between 0.2 and 0.4 LU/ha.
- A bonus payment for farms with at least 25% of eligible LU as suckler cows and heifers (to boost LFA beef sector support).

A socio-economic evaluation of the previous HLCA headage payments in the Northern Ireland LFA in 1998 concluded that they had helped to maintain farming activity and to retain the farm labour force in these areas, by comparison with changes in the lowland parts of the region. Furthermore, it found no clear evidence that stocking rates in the LFA had increased over the previous decade, in contrast to the situation in lowland areas. On that basis and in the light of a number of stakeholder interviews, the report concluded that the scheme was probably helping to maintain the environment in the LFA. Since 1998 there has been no more detailed analysis of the environmental impact of LFA aids and the Davis et al report continues to be cited in this context as providing evidence to support the environmental performance of the LFACA.

However, since 1998 more relevant monitoring data has become available, particularly in respect of the Environmentally Sensitive Areas in NI, which are predominantly located in LFA areas. ESA monitoring from 1999, 2000 and 2002 clearly indicates that whereas land which is entered into ESA agreements has generally retained its environmental value, there has been continuing environmental degradation on land in these areas that has not been entered into the ESA scheme (DARD 2003). Declines have been recorded in the quality and extent of hedgerows, as well as the condition of semi-natural habitats. Both of these findings are consistent with the more general habitat data from Countryside Survey NI, for the period 1992-1999. These studies therefore tend to suggest that the LFA payments alone have been insufficient to safeguard upland environments.

Discussion with stakeholders in recent years suggests they hold a relatively benign view of the scheme, because they feel LFAs have maintained farming in these areas and, since 2000, have cross-compliance and require good farming practices, which forms a baseline of environmental compliance on which more positive agri-environmental measures can build. However, by comparison with other parts of the UK it would appear that the scheme does little to encourage environmental goals in any explicit way, and thus it could be a target for improved environmental performance under the next round of programmes.

Agri-environment measures: the Countryside Management Scheme, ESAs and the proposed entry-level scheme as well as the Organic Farming Scheme

By the end of 2000, there were 4,250 farmers/landowners in the ESA scheme. The ESA has a target to attract 5,000 landowners by 2006. In the MTE, DTZ/Pieda believes the ESA is expected to largely sustain its level of participation, but an increased target will not be reached. Recommendations have been made to DARD to consider how best to address this.

ESAs cover around 20% of Northern Ireland land area and the take up rate is in the region of 70% of that area. It can also be assumed that moorland take up is likely to be in the region of 70% of available habitat¹¹. The only exception possibly being the Mourne since the High Mourne is outside the ESA area and is either owned by Water Service or is common land. There is difficulty in getting agreements in common land areas since agreements need to be unanimous (CMS does cover these areas, so it can be assumed that the lack of take up is due to difficulties with common/statutory ownership rather than availability of agri-environment schemes). However, common land has been moving into single ownership, possibly stimulated by the incentive of a higher rate on SDA land than on common land, for the LFACA. Whilst this may be a concern for other aspects of environmental interest (eg recreation), it should facilitate more land entering the ESA.

CMS is currently expanding more rapidly than ESAs. By the end of 2003, 2040 landowners had entered CMS, equivalent to 86,660 ha of land under agreement. CMS has a target to attract 4000 landowners by 2006, equivalent to 150,000 ha of land under agreement. The Mid term Evaluation of Measures (DTZ Pieda 2004) concluded that it is on course to exceed participation and area targets.

Table 6.3 Area of Habitats Managed under NI Agri-Environment Schemes

Habitats Managed under NI Agri-Environment Schemes	Area (ha)
Heather moorland	41,400
Lowland raised bogs	1,700
Lowland wet grassland	2,839
Traditional hay meadows	1,280
Flower rich meadows	3,300
Woodland	3,115
Farm scrub	741
Parkland	1,000
Lapwing fields	560
Breeding wader sites	1,120
Retaining winter stubbles	1,400
Planting wild bird cover	230

Summary of ESA monitoring by habitat, mid to late 1990s/2003:

¹¹ DARD CMB Pers. Comm. 2004

These results are largely positive, indicating habitat enhancement in some cases and preservation in others. However, the picture is not good for hedgerows.

- Heather moorland – no changes in diversity on land in agreement, but none also on non-agreement land in some ESAs. Increase in heather cover in 3 ESAs on agreement land, increase in grasses on non-agreement land in one ESA.
- Field boundaries – removal in many ESAs of hedges and increase in fencing.
- Grassland – increase in quality or extent of ecologically valuable grasslands in 4 ESAs, increased differentiation between intensive and high quality extensive, at expense of poor quality extensive.
- Unclear effect on woodlands in the one ESA which targets this.
- Good preservation of Chough habitat in one ESA targeting this.

CMS monitoring:

Due to the relatively short lifespan of the CMS, there are no substantive results yet from environmental monitoring and evaluation studies.

Developments and relation to ASSIs/Natura 2000 sites

In 2003, minor changes to the CMS and ESA scheme were submitted (notification to the NIRDP) to Brussels. Changes to the entry criteria, habitat definitions and management prescriptions were also introduced to help deliver DARD commitments under the NI Biodiversity Strategy by promoting environmental management of priority habitat and species. The changes were also deemed necessary to facilitate access to these higher-level schemes from any farms who may choose to join a proposed new Entry Level Countryside Management Scheme, planned for launch in NI in 2005. All these proposals, including those for the new ELCMS, still await approval in Brussels but are being held up by Nitrate Directive issues.

Currently, Natura 2000 sites are not eligible for DARD agri-environment schemes and must be referred to EHS. DARD takes the view that agri-environment schemes are designed to work in the wider countryside and that EHS should have the responsibility for management of key conservation sites. However, DARD agri-environment schemes existing on Natura 2000 sites prior to designation may remain¹², and some Natura sites that are referred to EHS may be referred back to DARD if it is decided that the EHS MOSS scheme (Management of Special Sites) cannot be offered. The current situation, therefore, is that some Natura 2000 sites are managed, at least partly, by DARD agri-environment schemes.

There is concern that the relatively wide-ranging management prescriptions for peatland habitats within the ESAs and CMS are ill suited to habitat restoration or the needs of some target peatlands. There is also concern that the site-specific needs (particularly hydrological) of individual designated peatland sites cannot be addressed through the existing prescriptive approach

¹² EHS CDP Pers. Comm. 2004

The NI Organic Farming Scheme (OFS) has been available since March 2001. At that time, there were 20 producers farming 1,000 hectares. Up to 2003, the OFS has experienced very low uptake relative to the targets set.

Training within AES

DARD puts a high priority on training and raising environmental awareness of farmers in AES, in a number of different ways.

Advice is given to landowners via agri-environment scheme management plans addressing the delivery of each prescription. Information given can include the importance of the habitats, appropriate management regimes and specific prescriptions (including stocking density, etc), the need for capital works, and works not permitted on the habitat. In some cases, such as the plan for heather regeneration, further information is given on the rationale behind the prescription, safety and legal issues.

Other important ways of giving advice are by including the landowner in the farm audit process (audits are only carried out in the presence of the landowner), and newsletters that come out twice a year covering issues from management for species (eg. lapwing) to spotlights on different farms.

In addition, Greenmount College delivers a programme of training called Good Farming Practice (GFP), which is free for all farmers in AES and LFACA schemes. From 1 April 2003 the programme was extended so that it could be delivered to all farmers. The training outlines the eight verifiable standards that must be adhered to by participants of the AES/LFACA schemes.

Conclusions on AES performance

It appears that both ESAs and CMS are producing positive results for biodiversity and probably landscape, but there would appear scope for improving the flexibility of management prescriptions to better meet specific environmental needs on some sites and habitat types. In turn, this could enable more priority habitats to be dealt with effectively under the schemes rather than having to rely on the less well funded MOSS option. It is not possible to assess the performance of the schemes in relation to broader environmental objectives, given the narrow focus of the evaluation data available, but a comment at the stakeholder workshop suggests that the historic environment is insufficiently incorporated into the current AES.

DARD officials express some concern about the planned launch of the new Entry Level Scheme in NI which could detract from their favoured aim of continuing to grow the ESA and CMS schemes. However, the key environmental NGOs in the region (RSPB, WWF, UWT) are strongly supportive of the new scheme because of its expected greater potential to get most farmers in NI into agri-environmental management schemes, more rapidly than could be expected for ESAs and CMS.

In the workshop, some interest was expressed in encouraging group applications to AES by offering a higher incentive in some areas, in order to get landscape scale change. The strong training element within the existing schemes was also supported and some feel this could be developed further in future. Finally, it was suggested that in future, it might be necessary to open up AES to non-farm participants as more land

leaves full time agricultural use, or at least to ensure the schemes are not concentrated upon only the larger and more fulltime farmers.

There is clearly a problem with the OFS, which has failed to attract uptake. DTZ Piedad's MTE ascribes this to a general lack of confidence in the organic market, in NI, such that farmers are discouraged from seriously considering conversion to organic. Given the contrasting situation with other parts of the UK this would seem an over-simple conclusion and it appears the scheme could benefit from a combination of enhanced payment rates and promotion with a more comprehensive supply chain promotional strategy, if it is to be successful in NI.

Non-accompanying measures within PEACE II and BSP

Within the numerous initiatives supported by Pillar 2 funds under the two structural fund programmes for Northern Ireland there are many opportunities for projects which promote and enhance the environment and/or raise environmental awareness among rural actors and local communities. However, it is almost impossible, given the way in which monitoring and evaluation of these schemes is organised, to get an overview of the extent to which this potential is being realised, at the present time. Some partial indicators are discussed below.

