AN EVALUATION OF THE LESS FAVOURED AREA MEASURE IN THE 25 MEMBER STATES OF THE EUROPEAN UNION

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Acronym List

AER	Areas with Environmental Restrictions
AWU	Annual Work Units
CAP	Common Agricultural Policy
DA	Disadvantaged Areas
ERS	Early Retirement Scheme
EAGGF	European Agricultural Guidance and Guarantee Fund
EEA	European Environment Agency
EU	European Union
FADN	Farm Accountancy Data Network
FFI	Family Farm Income
FNVA	Farm Net Value Added
FSS	Farm Structural Survey
FWU	Family Work Unit
GAEC	Good Agricultural and Environmental Condition
GFP	Good Farming Practice
HNV	High Nature Value
LFA	Less Favoured Area
LU	Livestock Units
LVZ	Landwirtschaftliche Vegleichszahl
MS	Member State
SDA	Severely Disadvantaged Areas
SPA	Special Protection Areas
UAA	Utilised Agricultural Area

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EXECUTIVE SUMMARY

Introduction

The LFA Measure

In the early years of the LFA measure, Council Directive 75/268/EEC on 'mountain and hill farming in certain Less Favoured Areas' had one overarching objective and two sub objectives: to 1) 'ensure the continuation of farming', thereby 2a) 'maintaining a minimum population level' or 2b) 'conserving the countryside'. The objectives were designed to address a number of needs, specific to certain LFAs characterised by least favourable production conditions. These included the need to avert the threat of the large-scale depopulation of farming areas, which would jeopardise their viability and continued habitation. In the longer term, this would lead to the abandonment of previously maintained land. The logic of intervention was to maintain a farming industry in such areas to prevent the process of rural depopulation and to take action against the abandonment of agricultural land or its conversion to alternative land uses. An exodus from farming could be prevented if farm business viability was maintained and therefore, raising farm incomes in these areas to a reasonable level was seen as central to achieving the objectives. Farm incomes were to be increased through the payment of an annual compensatory allowance which compensated farmers for permanent natural handicaps, the level of which reflected the severity of the handicap measured against a number of regional/national and European reference points.

Council Regulation (EC) 950/97 on improving the efficiency of agricultural structures amended Council Directive 75/268/EEC. Under this Regulation the objectives remained the same; 'to ensure the continuation of farming', thereby 'maintaining a minimum population level' or 'conserving the countryside', thus reflecting a similar set of needs and priorities. In turn, the logic of intervention was to take action to maintain the farming population and their incomes in these areas, through the provision of an annual compensatory allowance to offset natural handicaps.

The objectives of the LFA measure evolved with the introduction of Council Regulation (EC) 1257/1999. Ensuring 'continued agricultural land use' became the overarching objective, which, in turn would contribute to the 'maintenance of a viable rural community'. Two further objectives relate to 'maintaining the countryside', which has remained consistent throughout the history of the measure, and 'to maintaining and promoting sustainable farming systems which take account of environmental protection requirements'. An additional objective was added in Areas with Environmental Restrictions, classified under Article 16 of Council Regulation (EC) 1257/99, which was concerned with promoting compliance with environmental requirements and safeguarding farming in areas with such restrictions. This environment-focused objective reflected an emerging need within the LFAs, and more broadly in Europe's rural areas, relating to the inimical effects of an intensive form of

production and a recognition of the biodiversity and landscape values of low-intensity farming systems. Central to achieving these objectives is a logic of intervention underpinned by a commitment to retaining agricultural land use, although increasing emphasis is placed on incentivising a specific type of agricultural management in these areas in order to address the environmental and social needs identified.

As before, the objectives were to be achieved through the payment of a compensatory allowance fixed at a level which is sufficient to make an effective contribution to compensate for existing handicaps and which avoids overcompensation. Under this Council Regulation, no reference is made to the farm income in setting the level of the compensatory allowance, which reflects the fact that the intervention is no longer directed at the farmer or agricultural community per se, rather at maintaining a specific type of land use. This acknowledges implicitly the inevitability of socio-structural change within the LFA in the future.

Under the forthcoming Council Regulation (EC) 1698/2005, the LFA measure, through the 'continued use of agricultural land', should contribute to 'maintaining the countryside' as well as 'maintaining and promoting sustainable farming systems'. In addition, it should contribute to ensuring that environmental requirements are met and to safeguard farming in areas with environmental restrictions. The social objectives have disappeared which implies a significant transformation in the needs the measure seeks to respond to and therefore in its intervention logic.

Since its introduction in 1975, the objectives of the LFA measure have evolved, reflecting a shifting constellation of social and environmental needs in less favoured areas, and a changing set of priorities. In general terms, the social need has lessened, and specifically, the measure is no longer seeking to address rural depopulation, although concern for the maintenance of a certain type of agricultural land use and environmental protection has increased. Furthermore, with successive amendments, Member States have been offered increased flexibility in the implementation of the measure. Member States are now responsible for fixing the levels of compensation, defining the types of production to be covered by the scheme, and modifying LFA boundaries. This has meant that in many countries an additional layer of national or regional objectives is pursued.

A change and proliferation in the measure's objectives, along with a concomitant shift in the logic of intervention, suggests that the way in which the measure is implemented in different Member States through the classification criteria, the farm level eligibility criteria, and the modulation and structuring of payments, should be subject to review. This is in order to assess the measure's continued relevance and effectiveness in the face of an evolving set of needs and objectives and to consider whether these objectives continue to be achieved in the most efficient way. This forms the basis of concerns expressed in a Special Report No 4/2003 of the Court of Auditors which drew attention to the existence of considerable disparities between Member States in terms of the area classified, the level of payment per beneficiary, and the effects of the measure on farm incomes with implications for its effectiveness and efficiency. Through a critical examination of farm incomes and structures in the LFA, and of the measure's socio-economic, land use and environmental impacts, this evaluation seeks to address some of these questions.