BSP's training measure funds some advisory initiatives and training courses designed to promote greater environmental awareness on farms. The PEACE II training measures are not so explicitly environmentally focused but the Focus Farms Initiative could provide exemplars of best practice in environmental management and the group farm facilitation could have knock on environmental benefits in some cases. In the MTE this measure is assessed as performing adequately, with a high proportion of NI farmers (perhaps over 50%) receiving some sort of training under one or other of the schemes. However, the consultants are critical of the poor monitoring of training uptake in relation to total constituency and the lack of any measure of training outcomes. In the workshop, a comment was made that it could be valuable to extend availability of training beyond farmers, to address land management needs on hobby farms.

Discussion with DARD's Rural Development Council (an agency which assists with delivery of some of the DARD RDP) indicates that under both PEACE II and BSP, 42 projects had been delivered by the RDC with an explicit environmental component, by August 2004. In these, the broad themes of activity are:

- local community groups planning and carrying out environmental enhancement projects with an education/culture/local history spin, which may also have some potential tourism benefit;
- projects encouraging collective or joined-up action by farmers/on farms to tackle environmental management issues including waste management and nutrient pollution of water (nutrient planning and management);
- various kinds of Agenda 21-type village action on recycling, minimising wastes or promoting/setting up bioenergy production.

On the whole, these are likely to be having modest but positive impacts upon NI rural environments as well as helping to raise awareness about environmental value among the wider population.

Gaps in existing measures

Stakeholders identified a possible gap in support for renewable energy production/generation in rural areas, providing potential opportunities for local communities to enhance the sustainability of their energy use, including better waste sourcing.

Also, identifying more environment opportunities and better linkages for agri-environment schemes into agro-tourism projects and initiatives was called for. Environmental organisations could perhaps work together to establish new environmental tourism/education facilities in the wider countryside – it might be possible to have some kind of environmental attraction in each NI county. There must be more investment in the ‘new environmental economy’ concept in NI.

To address recreation needs, new access pathways through farms could be promoted but it was suggested that this was better done through negotiation at local level than by any kind of payment under AES. What is needed, it was said, is joined-up routes, agreed in the way that the CA in England has managed to negotiate its long and middle distance walking routes. Many stakeholders agreed that better rural tourism/access could be used to increase general public understanding of environmental issues in NI, but this could be done through an improved path network and/ or a more focused approach involving new countryside facilities, as mentioned in the previous paragraph.

Other comments mainly related to structural and institutional issues, with many calls for a more coherent and strategic approach to planning all second pillar actions, and an interest in improving joint action and planning between the DoE and DARD. For example, NGOs have suggested that the Department of the Environment’s EHS should be monitoring the effect of agri-environment schemes within ASSIs as part of their ASSI monitoring programme¹³, to enable more detailed assessment of biodiversity needs and trends on these sites, and that in general there is a need to marry the DoE’s Conservation Objectives for special sites to more effective mechanisms for achieving those objectives¹⁴ (possibly setting up an EHS/DARD management group to consider the needs of each site, in terms of the applicability of CMS or MOSS¹⁵). It was also suggested that an outside body could be set up or funded to pull things together and see a wider approach and that there should be more direct involvement of environmental NGOs in developing the new RDR strategy in Northern Ireland.

On scheme accessibility there were suggestions that the myriad of different initiatives supported under pillar 2 funding and the large number of different delivery arrangements meant that few were aware of the full scope of aid potentially available to support environmental needs in NI. There are also some issues with respect to the credibility of delivery – the MTE has picked up several areas where more complex elements of the programmes have been subject to a very slow start, usually ascribed to lack of staff capacity within the various organisations responsible for delivery. Generally, environmental NGOs exhibited a relatively low level of awareness of the

¹³ Ulster Wildlife Trust. Pers. Comm. 2004

¹⁴ RSPB. Pers. Comm. 2004

¹⁵ Ulster Wildlife Trust. Pers. Comm. 2004

environmental potential within the non-accompanying measures elements of the RDR, as currently delivered through BSP and PEACE II. Their more active involvement in these elements could be facilitated after 2007 if all the different pillar 2 elements are brought together into a single programme for Northern Ireland.

6.5 Conclusions and Recommendations

The picture presented here is of a region where environmental issues are perhaps less well recognised by the general public and less well supported by strong stakeholder groups than elsewhere in the UK. Nevertheless, it appears that most issues are recognised within the government administration and some significant action is already underway within the RDR measures and in other areas of policy, to address major concerns.

Looking ahead, we might summarise the EAFRD needs and opportunities as follows.

- A need to continue to tackle habitat declines and degradation, and associated landscape degradation, through more environmentally sensitive land management. This could be promoted more strongly by amending the LFACA scheme to strengthen its incentives to produce environmental benefits, as well as by the planned, continued expansion of agri-environment schemes in the region. Expanding the CMS and increasing ESA uptake should be just as important, in this context, as launching the planned new entry-level scheme in NI. However, cross-compliance under pillar 1 could also seek to do more on this front than is currently envisaged.
- A need to strengthen actions and provide adequate facilitation and support to ensure that nutrient planning and management become standard practice on NI farms, to address agriculture's contribution to diffuse water pollution. Some of this should come from the designation of the region as NVZ under the Nitrates Directive and particularly if DARD takes this opportunity, as planned (DARD, pers comm) to encourage all farms to simultaneously monitor and manage phosphate and its loss to the aquatic ecosystem. The availability of advice and training on these issues should continue to be ensured, which may require EU co-financing, and there may also be a role for second pillar funding to promote appropriate technical investment on farms to help deal with nutrients adequately, although at present DARD is proposing a state aid investment grant scheme for this purpose, focused only on increasing storage capacity and improving water separation facilities. Stakeholder comment suggests this could usefully be complemented by alternative, ecological systems management approaches in some cases, which could also offer potential benefits to other aspects of the NI environment.
- A need to enhance and extend public access to farmed land in NI significantly through the creation and improved maintenance of PROW and other access routes, as well as whole areas of land where appropriate. Unofficially, administrators advise that this is probably most effectively done by means other than the kind of agri-environment scheme (AES) supplement that is used in England, but it could well be approached either using the proposed new Axis 3 funds under the EAFRD to assist local government in taking this forward, or considering a more conditional link to AES funding such as exists in the Tir Gofal scheme in Wales.

Investing in enhanced public access should be seen as a necessary component in realising and developing the widely-recognised scope for ‘green tourism’ and more leisure-oriented forms of rural development in NI, as the economy and the image of the region improve with the ongoing stabilisation of the peace process.

- There would be value in seeking to learn lessons from the past and current use of structural funds to promote project-based approaches to environmental enhancement in the region, working with local communities and groups of farmers. These lessons could be critical in promoting a more widespread adoption of such approaches within the UK, under the next programming round, and particularly in addressing the issues of collaborative land management and environmental enhancement in the context of broader rural development (ie beyond AES), which have been raised in most of the UK workshops for this study.
- A need to commission research to identify and analyse the state and condition of historic landscapes and features in the region with a view to integrating this environmental issue more fully into the existing suite of second pillar measures.

7. Recent Developments in EU policy

7.1 Introduction

During the course of this project, there have been significant developments in relation to EU Rural Development Policy, specifically the publication by the European Commission of a proposed 'new Rural Development Regulation' in July 2004. At the same time, proposals for the EU's Financial Perspectives for 2007-2013 were also published. Both of these were still under negotiation at the time of this report going to print. The following sections provide some background to the proposals.

7.2 The European Agricultural Fund for Rural Development

On July 14 2004, the European Commission published a proposal for a European Agricultural Fund for Rural Development (EAFRD), essentially a new Rural Development Regulation. The proposal is currently under negotiation and is not expected to be finalised until mid to late 2005. Some potential revisions to the original proposal were published on 13 January 2005 but these did not change the overall thrust of the EAFRD proposal. The proposal has significant implications for the environment at EU and Member State level. While it contains a number of measures likely to have a positive impact on the environment, several aspects of the proposals have raised concerns among environmental stakeholders. These issues are explored below.

The new proposal retains most of the existing rural development measures, rearranging them according to three broad objectives, translated into three priority 'Axes' plus LEADER:

Axis 1 - improving the competitiveness of the agricultural and forestry sectors

Axis 2 - land management

Axis 3 - diversification of the rural economy and the quality of life in rural areas

The new Fund for financing the measures brings together the current Guarantee and Guidance Section resources, subject to a single set of rules. The current LEADER initiative is also incorporated. Notable changes are introduced (compared to the existing RDR) to the structure and programming of funds, the management of measures, the co-financing rates, the principles of designation and calculation of payment rates for Less Favoured Areas, the principle of Good Farming Practice and the overall administration, monitoring and evaluation of rural development programmes.

Some general points about the proposal are as follows:

- The focus of the proposal remains agricultural, with farmers as the main beneficiaries, followed by private forest owners, and in exceptional circumstances for selected measures, other beneficiaries. This is a very narrow focus compared to many stakeholders' understanding of rural development.

- The proposed Regulation remains flexible in allowing the selection of measures by Member States or regions, but is very inflexible in other aspects, such as the compulsory division of measures and funds by Axis.
- The general rhetoric of environmental integration is improved, and for the first time includes references to the European fisheries policy and key legislation such as the Water Framework Directive (although only in relation to LFAs). However there are some impediments, such as the lack of baseline environment standards in Axes 1 and 3.
- Good Farming Practice currently applicable to agri-environment and LFA schemes has been weakened or, in most cases, replaced by cross compliance. Cross compliance only applies to Axis 2 and not Axes 1 and 3 in the current proposal.
- The proposal imposes minimum amounts that must be spent on each Axis reducing the flexibility of Member States to spend money according to national priorities but, on the other hand, ensuring there is some balance of expenditure across all Axes.
- At the first reading the draft is impressive in its references to the maintenance of biodiversity in Natura 2000 areas, but on closer analysis the provisions appear much weaker, since funding levels are not dealt with in this Regulation (see next section for fuller discussion of this point).
- An improved level of stakeholder involvement is proposed both in terms of programme design and through the establishment of national or regional Monitoring Committees to oversee programme implementation. Other provisions for improved monitoring and evaluation are also proposed. The mainstreaming of LEADER money offers some opportunities for a greater local focus and improved involvement of stakeholders.

7.3 The EU strategy

It is proposed that an EU strategy should accompany EAFRD. A document entitled 'EU Strategic Guideline for Rural Development: Outline and Background' was presented by the Commission to a meeting of the Special Committee on Agriculture on 7 March 2005. This paper essentially outlines what will be included in a fuller document, not yet published. It is envisaged that the strategy will set out clearly the rationale for EAFRD and the use of rural development funding by Member States. Many commentators argue that the strategy should make specific reference to EU environmental commitments and legislation and the environmental priorities that need to be addressed as well as economic and social priorities.

7.4 Funding

A Communication on the Financial Perspectives 2007-2013 was published on 14 July 2004 alongside EAFRD, and draft Regulations covering the Structural Funds, Fisheries and a paper on financing Natura 2000. The Financial Perspectives paper presented an argument for a budget based on 1.14% of Gross Domestic Product and made the case that a budget of this size is needed to maintain progress on current EU commitments. In the ensuing discussions, a number of key Member States - Germany,

Austria, Denmark, France, Netherlands, Sweden and the UK- have pressed the case for a budget based on 1% GDP (the so-called 1% club). The debate on the budget is likely to continue for some time and it is not clear whether the 1% club will win the day.

The Financial Perspectives paper identified a total fund of €88.75 billion for 2007-2013 for EAFRD of which a minimum of €31.3 billion will be used for Convergence Objective regions. Amounts resulting from compulsory modulation of Pillar I payments would complement these resources. In January 2005, news emerged that Germany's Foreign and Finance Ministries are keen to reduce the levels of rural development funding to just €55 billion in the hoping of pressing the 1% GDP argument. At the same time however, they appear to support an increase in the CAP budget for market measures beyond the €301 billion agreed by EU leaders at the Brussels summit in October 2002. Such a stance not only contradicts earlier German arguments for increased rural development funding but is likely to strain the relationship with other members of the 1% club such as Austria which favours an increase in rural development funding. The implications of this budget debate for rural development funding are severe. A cut in funding to just €55 billion would require major adjustments to rural development programmes in many countries and severely compromise the ability to meet environmental and broader rural development priorities.

Until the final budget is agreed, it is impossible to determine what will be the allocation of rural development funding both at EU and Member State level. Depending on the criteria used to allocate funding to Member States, there are likely to be some winners and losers. Taking into account the proposed composition of the EAFRD and the significant needs of the New Member States, as well as the introduction of new measures, it seems that the funding offered will be insufficient to meet needs, specifically in the UK, if not universally.

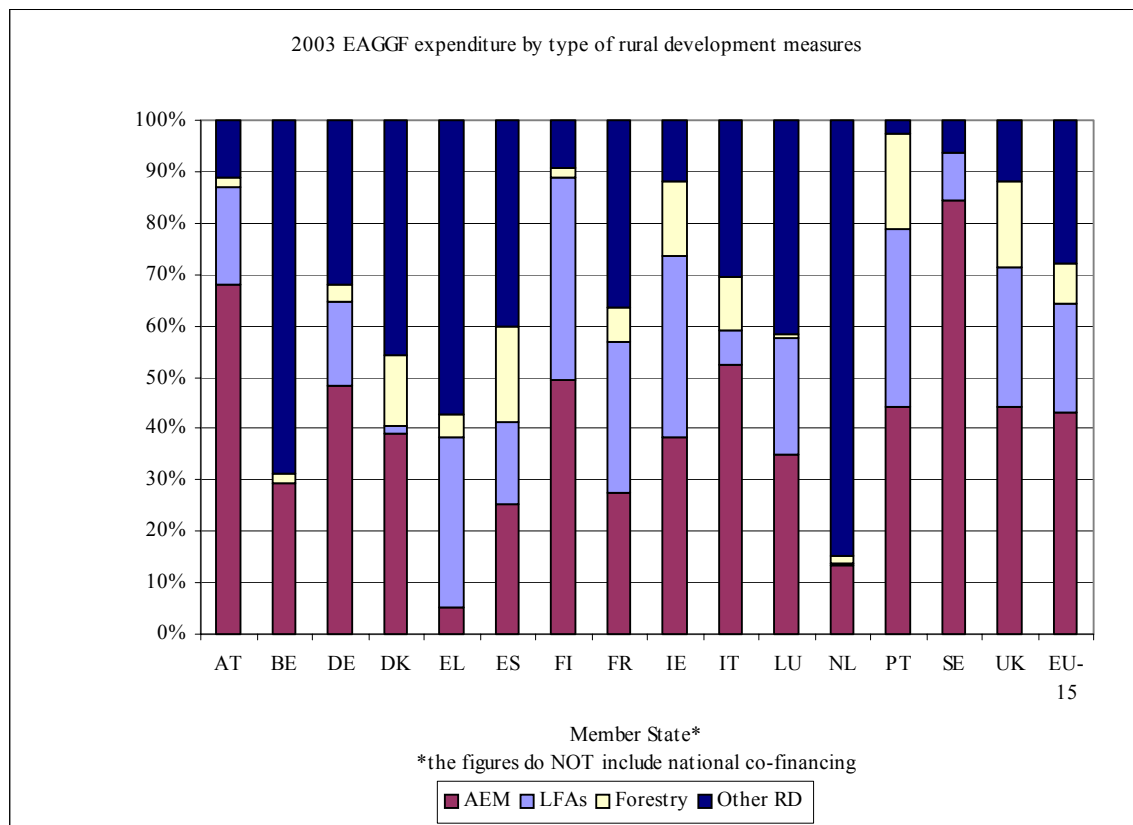
The proposed allocation of funding to the different Axes raises an important issue. EAFRD proposes an obligatory minimum allocation of 15 per cent of funds for Axes 1 and 3, and 25 per cent for Axis 2. It is proposed that LEADER will be guaranteed an allocation of a minimum of 7 per cent of the total EU funds for rural development, with a further 3 per cent to be kept in a special reserve for further allocation to LEADER (only in 2012/13) to the MS demonstrating the best results. The 10 per cent earmarked for LEADER would contribute to the three objectives across the three Axes. However, due to its bottom-up approach, it is unpredictable how much money will be spent on each of the three general objectives. If agreed, this would mean that total expenditure on the land management and environment measures would be subject to a new maximum of 70 per cent. Figure 7.1 shows that in 2003, 7 Member States were at or above the 70% maximum for Axis 2 type measures meaning that many Member States such as Austria, UK and Portugal would need to curtail expenditure in these areas or find new funding from other sources, if the minimum figures remain in the final Regulation. Only the Netherlands would need to increase expenditure under Axis 2.

The rigid minimum allocation to each of the three Axes has been criticised by some Member States and stakeholders. Taking away flexibility that was previously allowed, and instigating a more overall top-down approach in terms of programming priorities,

seems to contrast with the trend to increase the bottom-up approach through increasing funds allocated to LEADER. However, the European Commission is keen to secure some balance in Member State programmes and while the minimum percentages may change as a result of negotiations, they are unlikely to be removed altogether. This presents some specific challenges to the UK as illustrated in Sections 3-6 of this report. The minimum allocations per Axes may be less critical if a stronger environmental focus and emphasis on environmental sustainability were given to Axes 1 and 3. In other words, Member States would be given a much clearer steer to use all three Axes to deliver environmental objectives, meaning how much money was spent on each Axis was less critical from an environmental perspective.

The State Aid provisions in the text do allow Member States to support national measures with their own funds, if they are compatible with the Regulation. If the proposed rules for obligatory spending under all 3 Axes plus LEADER are adopted several EU MS will have to use this provision to keep their land management related schemes, and in particular agri-environment schemes running at the current levels of participation. Re-designation of LFAs into areas with natural handicaps (see below) may result in some 'savings' in some Member States if the overall area is reduced but is unlikely to significantly influence the picture.

Figure 7.1 EU '15' EAGGF expenditure by type of rural development measure, 2003



Source: DG Budget September 2004 'Allocation of 2003 EU operating expenditure by Member State' Table 1, p72 and Table 1a p77

Other budgetary issues that need to be borne in mind regarding EAFRD relate to Natura 2000 and LEADER. EAFRD makes numerous positive references to Natura 2000 and gives much greater emphasis on the establishment and maintenance of the network. But it is clear that there are no additional financial commitments for such purposes. Regarding LEADER, the proposed minimum 7% allocation plus 3% held back in reserve for the best performing Member States means a potential budget of €8.8 billion. This represents significant growth compared to the €2 billion allocated for the 2000-2006 period and many Member States are concerned that this is too high to be effectively utilised. Some are arguing for a lower percentage with some flexibility e.g. between 3 – 5%. On the other hand, although use of LEADER presents some challenges, it also provides an opportunity for creating local action groups focused on land use/management, and encourages the significant involvement of various stakeholders. Using local development strategies to implement LEADER should enable a more strategic approach to spending. Another promising feature of using the LEADER Axis is that this is the only instrument under the Regulation that allows the combination of objectives stemming from each of the three different Axes, and therefore provides an opportunity for real integration.