Less Favoured Areas

Under Council Regulation (EC) 1257/99, an area may be classified as less favoured according to one of four categories. Each category characterises a specific cluster of handicaps, common to certain areas of agricultural land across Europe, and which threaten the continuation of agricultural land use.

Under Article 18, **Mountain Areas** are characterised as those areas handicapped by a short growing season because of a high altitude, or by steep slopes at a lower altitude, or by a combination of the two.

Under Article 19, **'Other' Less Favoured Areas** are those areas in danger of abandonment of agricultural land-use and where the conservation of the countryside is necessary. They exhibit all of the following handicaps: land of poor productivity; production which results from low productivity of the natural environment; and a low or dwindling population predominantly dependent on agricultural activity.

Under Article 20, **Areas Affected by Specific Handicaps** are areas where farming should be continued in order to conserve or improve the environment, maintain the countryside, and preserve the tourist potential of the areas, or in order to protect the coastline.

Under Article 16, payments are made for costs incurred and income foregone by farmers in **Areas Subject to Environmental Restrictions** resulting from the implementation of limitations on agricultural land use imposed by Community environmental protection rules.

Methodology and Geographical Scope of the Evaluation

This report provides an evaluation of the LFA measure and presents the results from a 10 month study conducted in the 25 Member States of the European Union between December 2005 and September 2006. The study is framed by seventeen evaluation questions and sub-questions which fall under six Evaluation Themes. It serves to evaluate the implementation of the LFA measure (Themes One and Two), along with its effects on farm structures and incomes (Theme Three), and its impacts on land use, the environment and the viability of rural communities (Themes Four – Six). All six evaluation themes are investigated in the EU-15 Member States. However, given the recent introduction of the measure in the EU-10 Member States following their accession in 2004, the study focuses exclusively on implementation issues (Themes One and Two) in these countries. It is accompanied by a report on the 'Implementation of Articles 18, 19, 20 and 16 of Council Regulation (EC) 1257/1999 in the 25 Member States of the European Union' (IEEP, 2006) which provides an inventory of the classification criteria used by Member States, along with data on the area classified as LFA and on compensatory allowances.

The evaluation covers the period since the introduction of Council Directive 75/268/EEC in 1975 up to the present day (2004, in practice). Certain questions seek to address the whole period while others concentrate on the most recent period of

implementation since 1999 when the Rural Development Regulation (1257/1099) came into force and significant changes were made to the LFA measure in the context of Agenda 2000. That said, historical databases are rare, which has proved a limitation in the collection of time series data.

The evidence base for the Evaluation comprises secondary data including official documentation, scientific studies and earlier pan-European and national evaluations of Rural Development Programmes. Quantitative data have been derived from pan-European datasets including the Farm Accountancy Data Network (FADN) and the Farm Structure Survey (FSS), and from national statistical databases. Qualitative data have been gathered through semi-structured interviews with 260 informed experts. In addition, fifteen case studies were carried out in Germany, Ireland, Spain, France, Italy, Austria and Sweden to provide fine-grained evidence under a variety of political, administrative, economic and natural conditions and to explore the measure's varying impacts at a regional level. Data to answer the evaluation questions were collected by national consultants in each of the 25 Member States whilst the analysis has been conducted by a group of eight experts, with special consideration afforded to the relevance of the measure with regard to the needs, problems and issues at the regional, national and Community level; its effectiveness and the extent to which intended objectives are being achieved; and the efficiency of its implementation.

Classification of LFAs

To compensate farmers in areas subject to permanent natural handicaps and with environmental restrictions, the EU Regulations establish overarching criteria for the classification of LFAs and for the setting of rules to determine eligibility at the farm level. Flexibility is afforded to the Member States in the interpretation of these criteria, and many have introduced additional classification criteria to reflect national and regional disadvantages.

For areas classified under Articles 18 and 16, the EU criteria are well defined and measurable and Member States have adopted them in a consistent way. In this regard, there is a clear correspondence between the classification criteria used and the handicaps they seek to identify, although together they only account for 29% of the total area of LFA (28% and 0.8%, respectively, in 2004/5). For the classification of 'Other' LFAs, Member States use a wide variety of criteria, including 17 relating to the productivity of agricultural land, 12 to economic performance and 3 to rural population issues. Most are well defined, although the severity of disadvantage varies and the criteria are not all directly comparable across the EU-25. In measuring the condition and productivity of agricultural land, for example, Germany, Austria, Finland and six new Member States use criteria based on national indices of soil and land quality. Article 20 areas are defined according to a wide range of criteria which are often qualitative in nature and refer to local conditions. As such, the handicaps they describe are relative and context-specific, and cannot be compared to a European baseline of disadvantage.

Almost all Member States have shown a steady increase in the area classified as LFA and the proportion of the total UAA classified as less favoured has risen from 33% in

1975 (EU-9) to 55% in 2005 (EU-15). This equates to a farmed area of about 77 million hectares in 2005, drawing on European Commission data. Germany, Spain, Greece, Portugal, France and the UK are 'expansionists' in this respect and have increased their LFAs by 10% or more from 1975 or accession. Since 1988, much of the growth in area has been in 'Other' LFAs, which in 2004/5 accounted for 66% of the total LFA, whilst there has been a decline in the area of Mountain LFAs. The new Member States have followed the EU-15 in classifying significant areas of land as less favoured, equivalent to 52% of the total UAA in 2005. The enthusiasm for classifying a large area as LFA reflects, in part, the relevance or perceived relevance of the measure, along with the financial incentive conferred by access to EAGGF funds and the fact that national authorities are under no compulsion to make LFA payments.

The relationship between the classification criteria and an objective measure of handicap is only clearly defined for Article 18 and 16 areas. However, over the period 1998 – 2004, the area of land classified under Article 18 has declined and under Article 16 remained small while the total area of the LFA has expanded, with the biggest increase in 'Other' LFAs. Given the increase in the size of Article 19 areas, it is of concern that the basis for classification in relation to a robust measure of handicap is less secure compared to Article 18 and 16 areas. Classification under both Articles 19 and 20 has occurred with reference to a wide range of national criteria, many of which are not comparable at a European level. This is not in contravention of the requirements of the Regulation, although it reduces transparency with regard to the equitable distribution of compensatory allowances. Furthermore, some of the classification criteria under Article 19, and in particular the three which relate to rural population issues, no longer reflect the core objectives of the LFA measure and have been inherited from earlier iterations under which areas were classified on the basis of needs that are no longer as pressing.

Given the progressive reorientation of the LFA measure towards sustainable land use and environmental objectives, and the absence of social objectives relating to the viability of rural communities under the forthcoming Council Regulation (EC) 1698/2005, the relevance of these population criteria as a basis for classification is open to challenge which, in turn, raises questions about the less favoured nature of some existing classified areas. In light of these revised objectives, a further concern is that Member States have made only limited use of the environmentally focused Articles 16 and 20, which accounted for 0.8% and 5% of the total LFA in 2004/5, respectively. Article 16 is a special case in that the need for compensation depends considerably on the way in which Member States implement the EU Birds and Habitats Directives and the implications for farm income. There are variations in the attitude of governments to pay compensation in these areas.

Eligibility

Not all farms within an LFA receive a compensatory allowance, with some excluded under the eligibility rules. In Spain and Italy, for example, half the holdings in the LFA fall below the eligibility thresholds of two and three hectares, respectively. Under Article 14.2 of Council Regulation (EC) 1257/1999 three mandatory eligibility criteria are established, including a requirement to farm a minimum area; to undertake

to farm for at least five years; and to apply Good Farming Practice, all of which are consistent with the measure's core objectives. In addition, Member States apply a range of specific eligibility criteria mainly at a national but in a few instances at a regional level, which reflect a variety of objectives and administrative requirements. Common eligibility criteria include restrictions on farmers over 65 years of age from receiving payments, place of residence conditions, and a requirement to keep livestock. Many of these are inessential to the main objectives of the measure and could exclude farmers contributing to the maintenance of agricultural land use. Whilst it is reasonable to focus on livestock farms in many regions, this needs to be clearly linked to sustainable land management, including the application of minimum and maximum stocking densities. Other valued agricultural landscapes, including mixed farming, for example, should not be excluded from LFA support. The exclusion of very small farms may impact on holdings offering landscape diversity in some regions, but this has to be balanced against the likely limited impact of very small payments and the administrative cost of making payments and monitoring a large number of small farms.

Since 2000 in particular, Member States have made changes to their national criteria, including a broadening in the types of farming systems eligible for receipt of the compensatory allowance; a relaxation in the restrictions on recipients; and a change in stocking density requirements, with a ceiling removed in many cases. In some Member States the minimum farmed area requirement has also been increased. These changes go some way to reorient national aid schemes towards the revised objectives of Council Regulation 1257/1999, although relatively few new environmental criteria have been introduced by Member States.

Implementation and Expenditure

All 25 Member States have chosen to implement a LFA aid scheme, which indicates a widespread view that the policy is relevant to the needs of the European rural territory. It is only recently that a few regions or Member States, such as Wales, for example, have considered discontinuing their scheme. Between 1995 and 2003, there has been a decline in the number of holdings in the EU-14 receiving a compensatory allowance from 1.213.000 to 965.000 (this figure excludes approximately 6000 farms in Belgium because of data inconsistencies). The decline is likely to be due in part to the changes in eligibility conditions introduced in 2000, and to the substitution of livestock headage by area payments that occurred in this period. Following the accession of the new Member States, 1.782.323 holdings received the LFA compensatory allowance in 2004 (EU-24, excluding Hungary), and an overwhelming majority of these additional beneficiaries were in Poland, with 520,000 recipients. The effect of enlargement was to increase the number of beneficiaries by nearly 90 per cent.

Seven Member States (France, Finland, Germany, UK, Ireland, Poland and Austria) account for more than two thirds of total LFA expenditure - €2.2 billion out of a total budget of €3.07 billion in 2004. In terms of EAGGF expenditure, the seven largest budgets are in the same Member States but with Italy and Spain displacing Austria and the UK. Expenditure on LFA compensatory allowances has risen over time in most Member States, with considerable apparent fluctuations between years in some cases. There have been significant increases in Ireland, from around €150 million per

annum in the mid 1990s to €230 million in 2004, and in Spain, Italy, Luxembourg, Austria, Portugal, Finland and the UK since the mid 1990s. By contrast, in Germany and Sweden there has been a significant decline in expenditure. Some increases took place around the time of the switch from headage to area payments and seem to have been motivated partly by a desire to reduce negative impacts on farms which otherwise would have lost out financially as a result of this change.

Total public expenditure on rural development measures was €10.15 billion in 2003. Thus, committed expenditure on the LFA measure in the EU-15 of €2.3 billion approximated to one fifth of total rural development expenditure. The amount invested in the LFA measure varies widely between Member States, however France, Finland and Germany allocate the largest budgetary share to the LFA scheme, more than 30 per cent of the total compared to 12 per cent in Spain and 7 per cent in Italy which also has large areas classified as LFA. Prior to EU enlargement, resources have been concentrated in North West Europe rather than in Mediterranean countries where environmental values are high in many areas and marginalisation more widespread.

Compensation Payments

Since the introduction of Council Regulation 797/85, Member States have had a prominent role in fixing the level of the LFA payment which, in principle, should reflect the degree of handicap affecting farmers. Levels of payment vary significantly between Member States, ranging from a national average payment per eligible hectare of €15 – 55 in Spain, Estonia, Sweden, Poland, Lithuania and the United Kingdom, to €175 – 250 in Austria, Finland and Malta. These average payment rates mask a wide variation in the actual amounts paid per hectare and per farm because payments are differentiated according to multiple criteria as well as varying between eligible groups and categories of LFA in several countries. In 2004, there existed 156 payment rates, and the minimum average rate applied was less than €10 per hectare, compared to a maximum rate in excess of €800 per hectare in certain Austrian and Italian mountain farms.