8. Future Rural Development Needs: Conclusions and Recommendations

8.1 Overview of UK environmental priorities

This overview is based on information contained in the country reports (Chapters 3-6). The state of the environment varies from country to country and within countries as a result of different farming patterns and practices and other land-use activities such as forestry and recreation as well as the geo-physical conditions. However, some common themes and issues can be noted and overall environmental priorities determined. These priorities reflect the views of stakeholders consulted for this project and the availability of relevant information. They should be viewed as indicative of current environmental priorities in the UK rather than definitive. The main environmental problems, and the priority given to them, can be summarised as follows:

Water

Water pollution – mainly by nitrates and phosphates but also pesticides – is identified by Government and stakeholders as a significant problem and an issue of high priority in all four countries. The problem is especially serious in Northern Ireland. Diffuse, as opposed to point source, pollution appears to be the main issue to address. Other issues such as low flows arising from over-abstraction of water and flooding are also referred to, mainly in England, but problems appear to be more localised and viewed as lower priorities.

Soil

The main problem in relation to soils is erosion by wind and water. Such erosion has an impact on agricultural productivity but, more importantly from an environmental perspective, results in the deposition of silt and sediments, nutrients and residual pesticides in water courses, thereby affecting the biological and chemical quality of water. Problems such as soil compaction (resulting from the use of heavy machinery and over grazing) and land drainage are also implicated in the increased risk of flooding in some areas.

Environmental problems arising from poor soil management are noted in the country reports for England, Scotland and Wales but not Northern Ireland. In England, the most severe problems appear to be localised but both Government and stakeholders identify soil management as an issue of high priority to be addressed. In Scotland, although specific problems are recognised, soil erosion appears to be given lower priority. Equally, in Wales, while soil types and slopes vulnerable to erosion appear to be quite extensive, the full extent of the impacts of erosion are unknown. Neither Government nor stakeholders appear to give this issue high priority.

Overall, in terms of UK environmental priorities, soil management and particularly soil erosion issues, although recognised as problems are given lower priority than other environmental issues.

Air

The main problem in relation to air pollution arising from agricultural sources is the emission of ammonia leading to acidification of soil and water resources. The UK has signed international agreements to curb ammonia emissions and agreed a target of annual emission limits of 297 kt a year, to be met by 2010. However, this issue appears to be given low priority in all four countries both in terms of published Government statements or targets for action and in discussions with stakeholders.

Climate change

Greater emphasis is given to agriculture's contribution to GHG emissions and climate change effects. The UK Government is now giving climate change a high priority although the focus is mainly on carbon dioxide emissions from the transport and energy sectors rather than those that originate from agricultural sources, such as methane. None of the four UK countries has, as yet, set specific targets for reducing GHG emissions from agriculture. Stakeholders raised climate change concerns in discussions but more frequently pointed not to agriculture's contribution to GHG emissions but to the role of agriculture in contributing to climate change mitigation through, for example, increasing woodland cover, the production of energy crops or carbon sequestration.

Biodiversity

Declines in habitats (fragmentation and degradation) and species (population declines and range contractions) are noted as significant problems in all four countries and are considered, by both Governments and stakeholders, as a high priority for action. The exact nature of the problems differs from country to country but, in all cases, agricultural and land use intensification and specialisation are cited as common causes.

Landscape

Loss of overall landscape character and diversity and both loss and poor management of landscape features were referred to as problems in all countries although greater emphasis appears to be given to these issues in England and Scotland. In Wales, problems were identified in the context of historic landscapes but this may reflect greater awareness of the issue rather than a more severe problem. In Northern Ireland, landscape change was emphasised in relation to changes in habitats and the specialisation of farming, especially in lowland areas. There appear to be no overall Government targets or strategies for landscapes outside of designated areas, suggesting it is given lower priority than other environmental issues. Stakeholders in all four countries did however raise concerns about landscape change, often in relation to biodiversity issues.

Historic environment

Information was generally lacking on the state of the historic environment in all four countries although some data for England and Wales shows that agriculture constitutes a specific threat to archaeological sites and monuments and historic landscapes. There appear to be no strategies or targets relating to the protection of the historic environment in any of the four countries. Stakeholders in England and Wales raised concerns about agriculture's impact on the historic environment.

Access

Access, including facilitating public access to the countryside and maintaining access routes and associated infrastructure, was considered by stakeholders as an important environmental issue. The extent and condition of Public Rights of Way vary greatly and are low in Northern Ireland and East England. In Scotland, access issues are wrapped up in broader issues of community land rights. Many stakeholders feel it is important to raise environmental awareness among the public by encouraging access to the countryside and providing opportunities for the appreciation of its environmental assets (in many cases, paid for with public money). At Government level, few explicit targets for access could be found.

Priority UK environmental issues

Table 8.1 shows which environmental issues have the highest priority in each of the four UK countries based on stakeholder comments and the presence or absence of Government statements or targets. The assessment of priority was necessarily qualitative in nature. Environmental issues were given a high score where concern was expressed frequently by stakeholders and where clear Government statements or targets were found. Conversely, issues raised infrequently and where no or limited formal statements or targets were found were given a low score. The shaded boxes identify those issues of medium-high priority for each country.

Table 8.1 Environmental priority by UK country

Environmental Issue	England	Scotland	Wales	N Ireland
Soil	++	+	+	+
Air	+	+	+	+
Water (diffuse pollution)	+++	+++	+++	+++
Biodiversity	+++	+++	+++	+++
Landscape	++	++	+	+
Historic Environment*	+	+	+	+
Access	++	++	++	++

*The importance of the Historic Environment may be under-estimated here due to lack of stakeholder representation at the project workshops.

Key:

+ = low priority ++ = medium priority +++ = high priority

Based on this analysis, the key environmental priorities that should be being addressed in the UK are:

- Resource protection, with a particular emphasis on soil management and combating diffuse water pollution
- Halting biodiversity and landscape decline/degradation where considered to be strongly linked
- Promoting responsible access to land/enjoyment of the natural heritage

There are clear EU environmental policy drivers for the first two environmental priorities (see Chapter 2): the Nitrates and Water Framework Directives in relation to diffuse water pollution; and, the Birds and Habitats Directives, as well as

commitments to halt biodiversity declines, in relation to biodiversity. EU environmental policy is a much less explicit driver for issues such as landscape and public access (although the coming into force of the Council of Europe's European Landscape Convention could be seen as giving international impetus to this issue); and these can be seen much more as priorities that have particular resonance with UK stakeholders.

As part of the wider Europe's Living Countryside study, the project Steering Group has produced a series of tables for each of the main UK environmental issues identified through the UK project seminars and research. These summarise issues and problems, drivers and current and potential policy responses. The project sponsors will use these along with similar tables from the other six countries studied to develop guidelines on implementing rural development policies to address environmental priorities and issues more effectively. Extracts from these are provided in Appendix 2.

Rural development measures have a clear role to play in helping to address the environmental priorities identified. However, rural development measures are not the only policy tools that can be used to address the environmental priorities identified by this research. Rural development measures are especially valuable for: one-off investments to help improve environmental performance; pump-priming business development; providing on-going support for the delivery of public benefits beyond baseline requirements and where there is market failure; and, for giving 'soft support' such as advice and training where these are needed to bring about change. Other policy tools such as regulation e.g. the Nitrates Directive, and taxation e.g. a pesticide tax, may also be used to change behaviours and help deliver environmental protection and/or enhancement such as improving water quality. In relation to agriculture, consideration also needs to be given to the impacts of, and opportunities provided by, Pillar I of the CAP. Attaching environmental conditions to agricultural subsidies has long been seen by many as a means of improving the environmental performance of the sector. The reality is, that it is likely to be a mix of policy tools that is needed to address the range of environmental priorities identified here. In dealing with environmental issues, Governments need to consider both the efficiency and effectiveness of different policy options before employing any particular option or mix of options.

It has not been possible through this research to determine the costs of addressing the environmental priorities identified¹⁶. Rather, the aim of this project was to identify environmental priorities and highlight where and how rural development measures are currently being deployed, and could be deployed in future, as a policy response. The issue of cost is however a critical one and further work should be undertaken to establish the financial implications of addressing the environmental priorities identified here through both rural development measures and programmes and other policy tools.

¹⁶ Some work has been undertaken in this area. For example, on the impact side, Professor Jules Pretty led an assessment of the environmental and other costs of agriculture which calculated they amount to £1-2 billion (Pretty et al 2000). On the response side, a research report for English Nature and the Environment Agency by IEEP, ADAS and GFA-RACE (English Nature Research Report No 455) estimated costs for a package of measures to address diffuse pollution.

8.2 Case studies

Four case studies have been prepared to illustrate how rural development approaches could be used to respond to the environmental priorities identified by this report. Taking each environmental priority in turn, a geographic area has been identified where that priority is a particular problem. The environmental needs within the area are assessed and current responses to the problem considered where they exist. Future policy options for responding to the problem are then considered.

The case studies are as follows:

- Addressing diffuse pollution issues in the River Tweed catchment, North Northumberland
- Responding to biodiversity declines in relation to species rich grasslands in the Wye Valley
- Responding to landscape change in the Margam Mountains, Wales
- Promoting access and enjoyment of the countryside in lowland Scotland.

The case studies can be found in full at Appendix 3 of this report.

8.3 Overview of Rural Development Problems and Gaps

A comparative analysis of the way in which the four UK countries have approached rural development and implemented their rural development plans – and the extent to which environmental priorities are being met - reveals some common problems and gaps that need to be addressed in the next programming round. These problems are grouped below in relation to: *strategic issues; funding; schemes and measures; eligibility and recipients; administration and delivery; and, monitoring and evaluation.*

Strategic issues

- The rationale (strategies and priorities) for public expenditure is poorly articulated in RDPs, especially in relation to the environment generally and specifically in relation to the priorities identified by this study.
- Environmental needs in RDPs are poorly described and few clear environmental objectives and targets have been set. Where addressed, issues relating to biodiversity are more clearly articulated than those for resource protection, landscapes and access.
- Cross programme integration of the environment is poor, especially in England, and there is a lack of means to encourage synergies between measures.
- More integrated approaches to land-use planning and the use of policy instruments need to be found at national, regional and local level and greater effort be made by relevant agencies and organisations to identify common goals and objectives.
- The approach to rural development is very centralised and top-down in England and Scotland but less so in Wales and Northern Ireland.