Under Article 15.2 of Council Regulation 1257/1999, guidance is given for the differentiation of payments according to the situation and development objectives of the region. This reflects the severity of the permanent natural handicap; the particular environmental problems to be solved; the type of production and, where appropriate, the structure of the holding. Following these four criteria, Member States actively differentiate payments, with the exception of Malta, the Netherlands and Estonia which pursue a flat rate approach. A majority define payment rates at the area level and only in Austria and Germany are payments differentiated at the farm level, using criteria based on a detailed land classification system. The most widespread differentiation is related to farm size, with payments typically restricted to a limited number of hectares and/or subject to a declining scale. This has the effect of distributing resources in favour of smaller farms which reflects national socio-agricultural objectives. In most formulations, it reduces expenditure on larger farms achieving some budgetary savings without appearing to prejudice the willingness of larger farms to keep the whole holding under management.

Member States deploy a mix of quantitative and qualitative approaches to measure the severity of the handicap as a basis for determining the level of payment. The process is less systematic than the classification of areas. Payment levels are typically calculated in relation to a baseline - the absence of disadvantage - defined in most cases in terms of agricultural income. This is measured, either in relation to a norm - typically conditions in the national non-LFA - or to previous LFA payments levels or historic income. The fixing of rates is embedded in a matrix of national or regional considerations and does not refer to a consistent European baseline. There is a strong element of path dependency in the setting of payment rates in many national aid schemes, which, while providing stability for farmers, leads to a divergence from the measure's present day focus.

The link between the handicaps conferring the disadvantage, the consequences for farm profitability, and the level of payment is often not sufficiently transparent and there appear to be inconsistencies at a European level. An analysis of several different possible causal factors which might be expected to explain differences between Member States in payment rates reveals low correlations with the actual payments within the EU-15.

In the EU-15, only one variable amongst those tested statistically to display any significant correlation was a measurable, yet indirect proxy of disadvantage. This is the share of Farm Net Value Added (FNVA) per hectare in the LFA compared to the non-LFA in each country. Taken from FADN data, FNVA per hectare reflects a variety of factors explaining productivity on the farm amongst which will be the severity of handicaps. It is effectively a measure of resource income rather than a direct measure of disadvantage, but it allows comparisons to be made with the non-LFA to investigate the relationship between the payments and levels of disadvantage. As expected, the 2004 LFA payment rate per hectare had a negative correlation with the share of FNVA per hectare in the LFA indicating that payments are higher where handicaps are greater ignore (based on the FNVA per hectare proxy of disadvantage). Nonetheless, this explained only about a quarter of the differences in LFA payment rates relative to the apparent disadvantage between Member States.

Coverage of LFA Compensatory Allowances

In the 2000 – 2003 period, the number of beneficiaries of LFA payments was less than half the total number of farms in the areas classified in the EU-15. It ranges from around 90% or greater participation in Ireland, Finland and Austria and the Mountains LFA in Germany, to around 15% in Spain and below 10% in Italy. In most Member States, the proportion of farms within LFAs receiving compensatory allowances is greater in the Mountain than the 'Other' LFAs. The overall pattern is greater participation in North West Europe than in Mediterranean regions partly because of the prevalence of small farms below the minimum size threshold in southern Europe.

A similar pattern arises with respect to land use, with a greater proportion of the Utilised Agricultural Area (UAA) receiving payments in North West Europe than the Mediterranean. More than 90% of the UAA is covered in Luxembourg, Ireland and Finland, around 61% in Germany, 42% in Spain and 35% in France. Less than 20% of the UAA received payments in Greece and Italy.

Contribution to Farm Incomes

Since the core objective of the LFA measure is to sustain agricultural land use, farms need to achieve a sufficient income level to remain viable, accepting that structural change will occur and that land may be managed by fewer people over time. Farm families within the LFA receive income from both agriculture and other activities rendering it difficult to forecast the minimum level of purely agricultural income required over a period of years to maintain farming. In the long run, the income required to sustain agricultural use may be expected to relate to alternative sources of income achievable within the LFA. Parity with agricultural incomes on similar farms outside the LFA is not the goal of the measure although it is sometimes mistaken as such, and some Member State governments do refer to non LFA agricultural baselines in calculating the level of compensatory allowances.

Aggregate LFA payments per Family Working Unit (FWU) represented less than 10% of Family Farm Income (FFI) per FWU in Spain, Greece, Italy and Belgium in 2003, drawing on FADN data. This was also true of the 'Other' LFA in Portugal, France and Austria. By contrast, it was 20 – 30% of FFI/FWU in the Mountain areas of Austria, France and Finland and 45% in the Swedish Mountain LFAs. In Germany, the UK, Ireland, Luxembourg and Sweden it was 20 – 30% of FFI/FWU in the 'Other' LFA, rising to 50% in Finland. Other methods of estimating the income contribution of LFA payments reveal similar variations and a marked North / South divide, although precise figures differ. If payments are expressed as a percentage of mean farm incomes from agricultural sources net of costs, the proportion can rise to well above 40% in some cases. Contributions to agricultural income are more significant for livestock than crop farms in most Member States.

Taken as a whole, the data suggest that while the aggregate contribution to farm incomes is small in many Member States, it is significant in half the EU-15 and likely to be so in many of the EU-10 where FADN data is not collected but average payments per hectare are similar to the Community average. At the same time, although comparisons between similar farms are difficult, a gap remains between aggregate farm incomes in the LFA and non-LFA in most Member States and therefore incomes including LFA allowances fall short of non-LFA incomes.