Funding

- The basis on which funds are allocated between the four UK countries is not transparent. The allocation appears to be a political decision and based on past

spending plans rather than on identifiable and costed rural development and environmental needs.

- Agri-environment and LFA measures attract the lion's share of the funding in all four countries but particularly LFA in Scotland and Wales.
- Public value for money for RD funds is not always demonstrated with insufficient evidence of environmental outcomes. There is also evidence of 'deadweight' in a number of schemes (especially investment measures and processing and marketing grants) with activities being funded that would have been undertaken in any case.

Schemes and measures

- There is strong emphasis on agri-environment and LFA measures and limited use made of other RDR measures even though these have the potential to benefit the environment.
- There is some evidence of the biodiversity and landscape benefits of agri-environment schemes but monitoring is often limited to outputs e.g. area of land enrolled in schemes rather than environmental outcomes.
- LFA schemes attract large amounts of funding but this is weakly linked to the purchase of public goods and its objectives are not always clear. In many cases, it is seen as a social measure with some incidental environmental benefits. Even in England where most use is made of environmental 'top ups' these are judged to be delivering little additional environmental benefit.
- Little emphasis is generally given to training measures, capacity building and awareness raising, especially in relation to environmental issues, although the need for such measures appears to be high. Farmers need help to understand and access rural development funding/schemes, to improve their knowledge of the environment and to prevent the loss of traditional skills from the countryside. The benefits of actions that protect the environment but also make good business sense e.g. reducing soil erosion, are generally not sufficiently promoted.

Eligibility and recipients

- Land based schemes tend to target agricultural businesses but changing land ownership patterns and new non-farming land owners mean conventional agricultural approaches may not work. There is a need to use Article 33 and 9 to foster learning among a wider range of rural resource managers.
- A number of schemes could benefit non-farming recipients but these are poorly targeted and awareness of eligibility is often low e.g. among voluntary and community groups. Northern Ireland is the only country to give significant emphasis to capacity building and community action with some apparently positive environmental results.

Delivery

- There is generally a lack of good farm advice and support that considers not only business development in the traditional sense but also how to improve on-farm environmental management and develop environmentally-related business opportunities. Farming Connect in Wales has gone further in this respect than most other delivery mechanisms but could be strengthened.
- Application procedures are complex and confusing.

- Administrative processes, such as determining which applications get funded, lack transparency and there is lack of clarity where scoring systems are applied. This makes it difficult for potential partners to get involved.
- In the RDPs, in contrast to the Structural Funds programmes, no partnership funding is involved in any of the measures supported with EAGGF funds.
- Scheme delivery is not sufficiently ‘customer’ focused.
- Awareness of some schemes is low in some places. There is especially low awareness of the environmental potential of non-AES schemes among environmental groups in most countries.
- There is a lack of focus on helping farm businesses become more sustainable – economically, environmentally and socially – and using different measures in integrated, complementary and enhancing ways to achieve this e.g. combining investment and agri-environment aids.
- There is some evidence of funding being given to businesses that results in displacement of other businesses and saturation of the market. In allocating funding, funders need to be more attuned to business activity at local and regional level and encourage broader diversification and market innovation.
- Land management schemes, in particular, are frequently inflexible to local circumstances and conditions – ‘one size fits all’ approach – and this can result in uniform outputs.
- Different organisations involved in delivery need to work in a much more co-ordinated and complementary way to deliver environmental objectives.
- Mechanisms are lacking to encourage/achieve collaborative action among farmers e.g. co-ops for food processing and marketing, landscape scale habitat restoration, landscape restoration, managing features running across several farms etc.
- There is a need for area based strategies and visions and local involvement/ownership to help realise them.

Monitoring and evaluation

- The environmental performance of rural development measures is difficult to assess due to over-emphasis on outputs as opposed to outcomes and targets are focused too narrowly eg on jobs created or retained, for business-related funds. This is driven by the EU monitoring framework and its associated requirements. It is also virtually impossible to examine the extent to which funds support integrated sustainable outcomes (synergy between economic, social and environmental goals); anecdotal evidence suggests that some good examples of this exist *despite difficulties* in using the funds in this way. Improved collection of data on outcomes is needed at different spatial levels to enable more effective evaluation.

8.4 Conclusions and Recommendations

This research project has shown there are significant opportunities to improve future rural development policy, programming and implementation in order to respond better to UK environmental priorities. The following conclusions and recommendations are drawn from Sections 3-8.3 of this report.

The conclusions and recommendations are presented in a top-down manner, starting at EU level and the current proposals and negotiations on EAFRD; recommendations for improving EAFRD from an environmental perspective are made. At national level, the success or failure of EAFRD implementation in the UK will be affected by the funding available both from EU and national sources and its allocation to the UK constituent countries. It will also be determined by the UK's overall approach to agriculture and rural development policy. Recommendations are made in relation to both these issues. Finally, the emphasis given to environmental priorities in country level rural development plans and programmes will be critical in determining the state of the environment in future as will the delivery of the plans. Specific UK recommendations are made here.

Recommendations for improving EAFRD

EAFRD and the EU strategy

Although there is some degree of environmental focus in EAFRD, the proposal is much weaker than it could be. EAFRD could give much greater emphasis to, and clarity on, the need for rural development funding to contribute to addressing EU environmental priorities, as identified in Section 2 of this report. In particular, greater reference to commitments such as the Kyoto Protocol and the Convention on Biological Diversity could be made. References should also be made to relevant current and forthcoming EU environmental legislation such as the Birds and Habitats Directives and the Water Framework Directive. There may also be a case for encompassing wider EU priorities such as landscape diversity, that are not yet adequately covered by EC laws. By doing this, the rationale for the use of public funds would be clearer and less open to criticism from sceptical World Trade Organisation partners who see such funding as 'subsidy by the back door'. The inclusion of environmental priorities in EAFRD should be expanded in the proposed EU strategy that is intended to accompany the new Regulation. Stronger emphasis on the environment in both these documents would give Member States a much clearer steer on the objectives for rural development funding when preparing their national strategies – a further requirement of EAFRD.

Recommendation

1. Both EAFRD and the accompanying EU strategy must emphasise the important role of rural development funding and programmes in meeting environmental priorities. They should refer explicitly and in detail to international environmental commitments and EU environmental legislation and highlight the need for rural development programming to respond to these.

EAFRD and environmental conditionality

As the proposal currently stands, only payments under Axis 2 measures will be subject to environmental conditionality i.e. recipients will have to meet a range of minimum environmental standards as a pre-requisite to receiving EAFRD funds. There is no logic as to why this conditionality should be a requirement on Axis 2 only and not on all three Axes. Indeed, as it stands, there is a perverse logic as recipients of Axis 2 funding are arguably more likely to be environmentally sympathetic land managers while those interested in competitiveness and diversification may be less so. Environmental conditionality should apply across all three Axes.

Recommendation

2. All three Axes and LEADER should be subject to appropriate environmental conditionality, not just Axis II.

Axis 1

Environmental stakeholders are concerned about Axis 1 and its narrow focus on competitiveness. Greater emphasis on environmental sustainability would be welcome in Axis 1; renaming it ‘Improving the competitiveness *and environmental performance* of the agricultural and forestry sector’ would help to achieve this.

From basic economic reasoning concerning market failure, assisting the adaptation of rural businesses to become more competitive is a legitimate use of public funds in the short term. It becomes of dubious validity however when it takes the form of long term interventions or pays for activities and adaptation that would have occurred in any case due to market demand or other factors. Based upon much evidence from existing Axis 1 type schemes, it seems likely that at EU level, many of the measures under Axis 1 will fall into the ‘dubious’ rather than the ‘legitimate’ category. What various evaluations show is that much greater emphasis on advice, training, support for innovative/experimental approaches and feasibility studies (so-called ‘soft support’) rather than straightforward capital investment in plant or machinery could be more beneficial in helping businesses adapt to new market conditions and opportunities. EAFRD should give a much stronger emphasis to time-limited and soft-support as opposed to capital investment.

Equally important in this context is a need to place greater emphasis on achieving environmental sustainability through any use of Axis 1 funds. Helping farmers and others to improve environmental management and meet higher environmental standards is a worthwhile response to addressing environmental priorities and it must be recognised that some such investment can improve productivity and must therefore come under Axis 1, rather than Axis 2. It is clear however that there needs to be defined baseline standards below which the polluter pays principle operates and above which it is legitimate to pay incentives. Public funding should not be used to help landowners meet baseline standards but there may be a case for funding to help meet the requirements of new and more demanding legislation, where that baseline is effectively being raised over time. From this perspective, such ‘adjustment’ funding should be time-limited. As with all Axis 1 measures, these kinds of incentive should include ‘soft support’ so that landowners better understand new environmental requirements and develop innovative approaches to meeting them.

Recommendation

3. Axis 1 of EAFRD should be renamed ‘Improving the competitiveness and environmental performance of the agriculture and forestry sector’.
4. Axis 1 should give much greater emphasis to time-limited and ‘soft support’ such as advice, training and support for innovative approaches as well as supporting capital investment. The latter should be more targeted to investments that will enhance environmental performance.