Farm Structures

Differences in the evolution of farm structures in LFAs and non-LFAs are small over the period 1990-2003, although variations between Member States are quite significant. In addition, no evidence of a large decline of the UAA in LFAs was found. The small differentials in the development of farm structures in LFAs and non-LFAs could, in principle, be attributed to the effectiveness of the LFA measure in slowing down the exodus from farming. However, given that the convergence in the development of farm structures in LFAs and non-LFAs occurred both in countries with high and low levels of LFA payments, it seems likely that LFA policy was only one among a range of factors that contributed to this trend.

Maintaining Agricultural Land Use

Ensuring the continuation of agricultural land use and preventing the abandonment of previously managed land is an overarching objective of the LFA measure. A major threat to the continuation of agricultural land use is the marginalisation or abandonment of land, therefore, an incentive based measure targeted at improving the viability of vulnerable farms through partial compensation is potentially an efficient instrument. Where the threats to the continued use of agricultural land come from urbanisation or afforestation, alternative instruments, including land use planning and redesigned afforestation measures will play a key role. Data from the FSS reveal that the area of land under agriculture has been maintained in the LFA over the period 1995-2003, with minor per cent changes in the Utilised Agricultural Area in certain Member States, explained in part, by amendments to the area classified. In the EU-14 (excluding Germany), the UAA within the LFA was 60.84 million hectares in 1995, falling to 60.41 million hectares in 2003.

Europe-wide data, however, mask some more significant trends at a micro-scale, and the case studies show agricultural land use contracting in some areas and increasing in others. In addition, this there is evidence of a progressive withdrawal of agricultural management in some areas, particularly on permanent pasture and steeper slopes. Portugal and Italy are among the countries where such marginalisation could lead to a cessation of agricultural activity.

The continuity in agricultural land use at European level has occurred against a back-drop of structural change unfurling both within and outside of the LFAs, a key manifestation of which has been the rationalisation of holdings and a decline in the number of farmers. The role of the LFA measure in ensuring continued agricultural land use and in preventing land abandonment, however, is not clear cut and there are several reasons for this. First there is little evidence about how recipients would have acted in the absence of a payment. Second, in certain Member States, a significant number of farmers and farmed areas within the LFA do not receive a compensatory allowance and therefore, there are large areas of agricultural land which continue to be farmed irrespective of the LFA payment. This strongly suggests that complete coverage of the existing LFA is not necessary to maintain agricultural land use. Third, at an aggregate level, the contribution of the LFA payment to farm income is quite small in many Member States, and at most contributes to less than 25 per cent of the total subsidy received by farm households. It is likely, therefore, that in addition to the LFA payment, the contribution to farm income of direct payments, other subsidies, and off-farm income sources is also of importance in sustaining the viability of farm businesses and in turn in supporting continued agricultural land use. Evidence from the case studies supports this.

The LFA compensatory allowance does not operate in isolation from other measures affecting farm viability and agricultural land use. The support measures under Pillar One of the CAP introduced in January 2005 are of particular significance. However, these support measures do not have an explicit land use objective. Other measures within Pillar Two have different objectives and are not sufficiently focused on agricultural land use to offer an efficient alternative to an LFA compensatory measure, although agri-environment schemes, early retirement schemes, investment in agricultural holdings, and improving the processing of agricultural products, all have

objectives which are complementary to those of the LFA measure. As such, it is likely that a mix of instruments is required in order to maintain an appropriate level of agricultural land use in the LFA.

Environmental Impacts of LFA Payments

The LFA measure is targeted at areas with natural handicaps, so the majority are characterised by low-input, low-output farming systems due to the physical and socio-economic constraints farmers face. Consequently, there is a sizeable overlap between areas of high environmental value, especially those dominated by low intensity livestock production, and areas currently classified as less favoured. Few areas have been classified specifically for their environmental value, however, and Member States have made limited use of Articles 16 and 20 to capture these. In any future review of LFA classification, the opportunity should be taken to incorporate criteria which improve targeting to environmental priorities such as High Nature Value (HNV) farmland and valued traditional landscapes.

In areas currently classified as LFA, the processes of agricultural intensification, specialisation, progressive marginalisation and land abandonment represent key threats to environmental value. Several important environmental concerns are addressed by the continuation of agriculture per se but in most cases, the type of management pursued is also essential to meeting environmental requirements. The LFA measure has been part of a set of policies which has proved successful in maintaining farming but with variable results at the more specific land management level. The focus on livestock farms has helped to address the key environmental issue of continued grazing on farms where profitability tends to be low and this has made a major contribution to meeting nature conservation and landscape goals over a significant area. Other habitat types have benefited less from the LFA measure and intensive production is a concern in some areas.

In environmental terms, there have been synergies with other CAP measures with respect to maintaining land management. The LFA measure compliments rather than competes with agri-environmental schemes. Conflicts have arisen with respect to intensification, notably the growth in sheep numbers in the 1980s, leading to overgrazing in some areas. However, the transition to LFA area payments in 2000 combined with the subsequent decoupling in Pillar One removed the incentive for overstocking within the measure.

Achieving environmental objectives through the LFA measure requires its application – in terms of eligibility criteria, payment conditions and rates – to be done in such a way as to incentivise behaviour that leads to environmental protection and to target those recipients best able to contribute to achieving such objectives. This implies a more precise targeting on farms where the threat of land abandonment is greatest, and on low intensity systems, with irrigated land generally excluded. Good Farming Practice standards have played a useful role but need to correspond more closely to key environmental conditions within the LFA, including those which relate to soil, landscape and biodiversity concerns, and thereby to promote sustainable agriculture, a key objective in Council Regulation (EC) 1257/1999. In most cases, the standards set have contributed to a baseline of protection, and not to environmental enhancement.

As the LFA measure has developed over time, additional objectives concerned with sustainability and the environment have been added. Some Member States have responded by classifying new areas or altering eligibility rules and payment conditions. The majority, however have made relatively few, if any, steps in this direction and sought continuity rather than a new focus. There is scope for greater environmental ambition in tuning national implementation rules to the most widespread issues of intensification, specialisation and marginalisation and LFA payments could be more focused on enabling the survival of sustainable farming systems rather than agricultural management per se.