Axis 2

In Axis 2, some changes are proposed to **Less Favoured Area** support although the implications of this are relatively limited for the UK. In what seems to be an attempt to convert the current system of LFA compensatory payments into a WTO-proof measure, the LFA compensatory allowances are to be renamed as 'natural handicap payments in mountain areas and payments in other areas with handicaps'. The criteria for the designation of mountain areas may remain unchanged if the MS concerned wishes. However, the proposals suggest that the designation of other areas with natural handicaps is to be more restrictive. Only areas where maintaining extensive farming is important for the management of land will qualify, and where there are handicaps such as low soil productivity or harsh climatic conditions. Specific provisions for the new criteria for designation of non-mountainous areas with handicaps are to be defined in the implementing rules. So called 'special LFAs', currently covered by Article 16 of Regulation 1257/1999, will be maintained as a separate category of areas with handicaps that need to be farmed in order to protect the environment and coastline, maintain the countryside and preserve tourist potential. Their total extent cannot exceed 10 per cent of the MS area. The European Commission produced a non-paper on LFAs in February 2005 which proposed revised criteria for 'other areas'. The continued emphasis in EAFRD on LFAs as areas handicapped in farming terms seems to be a missed opportunity to shift this support measure more firmly towards the environment. Given that many LFAs coincide with areas of high nature value, greater emphasis could be given to using such funds to maintain and enhance the environment.

Recommendation

5. Articles 35 and 47 (Axis II) of EAFRD should place much greater emphasis on supporting high nature value farming areas and less emphasis on supporting areas that are considered agriculturally disadvantaged.

In a development more pertinent to the UK situation, it is proposed that natural handicap payments will be calculated on the basis of additional costs incurred and income foregone. In addition, payments will be degressive for holdings over a certain size. Thus, from an environmental perspective, the main advantages of natural handicap payments over agri-environment ones will become questionable in future in that lower management costs and simpler procedures for farmers may no longer be the case. In combination with the relatively critical appraisal of the existing UK LFA schemes in the Mid Term Evaluation of the programmes, there may well be a case for redirecting funds from natural handicap aids towards expanded agri-environment measures, since these can be used in a much more targeted way to deliver environmental priorities. Alternatively, natural handicap aids in the UK could be reformed and relaunched as a scheme with clear environmental benefits, targeted at achieving landscape scale change. It could be run on an 'opt out' rather than the 'opt-in' basis of agri-environment schemes avoiding the need for the scheme to be discretionary or competitive (which might incidentally ensure its admin costs stayed lower than for agri-environment schemes).

The **Natura 2000** network is given something of a boost by EAFRD. Compensation payments for Natura 2000 areas are extended to forestry and proposed as two separate

measures, with further investment assistance provisions. For agricultural land (Article 36), payments are on the basis of costs incurred and income forgone, without allowing for transaction costs. The rate per hectare proposed is set at €200 per year, with an exception for the initial 5 years when the ceiling proposed is €500 per hectare. Only farmers will be eligible. In addition, ‘non-productive’ investments on farms that enhance the public amenity value of Natura 2000 areas will become eligible for support (Article 38 (b)).

Eligible beneficiaries of new Natura 2000 payments for forests and other wooded land (Article 43) are private forest owners and associations thereof. Payments are limited to the additional costs incurred in meeting restrictions – no reference is made to income foregone or transaction costs. Payments will range from a minimum of €40 to a maximum of €200 per hectare.

This instrument provides for less attractive payments than agri-environment schemes (transaction costs included and much higher ceilings), and is less flexible. It is not obvious that this instrument will be attractive for the management of agricultural land. Some MS are already paying additional premiums in Natura 2000 areas and this is now even more in conflict with the Regulation than it was before.

The proposal introduces the following new measures related to **forestry**:

- afforestation of non-agricultural land;
- first establishment of agroforestry systems on agricultural land;
- Natura 2000 payments for wooded areas;
- Forest-environment payments;
- Support for non-productive investments.

In the UK, this offers scope for a wider range of existing state aids to become EU co-financed. However, without any new EU money, this is a spurious benefit. Different rules will apply to these new measures in terms of types of beneficiaries and eligible costs. Afforestation, restoration of production potential, prevention actions and non-productive investment support measures will be open to a wide range of beneficiaries: farmers and municipalities and associations thereof, other natural persons, and private-law corporations. MS should designate areas suitable for afforestation for environmental reasons, e.g. protection against erosion or fires, where all potential beneficiaries would be eligible for afforestation support.

Support for public authorities afforesting land is limited to establishment costs, while farmers and any other natural or private-law persons are eligible for 5 years premium for maintenance and 10 years of support to cover loss of income resulting from afforestation. The latter is a significant reduction in the period eligible for payments, which is currently set at 20 years and may act as a disincentive to afforestation. The maximum compensation payment rates are also reduced, from €725 to 500 per annum per hectare for farmers and their associations, and from €185 to 150 for any other private law person. Given the continuing environmental interest in the UK in promoting afforestation in suitable circumstances, these changes are clearly detrimental. If the commission is proposing them in order to discourage high rates of potentially inappropriate afforestation in other Member States, it would be preferable

to instead add new, more stringent environmental conditions to the aid (see comments below).

Payments would be limited to establishment in the case of afforestation for fast-growing species (excluding Christmas trees), for afforestation of non-agricultural land, and under the new proposed agroforestry measure. Only farmers will be eligible for agroforestry schemes.

Environmental conditions are only attached to the forestry measures covered by Articles 34 (b) (i), (iv) and (v). Relevant conditions should be extended to cover all forestry measures listed in Article 34 (b) to prevent inappropriate afforestation, forest management or forest use.

Recommendation

6. Specific and appropriate environmental conditions should be attached to all the forestry measures contained within Axis 2 of EAFRD, not just the measures listed at Articles 34 (b) (i), (iv) and (v). See also Recommendation 2.

The proposed EAFRD does not refer to **Good Farming Practice** as was the case in the RDR. All payments under the ‘new LFA’, agri-environment, forestry-environment and afforestation schemes, as well as payments in agricultural and forest Natura 2000 areas, will be subject to cross compliance as applicable to Single Farm payments under Pillar I. Agri-environment and animal welfare payments are only payable for commitments going beyond cross compliance as defined by Regulation 1782/2003, and other relevant mandatory requirements resulting from national legislation when these are identified in the rural development programmes. Furthermore, beneficiaries are obliged to respect ‘minimum requirements for fertilisers and plant protection products use identified in the programme’.

On paper this is a step back from the current text requiring Good Farming Practice for several reasons.

- 1) As most of the farms eligible for any Axis 2 measures are very likely to be already benefiting from aid under the Single Farm Payments, these holdings would be subject to cross-compliance anyway. Therefore the opportunity of bringing greater environmental benefits together with e.g. payments for areas with natural handicaps (‘New LFAs’) is foregone. The freedom left to MS in applying national standards to farms subscribing to agri-environment contracts may result in some erosion of the standards currently applied under GFP definitions.
- 2) Cross compliance is narrower than GFP and less flexible
- 3) Cross compliance requires only 1% sample check p.a., whilst for GFP it was 5 per cent
- 4) In the case of agri-environment and LFA schemes it is not clear if the MS’s national environmental legislation will apply, or whether this will be only if it is mentioned in the RDPs.
- 5) The additional requirement on Axis 2 beneficiaries to ‘respect minimum requirements for fertilisers and plant protection products’ is particularly

ambiguous since it could be read as adding nothing to the basic cross compliance standards. On the other hand, if it offers opportunities for MS to choose to specify additional ‘minimum requirements’ it could go some way to addressing point 1 above – but only in those cases where input use is a particular environmental concern (as opposed to other issues such as field boundary protection and management, for example).

On the other hand, enforcement of GFP was in many Member States very weak. A comprehensive and well enforced cross-compliance mechanism may, in many cases, be more effective than more ambitious requirements lacking in enforcement procedures.

A system of reductions and exclusions from payments as a result of non-compliance is to be introduced (Article 48) but no details are given at this stage. In light of the intended simplification and unification of procedures between the EAGF and EAFRD the same procedures that will apply to SFP may apply to rural development support. If this was the case, co-ordination between the controls carried out for the purposes of the SFP and the land management measures under the RDPs needs to be considered. The issue of how cross-compliance could be applied to land managed by beneficiaries other than farmers also needs to be taken into account.

A key environmental priority identified in the UK is the need for measures that can encourage land managers to promote and facilitate **countryside access**. It is not clear in the current proposal the extent to which Member States will be allowed to use funding in this way.

Recommendation

7. The UK should press for EAFRD to make it explicit that support for access management /maintenance and related measures is allowed.

A number of changes both in Pillar I of the CAP and the proposed EAFRD suggest that a review of the **basis of payments**, particularly in relation to agri-environment schemes, is needed. Decoupling will have significant economic impacts on farm businesses and these are likely to have knock-on environmental impacts. For example, a reduction in suckler cow production could lead to undergrazing of important grasslands. If Member States wish to encourage cattle grazing on such areas, they will need to look to other mechanisms such as national envelopes or Pillar II schemes to achieve this. Agri-environment schemes are an obvious mechanism to use to maintain grazing on important wildlife sites but the payments offered will need to be sufficiently attractive to farmers to encourage them to maintain grazing when the economically rational response would be to cease grazing. EAFRD proposes that payments ‘shall cover additional costs and income foregone resulting from the commitment given; where necessary, they may cover also transaction cost’. Greater clarification is required from the Commission on calculating income foregone in light of decoupling and also on what can be legitimately included as transaction costs. The point regarding income foregone also applies to the natural handicap payments (previously LFA support).

Recommendation

8. The UK Government should press for clarification on calculating payments in relation to agri-environment and LFA measures reflecting changes that may arise as a result of decoupling. Clarification should also be sought on what costs can be included as transaction costs.

Axis 3

Axis III has significant potential to benefit the environment but historically the measures it contains have not always been applied in this way; greater emphasis in the wording on supporting only sustainable rural development and focusing on non-market social and environmental goods would be helpful.