Impacts on Rural Communities

In principle, the LFA measure could contribute to the socio-economic viability of rural communities both directly through the payments received by farmers and indirectly through the maintenance of open landscapes and continuation of agricultural activity. It does not directly promote the diversification of the rural economy.

The LFA compensation payments result in a transfer of about €3.07 billion to recipients in the EU-25 (2004 figures), making a contribution to farm incomes in those rural areas where more vulnerable communities are most likely to be concentrated. Some additional income and employment opportunities will arise from economic activities upstream and downstream of agriculture and from recreation and tourism dependent on open landscapes.

It is difficult to measure the scale of this impact over a large area of farmland in extremely diverse conditions. While there will be positive impacts on the recipients of support, it is not clear that the prolongation of agricultural land use is necessarily conducive to improving the viability of rural communities. Only farmers are direct recipients of LFA payments and although numerous (almost 1.8 million in 2004) they represent only one section of rural societies. Payment structures favour smaller farms in most Member States, which may help to prolong existing agricultural structures and perhaps more traditional rural societies, but not necessarily strengthen longer term viability.

When Council Directive 75/268/EEC was first implemented it was a reasonable assumption that a significant proportion of rural communities in the LFA were economically vulnerable. Rural economies are now much more diverse and complex, with a mixture of dynamic and more affluent communities in some areas including certain mountain regions. Elsewhere there are more marginal societies, including significant parts of the new Member States where economic transition in the countryside has disrupted rural employment. Within the EU-15, the historically low levels of expenditure in the Mediterranean relative to North Western Europe suggests that the measure has not been targeted at depopulation issues or at regions with clear social requirements despite the widespread uses of Article 19.

Conclusions

Relevance of Objectives

The core objectives of the LFA measure are concerned with securing public goods. Under the most recent Council Regulation 1698/2005 the purpose of the measure is to contribute to 'maintaining the countryside', through the continued use of agricultural land, and also to 'maintain and promote sustainable farming systems'. Whilst objectives have evolved over time, throughout the history of the measure payments have been intended to provide an effective contribution to the additional costs of agricultural activities arising from specific handicaps in classified LFAs. Farmers were to be compensated not to bring their incomes up to a given level, such as those outside the LFA, but in order to secure the continuation of appropriate agricultural management.

The LFA objectives remain relevant because to a large extent, the environmental and related public goods that are of value in the countryside stem from appropriate land management, and in particular, agricultural management over large areas. Continued agricultural management contributes most to the countryside where it supports the maintenance of valued open landscapes, semi-natural habitats and biodiversity; it assists in the control of forest fires; or contributes to good soil and water management. Furthermore, features such as grazed semi-natural grasslands and hillside terraces stem from farming practices.

It happens that the farms and farming systems where these forms of management arise are generally subject to natural handicaps which act as a constraint on more intensive practices. In turn, these handicaps exert an impact on the viability of the farm business and its relative competitiveness. As such, these farms are potentially under the greatest threat from the decline and cessation of management, with a consequent risk of the loss of environmental values. A decline in land management potentially preceding eventual abandonment is reported in several regions of the EU suggesting that continued land management cannot be taken for granted.

On the other hand, the original objective of seeking to prevent rural depopulation through continued agricultural activity has ceased to be relevant in most parts of the EU-15 as the share of employment directly dependent on agriculture has declined. The removal of this from the formal objectives of the LFA measure was therefore appropriate.

Impacts and Effectiveness

Relatively little farmland in the LFA has ceased to be managed by agriculture. The area of outright abandonment is small although it is not possible to determine this precisely from the data available. Thus the principal goal of the measure has been reached in the EU-15. This contrasts with substantial areas of farmland abandonment in other industrialised countries, for example in parts of the United States.

The LFA measure is one of a number of policies that have contributed to this outcome. It has been most effective on livestock farms, which have been the focus of

complementary payments in most Member States and where the contribution to farm incomes has generally been higher. There are variations between farms and Member States in the extent to which LFA payments contribute to incomes and in the income level required to maintain farming. It is difficult to be confident that the payments offered match these differentiated requirements suggesting that there is no uniform pattern of effectiveness. Some farms in the LFA rely heavily on compensatory allowances, or a combination of these and agri-environment payments, but support under Pillar One makes a greater contribution to farm incomes in all Member States.

The measure has been more effective in maintaining land use than in securing the most appropriate forms of management with both intensification and undergrazing significant issues in some areas. Over intensive management in parts of the LFA in the 1980s was attributed to the livestock headage payments that were obtainable under Pillar One market support as well as the LFA. Such pressures have been alleviated by the change from headage to area payments and decoupling in Pillar One.

Changes in agricultural employment since the 1990s have been broadly similar in the LFA to those outside it. This is true of Member States where the application of the LFA measure has been light as well as those where most farmers have received payments. While LFA payments will have played a part in preventing a more rapid decline in the labour force in those Member States where they have been widely implemented, their effect is difficult to separate from other factors.

Efficiency

In principle, the EU Regulation provides a flexible framework for an efficient system of targeted compensatory payments. The present combination of classification criteria, eligibility rules and payment structures at Member State level, however, does not result in resources being targeted sufficiently precisely on areas where public goods are most apparent and the hazard of abandonment is greatest. Expenditure is skewed towards a limited number of Member States and it is difficult to reconcile payment rates to the severity of handicap at a European level.

This inefficiency in the compensation structures does not mean that the majority of farmers are being over-compensated for handicaps. Indeed large areas of land receive no compensatory payments and FADN data relating to FNVA per hectare, itself a rather crude indicator of relative disadvantage, suggests that compensation levels in the EU-15 are below what might be expected given the handicaps in many cases.

To improve efficiency, the wide scope of the measure could be reduced to focus more on areas at greatest risk and where the benefits of continued agricultural land use are most evident. In addition, greater clarity could be sought about the relationship between the intensity of the handicaps faced and the level of payments, accompanied by the development of more transparent payment calculation formulae.

Future Role of the LFA

The objectives of LFA policy have always been different from those of other policy measures within the CAP. With the advent of decoupling and support for farmers

under the Single Payment Scheme (SPS), there is more convergence between Pillar One and LFA compensatory allowances. The SPS is not connected to specific types of production, takes the form of an annual area payment, and is subject to cross-compliance, including the obligation to keep the whole farm in 'Good Agricultural and Environmental Condition' (GAEC). This is intended to prevent under-management and abandonment on all farms receiving the Single Payment. It provides a good opportunity to review the role of the LFA.

Complying with GAEC is potentially more onerous for farms in the LFA where the presence of handicaps is often associated with low yields and returns per hectare, while the potential for scrub invasion and land marginalisation is relatively high. Progressive abandonment on the less productive land in the LFA is more probable than elsewhere. By contrast, however, the Single Payment generally will be lower per hectare than on farmland outside the LFA because of low historic yields. The Single Payment per hectare is therefore likely to be lowest in regions where continued agricultural land management is most important from an environmental perspective where marginalisation is most probable.

Hence there is an argument for focusing LFA policy in future on compensating farmers in such regions for continuing with land management in the face of handicaps and increasing legislative requirements. As such, payments need to be concentrated on areas where there is a clear need for agricultural management and there are genuine risks of abandonment or inappropriate land use change. The criteria for selecting areas and the rules governing eligibility and payment structures need to be adjusted to support this more explicit objective. The current objective of supporting sustainable agriculture in the LFA remains relevant but should give rise to more specific environmental conditions, relating directly to handicaps and the required form of management, including limits on stocking densities.

A revised measure of this kind would not overlap to any significant degree with agri-environment measures which are distinctive in that they apply potentially to all farms irrespective of whether they are in the LFA and they provide compensation for a range of prescriptions, many unconnected to natural handicaps. Furthermore, they are negotiated on an individual farm basis whereas a revised LFA would be based on relatively simple rules applying throughout a specific region, underpinning sustainable farming rather than guiding management more precisely.

Recommendations

This evaluation has focused on the implementation of Council Regulation 1257/1999 and its predecessors. Looking ahead, LFA policy will continue within the framework of the new Rural Development Council Regulation 1698/2005 but with the provisions of 1257/1999 unchanged until January 2010.

The fundamental objectives of the LFA measure as cast in Council Regulation 1698/2005 remain relevant to the needs of substantial areas of the farmed countryside in the EU. Payments in areas with handicaps should contribute, through the continued use of agricultural land, to maintaining the countryside as well as sustainable farming

systems. This is in the public interest and is compatible with the Community's wider rural development and environmental goals.

The LFA measure provides a useful mechanism for pursuing these goals and has a distinctive role alongside other policy instruments embodied in the CAP. Nevertheless, there is scope both in the shorter and the longer-term to improve the effectiveness of the measure:

On the basis of this evaluation, the following recommendations can be put forward:

- A more explicit approach is needed to ensure coherence in the application of the LFA measure with respect to the mechanisms and objectives of the Single Farm Payment.

- With a view to the renewed focus of LFA policy on 'maintaining and promoting sustainable farming systems' (Recital 24, Council Regulation 1257/1999; Recital 33, Council Regulation 1698/2005), the criteria for the classification of LFAs as well as the eligibility criteria need to be revised in view of adapting them more precisely to recognised environmental priorities and region-specific land management requirements.

- Given the high degree of path-dependency in establishing payment levels perceived today, a fresh approach is needed to revising payment levels to better reflect the handicaps to be compensated for.

- Clarification needs to be sought regarding which classification criteria of LFA areas should be applied at the EU level and what degree of discretion should be left to the Member States. In particular, this clarification is needed for the criteria concerning Articles 19 and 20 where, for the time being, only a few criteria exist which are comparable at a European level.

- Better guidance is needed on the measurement of handicaps, the use and interpretation of baselines, and the presentation of compensatory payment calculations in order to afford a more effective and transparent implementation of LFA policy in the future.

- Given the political concern about land abandonment and the central goal of LFA policy to maintain land under agricultural use, it is recommended that approaches to the collection of land use and management data with greater sensitivity to abandonment are investigated, with data collected on a regular basis.

1

INTRODUCTION

Content of Report

This report, prepared by the Institute for European Environmental Policy (IEEP) for DG Agriculture, and supported by a team of experts and national partners, is an evaluation of the Less Favoured Areas (LFA) measure. It presents the results from a 10 month study conducted in each of the 25 Member States of the European Union between December 2005 and September 2006 to investigate the impacts of the LFA measure and seeks to make recommendations for the future development of LFA policy within the frame of the forthcoming Rural Development Regulation (1698/2005), post 2010.

It comprises 11 chapters. The first four provide a history of the measure; introduce the intervention logic; a description of the methodological approach deployed; and an introduction to the six evaluation themes and questions which frame the subsequent study. These are followed by six thematic chapters, which take an evaluation theme in turn and present the results from the data collection phase in order to answer the evaluation questions.

In addition to offering answers to each of the questions posed, the analysis is underpinned by a critical examination of the ***relevance*** of the measure in terms of the extent to which its objectives are pertinent to the needs, problems and issues of Less Favoured Areas in individual Member States. It considers its ***effectiveness*** and the extent to which the objectives pursued have been achieved. Finally, it considers the ***efficiency*** of its implementation, and assesses the relationship between the financial and administrative resources employed and the observed effects.

The final chapter offers a series of conclusions, which are both thematic and methodological. These relate to the individual evaluation themes and to the overarching issues of relevance, effectiveness and efficiency. From these conclusions are derived a number of recommendations relating to the ongoing collection of data and for policy reform.