Recommendation

9. The wording of Axis III should give greater emphasis to supporting only *sustainable* rural development and focusing on non-market social and environmental goods.

Integration and Delivery

There is some disagreement as to the extent that EAFRD will help or hinder the **integration** of different schemes and measures – a lack of integration being a common criticism of RDR implementation in many Member States. With the exception of the actions financed under the LEADER Axis, any operation supported by the rural development programme can only be financed under one priority axis (Article 71 (6)). This means that integration between measures within Axes will be feasible but that integration of measures across Axes will be much more difficult. However, as long as Member States account for finance under the correct Axis, there is nothing in theory to prevent them offering farmers or other landowners an integrated scheme combining several measures from different Axes. However, the bureaucracy and difficult financial accounting this entails is likely to put many Member States off pursuing such an idea.

Recommendation

10. The UK Government should seek changes to Article 71 of EAFRD and the Implementing Regulation to ensure that measures from different Axes can be used together to achieve positive integration without placing further or complicated accounting or administrative requirements on Member States.

A key finding of this study in the UK, is the need to encourage and incentivise **collaborative action** or co-operation among groups of land managers or rural businesses. This is particularly important from an environmental perspective where the need to secure appropriate land management at the landscape or catchment scale has been identified. Specific provision in EAFRD for funding such activity, under Axis 2 in particular, would be extremely helpful. LEADER does refer to measures for ‘implementation of cooperation projects’ but it is not clear if these can be used in the way described above.

Recommendation

11. EAFRD should be amended to ensure that Member States can make specific incentive payments to encourage and facilitate collaborative projects and achieve greater synergy between productive investments and environmental measures.

This study has also highlighted the critical need for advice, training and facilitation in securing the effective delivery of rural development programmes. EAFRD does provide some positive measures in this context, particularly in Axes 1 and 3. Given the likely difficulties of using measures across Axes, specific reference to advice and training measures should also be included in Axis 2. In the absence of this, it is possible that LEADER could be used across all Axes to support 'skills acquisition' although this appears to be mainly skills in relation to running Local Action Groups.

Recommendation

12. Axis 2 should make specific provision for training and advice in the same way that these issues are covered in Axes 1 and 3.

Many proponents of rural development argue for more 'bottom-up' approaches to planning, schemes and delivery. One feature of EAFRD that is likely to work against local or regional delivery is the requirement for Member States to establish centralised paying agencies. This makes it more difficult to devolve payment to local institutions or actors outside of Government, resulting in less overall flexibility in delivery arrangements. However, the situation in the UK has proved that this is not a problem where responsibility for delivery is devolved to Government bodies.

Consultation

EAFRD is reasonably strong in requiring wide participation and consultation in the preparation and monitoring of the national strategy and in the preparation, implementation, monitoring and evaluation of rural development programmes. Member States are required to establish a partnership for such purposes to include: competent regional, local authorities and other public authorities; the economic and social partners; any other appropriate body representing civil society, NGOs including environmental ones and bodies responsible for promoting equality between men and women. Recognition of the need to promote 'sustainable development through integration of environmental protection and improvement requirements' in relation to partnerships is particularly welcome.

Longer term, the establishment of a new European network of national networks, organisations and administrations active in rural development, i.e. an observatory, may influence future developments of EU rural development policy. Because such national and EU networks can provide a fairly broad representation of various interest groups, there exists an opportunity for closer integration of different policy objectives.

Monitoring and evaluation

A greater emphasis on monitoring, evaluation and updating runs through the EAFRD text. An evaluation of the implementation of national rural development strategies (and programmes) is to be undertaken by each MS on an annual basis, following a new framework of indicators to be agreed in due course in consultation between the

Commission and Member States. The evaluations should focus on the progress, effectiveness and efficiency of the rural development programmes against their objectives. A limited number of common indicators will apply to all programmes in all Member States, while a limited number of additional indicators will be specified in the programmes (Art. 85). The indicators will relate to the baseline situation, financial execution and implementation of the programmes, programme results and their impact.

The Commission, starting in 2009, will report annually on progress of its strategy and may propose changes to the EU strategy. The evaluation will be used as a basis for identifying the most successful Member States in terms of LEADER implementation, so that the special LEADER reserve can be allocated to those countries towards the end of the programming period. It seems that the LEADER reserve will replace the current performance reserve.

The Commission and the European Environmental Agency have, in the last few years, launched several studies on the development of environmental indicators and indicators in relation to a broad range of rural development issues. The results of these projects are likely to be used for the next programming exercise, and are likely to result in a much more elaborate set of indicators, hopefully allowing for more meaningful evaluations. Such indicators must include the environmental impacts of all programme expenditure as well as some measure of integration between goals, in delivery and outcomes. Some of the costs of delivering an improved and expanded monitoring system may be paid for by the Rural Development Programme funds. Member States or regions are allowed to use up to 4 per cent of the programme funds for technical assistance, including preparation, development, implementation and monitoring of the programmes in question.

Recommendation

13. Indicators selected for evaluation purposes must include those which measure the environmental impacts of all programme expenditure as well as some measure of integration between goals, in delivery and outcomes.

Recommendations for rural development funding

Rural development funding

The amount of funding allocated to the UK from EAFRD plus national commitments will be critical to addressing environmental priorities in future. Historically, the UK has received a low share of total EU rural development funding since the allocation in 2000 was based on previous Member State expenditure which was lower in the UK than many other Member States. To boost funding levels, the UK made use of the voluntary modulation mechanism allowing it to cut some Pillar I funding and shift money into Pillar II.

The UK, and other Member States', share of EAFRD will not be clear until negotiations on the EU budget are complete and the final budget for EAFRD has been determined. The UK is likely to make a case for an increased share of the total budget in order to meet increased commitments in its rural development programmes. How much the UK receives will depend on the criteria used by the EU to make Member State allocations. The criteria currently being proposed are: GDP per capita;

percentage of the workforce employed by agriculture and the total Utilised Agricultural Area. These criteria are not yet definitive but if they were used, it is possible that the UK could see some increase in its share of the EU budget for 2007-2013 compared to the 2000-2006 programming period. However, given that the total EU rural development budget may decline overall following the EU budget negotiations, this may result ultimately in the UK receiving a larger share of an overall reduced pot of money.

Recognising the financial constraints on EU funding, the UK pressed during the negotiations on the Mid Term Review of the CAP for the ability to apply voluntary modulation up and above the levels agreed for compulsory modulation, in order to meet its ongoing rural development commitments. The UK was successful in pressing this case and is allowed to apply voluntary modulation to fund new commitments made between now and the end of the current RDR programming period. In England, this is particularly important to enable roll out of the Environmental Stewardship and Higher Level Stewardship schemes. It is not clear however if voluntary modulation will be allowed to continue to fund new commitments for the 2007-2013 programming period. Some staff within the Commission are known to be critical of the voluntary modulation approach and there may be pressure on those Member States wanting to increase expenditure to do so from national as opposed to EU funds. If this is the case, Defra will need to persuade the Treasury of the need for increased public funds for rural development against pressures for funding from other public services such as health, education and transport. All lines of attack – an increased share of EU rural development funds, the right to apply on-going voluntary modulation and increased UK expenditure – are politically sensitive and fraught with difficulty. However, Defra must continue to explore all avenues to increase rural development expenditure if the environmental priorities identified by this study are to be addressed adequately in the coming years.

Recommendation

14. If the EU, and its constituent Member States, are to meet environmental priorities in future, rural development funding must be protected.
15. The UK Government should continue to press for an increased share of EU rural development funds and the right to apply on-going voluntary modulation in addition to the compulsory modulation required of all Member States.

Recommendations for UK rural development policy

The UK, as one of the advocates of CAP reform and of shifting funding from Pillar I to Pillar II (including pressing for the right to use voluntary modulation), has shown a significant commitment to rural development policy. Significantly, it was one of the first Member States to develop agri-environment schemes beginning in England with the experimental Broads Grazing Marshes Scheme in 1985 and subsequently establishing the first Environmentally Sensitive Area Schemes in 1986. Such steps can be seen as part of an agriculture policy shift in the UK that has taken place over the past 20 years or so. This shift has been a response to growing public concern about the impacts of modern agriculture in terms of the environment, animal welfare and food safety. The debate and ultimately shift in Government philosophy has been spurred on most recently by crises such as BSE and the Foot and Mouth Disease

epidemic. As a result, the aims and objectives for UK agriculture - as set out in various country strategies referred to in Sections 3-6 – propose a move towards a more competitive, sustainable and diversified farming sector. Within this, the role of agriculture, and other land uses such as forestry, in delivering public goods is now much more widely accepted and a central tenet of the argument for using public funds to support these sectors. With respect to the environment however, specific objectives and targets are generally lacking in these strategies and the RDPs and the rationale for public expenditure is not always entirely clear. The country sections below comment further on these issues.

The UK national strategy

EAFRD will require Member States to produce a national strategy that will act as a reference tool for preparing subsequent rural development programmes. It appears that the UK will need to produce one overall strategy and within this list the rural development programmes i.e. country programmes that will implement it. EAFRD requires Member States to include:

‘the thematic and territorial priorities for rural development under each priority axis, including the main quantified objectives and the appropriate monitoring and evaluation indicators.’

This study has identified three key environmental priorities for the UK:

- Resource protection, with a particular emphasis on soil management and combating diffuse water pollution
- Halting biodiversity and landscape decline/degradation
- Promoting responsible access to land/enjoyment of the natural heritage

The UK national strategy should be clearly focused on these priorities, and include specific objectives and targets which relate to the environmental impacts of all measures under the programme, not just those in Axis 2. Country programmes should translate these priorities to regional and local level and use the three Axes and various measures within them to address these priorities.

Recommendation

16. The UK national strategy should be underpinned by a robust rationale for public expenditure and clearly focused on the environmental priorities identified by this study. It should include specific objectives and targets which relate to the environmental impacts of all measures under the programme, not just those in Axis 2.

Pillar I impacts and Pillar II responses

The CAP (as discussed at Section 2.3 of this report) is a major policy influence on the agriculture and, to a lesser extent, forestry sectors and a key driver of environmental change in rural areas. The integration of environmental concerns into the CAP has come to the fore as an objective in policy reforms since the early 1990s. The MacSharry reforms in 1992 introduced the ‘accompanying’ measures including, most importantly, the agri-environment regulation. The Agenda 2000 reforms built on these developments by introducing the Rural Development Regulation (Pillar II), bringing together a whole raft of pre-existing rural development and environmental measures under one umbrella. Voluntary cross compliance was also a feature of the Agenda

2000 reforms. The most significant factor about these policy developments is that, for the most part, they can be seen as ‘bolt-on’ measures to a policy otherwise focused (especially in financial terms) primarily on agricultural market support and control (Pillar I). The extent to which environmental integration was achieved by these reforms was limited.

The 2003 CAP reforms were a more significant development in terms of environmental integration through the introduction of decoupling and compulsory cross compliance in Pillar I. In theory, these changes could provide baseline environmental improvements. However, the uncertainty of farmers’ responses to these reforms (with likely strong regional and local differences) and questions as to how effective cross compliance will prove to be in environmental terms means that it is extremely difficult at this stage to say to what extent Pillar I will, in the coming years, provide an appropriate response to the environmental priorities identified by this study. In contrast, some early assessments of decoupling suggest that environmental problems might be exacerbated, not improved. The impacts of Pillar I reforms will undoubtedly have knock-on effects on Pillar II, possibly reducing the need for some current Pillar II approaches and creating demand for new ones.

As discussed at the end of Section 8.1, choosing the right policy tool is critical to effectively delivering environmental improvements. The 2003 reforms, plus possible changes to rural development policy (see sections below) have, in many respects, expanded the policy tool kit available to Member States to address environmental issues. This means Member States have been given greater choice and flexibility on the one hand but presented with an increasingly complex array of policy mechanisms on the other. The ability to match solutions to problems will be a skill increasingly required of Member States in the future.

Recommendation

17. The CAP as a whole has a major impact on rural areas. Monitoring programmes should be put in place now in the UK constituent countries to enable proper evaluation and assessment of the environmental impacts of the Pillar I 2003 CAP reforms, specifically in relation to decoupling and compulsory cross compliance. Early assessments of Pillar I impacts in 2005 and 2006 should be used to inform the development of rural development policy and plans for the 2007-2013 programming period and later assessments used to inform subsequent revisions.

Recommendations for UK rural development programming

Sections 3.4, 4.4, 5.4 and 6.4 draw conclusions and makes recommendations in relation to future rural development programming for England, Scotland, Wales and Northern Ireland respectively. Some key conclusions and recommendations emerge from these sections.

Allocation of funding per Axis

All four countries spend large proportions of their rural development budgets on Axis 2 measures. The proposed obligatory minimum allocations of funding per Axis may compromise future UK expenditure plans and put some constraints on programming. The implications of minimum allocations need to be considered now.

Recommendation

18. The UK Government and the devolved administrations should consider the implications of the proposed obligatory minimum allocations of funding by Axes and LEADER on their ability to address the environmental priorities identified by this study. Arguing the case for lower minimums for Axes 1 and 3 may be appropriate.

Supporting collective action and achieving large scale effects

The potential for environmental and collective actions, and promoting synergies between productive investment and environmental aims, has largely been missed to date in the UK. Northern Ireland offers a good example of how measures can be more tailored to support such things (cross border group farm environmental enhancement projects, supported under PEACE II using Article 4 funds). It is not clear if EAFRD will allow the continuation of such activities in future. This may depend on the financial controls on spending under Axis 1 in the implementing and financial regulations i.e. whether the rules are more like those for guidance or guarantee funding. EAFRD at present does not enable higher incentives for collective uptake but payments for some carefully defined elements of transaction costs might enable this. All four UK countries demonstrate the need to achieve environmental effects over a larger scale (natural area, characteristic landscape, water catchment) than currently. A reformed LFA scheme is one possible mechanism through which to achieve such effects in the uplands but new mechanisms may be needed in lowlands.

Recommendation

19. The UK administrations should pay much greater attention to achieving natural area, landscape and catchment scale effects when designing and implementing future rural development programmes. Collective action by landowners should be encouraged.
20. The UK devolved administrations should undertake fundamental reviews of LFA support. One option may be to relaunch the schemes as broad and shallow agri-environment schemes for upland areas, with particular emphasis on achieving landscape scale management. All LFA farmers would receive payments unless they chose to opt out unlike other agri-environment schemes where farmers opt in.

Addressing diffuse pollution and soil problems

Questions remain about the lack of use of Axis 2 measures in the UK to attempt to address diffuse pollution and soils. Good Agricultural and Environmental Condition requirements of cross compliance may be important in addressing environmental needs in this area, but their relative importance seems likely to vary between parts of the UK, as does the potential of the new Entry Level schemes to deliver on this priority. The Higher Level Scheme (England) has good resource protection options but the success of these measures will depend on adequate funding and sufficient uptake by farmers. More effort needs to be devoted to ensuring this priority is met effectively by the balance of conditions and payments/scheme delivery systems in place in each of the UK countries.

Recommendation

21. More effort is needed to address diffuse pollution and soil management issues effectively by the balance of conditions and payments/scheme delivery systems in place in each of the UK countries.

Enhancing public access

The UK experience highlights the need to make it clear that EAFRD should support measures to enhance public access to, and enjoyment of, the countryside in ways that may not always qualify as support for tourism under the currently drafted axis 3 measure (see Recommendation 7). While the four countries clearly differ in the extent to which annual compensatory payments are seen as legitimate or acceptable in this context, all four highlight the need/potential benefit of supporting access in some way.

Recommendation

22. Greater support is needed for access-orientated capacity building among the private landholding community to make them more cognisant of the potential benefits of providing access and more willing to deal with the perceived risks of inviting people onto their land.

Supporting the wider rural community

In all but NI (and possibly a little in Wales), considerable opportunities to benefit the environment have been missed from:

- enhanced strategic planning (drawing on experience of how former structural funds were used to do things like fund management plans for Natura 2000 sites or access plans for strategic middle distance routes, etc),
- greater support to rural communities for environmental actions (partly this is a problem of insufficient investment in environmental capacity building among community groups), and
- the need to design and be ready to expand innovative and possibly softer forms of support to non-farming land managers with appropriate non-agri-environment scheme type mechanisms. Annual payments on an income forgone basis are often meaningless to people who are not farming, but they might well respond positively to ongoing advice, interesting events and some ideas for environmentally-based business activity, where appropriate).

Recommendation

23. Greater attention should be focused on using Axis III measures to benefit the environment in the UK. Greater support needs to be offered to rural communities beyond the farming community and new approaches and methods of dealing with non-farming land owners need to be considered.

LEADER

The approach to rural development is very centralised and top-down in England and Scotland but less so in Wales and Northern Ireland. Northern Ireland is the only country to give significant emphasis to capacity building and community action with some apparently positive environmental results. Given LEADER's strength in encouraging local, small-scale, community based projects and that it looks set to attract a significant proportion of the overall EAFRD budget, greater use of this measure could be explored.

Recommendation

24. The potential of LEADER to deliver environmental benefits through small-scale, community based projects should be explored by the UK devolved administrations, particularly in England and Scotland.

Improving delivery mechanisms

Major issues remain about transparency, accessibility and credibility in relation to the suite of UK RDP delivery systems. Supporting partnership-based delivery systems for all Axes would seem worthwhile. Also, more devolution in England and Scotland, and the development of much stronger sub-regional (i.e. below England, Wales, Scotland and Northern Ireland level) agreement on RDP-wide strategies, is needed. However, it will be critical that within any partnerships formed there is effective co-ordination and coherence if such partnerships are to operate effectively.

Recommendation

25. Greater attention should be given to building partnership-based delivery systems in the UK with greater devolution of delivery in England and Scotland and stronger sub-regional agreement in all countries on rural development strategies.

Many stakeholders have argued for some time for ‘one stop shops’ for all rural development services. Lack of progress towards such delivery mechanisms suggest this is worth reiterating. Much can be learned from effective local mechanisms operating in those parts of Wales with the longest established LEADER groups (e.g. Anglesey). In England, the need for the Regional Development Agencies and the new agency to seek co-ordinated or joint local delivery is important and in Wales, Scotland and Northern Ireland similar joint delivery functions need to be designed into the evolving administrative structures and partnerships.

Recommendation

26. Renewed consideration should be given to the concept of ‘one-stop shop’ delivery services for rural development support. The various agencies involved in delivery need to work in much more co-ordinated ways to provide joined-up delivery at local level.

8.5 Next steps

At the time of going to print, negotiations on EAFRD and the EU budget and the development of the EU Strategy were on-going. Once concluded, Member States will be required to develop their own national strategies and rural development plans for the 2007-2013 programming period. This study makes a case for much greater attention to be focused in future on using rural development policy to address environmental priorities such as diffuse water pollution and declines in biodiversity. The study shows how current rural development policy and plans in the UK are failing to meet their full potential in terms of delivering environmental benefits and makes concrete recommendations for improving this situation under EAFRD and the next programming period. The case studies, in particular, offer some practical examples of how rural development funding could be used more effectively to

achieve environmental goals. The next 18 months, during which UK strategies and plans will be developed and approved, provide a real opportunity for the four UK devolved administrations to put the environment at the heart of rural development policy.