Rationale for the Evaluation

The reasons for conducting an evaluation of the LFA measure at this particular juncture are multiple. In addition to legislative obligations, previous evaluations of rural development programmes have not focused exclusively on the LFA measure, but perhaps more significantly, LFA policy has been the subject of sustained criticism

over the last two decades. It is hoped that the evidence presented here will contribute to the ongoing debate surrounding the measure, either offering a counterpoint or adding weight to these arguments.

According to the implementing rules of the Financial Regulation applicable to the general budget of the European Communities (Council Regulation 1605/2002), the results of all measures which carry budgetary implications should be evaluated every six years. In 2004, public expenditure on LFA allowances amounted to €3.106 million, including €1.561 million from the European Agricultural Guidance and Guarantee Fund (EAGGF) (IEEP, 2006). The significance of the level of public expenditure on the LFA measure confers a clear obligation to evaluate whether public monies are being deployed in an efficient and effective way.

With the introduction of the Council Regulation (1257/1999) a number of changes were made to the implementation of the measure. The original eligibility criteria, reflecting a specific social objective, may be less relevant to the objectives of the new Regulation which emphasises the need for continued land use. As such, the degree of concordance between scheme objectives and eligibility criteria need to be assessed. Previous evaluations do exist, conducted as part of a general evaluation of rural development programmes, (950/1997, 1257/1999 and the mid-term evaluation of 1257/99) although they afford insufficient detail on eligibility conditions and on the differential impact of the measure across space. This evaluation will seek to explore whether the architecture of the measure, and specifically its implementing mechanisms, are sufficiently flexible to respond to changing needs and objectives over time.

The LFA measure has been the subject of sustained criticism over time. In 1980, a Court of Auditors Special Report showed that the implementation of Council Directive 75/268 had been slow in some Member States. In 1983, a report drawn up on behalf of the European Parliament Committee of Budgetary Control questioned whether all of the objectives could be achieved by a single Directive. Two decades later, and in their budget discharge of 2002, Paragraph 154, the European Parliament requested a comprehensive evaluation report. Finally, in 2003, a Court of Auditors Special Report No 4/2003 concerning 'Rural development: support for LFAs' revealed that considerable disparities exist in terms of designated areas and payment per beneficiary, as well as the effects of the policy on indicators such as farm income. Furthermore they highlight the fact that the area classified as LFA varied greatly from Member State to Member State and that between 1975 and 1998, the total area classified as LFA increased in many Member States. This led to concern over whether compensatory allowances were justified on the basis of the severity of permanent natural handicaps or were increasingly seen by Member States as a more general aid to farming in addition to other CAP support payments.

In 2005, and in an attempt to counter these criticisms, the Commission tabled proposals to replace 'Other' LFAs, (Article 19) with a new class of LFA, designated according to criteria based entirely on natural and agricultural conditions. These proposals proved politically problematic given the substantial impacts they would have had on the current geographical distribution of LFAs. They have, however, paved the way for a debate about future changes in policy with a repeal of the current

list of LFAs scheduled for 2010 under Article 93 of Regulation 1698/2005, and a review of the policy anticipated in 2008 – 2009.

History of the Measure

The challenge of supporting farming in regions with unfavourable natural conditions for agricultural production was recognised early on in the history of the CAP. While market and price support policy proved effective during the 1960s and 1970s through the establishment of Common Market Organisations for sectors such as cereals, dairy and sugar, addressing structural inequalities within the agriculture sector was more problematic. Directives to improve agricultural structures (72/159 EEC, 72/160 EEC and 72/161 EEC) were introduced in 1972 but many farms in disadvantaged regions failed to meet the eligibility criteria.

Drawing on the experience of national policy in a number of Member States, notably in France and the United Kingdom, a measure aimed specifically at more disadvantaged areas was developed. This was Council Directive 75/268 EEC of 28 April 1975 on 'mountain and hill farming in certain less favoured areas' which established the legal framework for the payment of aid from EAGGF and national funds in LFAs.

The ultimate goal of Council Directive 75/268, and the subsequent legislation[1], has been to assist the continuation of farming in certain, specified less favoured areas, disadvantaged by permanent natural handicaps. The continuation of farming was considered important for two reasons: to maintain a minimum population level in the areas concerned, and to conserve the countryside. More recently, a more explicit link has been made to environmental protection.

In the measure's first phase, from 1975, the reasons for areas being considered less favoured had three origins. These broad categories capture the main bundles of handicap factors causing a specific threat to the continuation of farming which are, in turn, reflected in three types of LFA:

1) Mountain areas;

2) LFAs in danger of depopulation and where conservation of the countryside is necessary;

3) Areas affected by specific handicaps.

1) Mountain areas

A mountain location was seen to confer three kinds of disadvantage: the high altitude (minimum 600 - 800m, COM (74) 2222) causes difficult climatic conditions by

[1] Notably Council Regulation (EEC) 797/85; Council Regulation (EC) 950/97 on 'improving the efficiency of agricultural structures'; Council Regulation (EC) 1257/1999 on 'support for rural development from the EAGGF and amending and repealing certain Regulations', and the relevant implementing measures.

shortening the growing season; steep slopes (at a lower altitude; minimum 20 %, COM (74) 2222) limit the use of machinery or require expensive special equipment; or a combination of both factors yields a similar type of handicap. In 1995, a northern location (north of the 62nd parallel) was added to reflect a similar type of handicap following Scandinavian accession.

2) Less favoured areas in danger of depopulation and in need of conservation of the countryside

These areas were defined with reference both to farm production conditions or performance, and to the rural community. Indicators of low levels of farm productivity included the presence of infertile land not suitable for cultivation, land with a limited potential and mainly suitable for extensive livestock farming, and farm income levels below the national or regional average. The viability of the rural community was captured with an indicator of a low or dwindling population predominantly dependent on agricultural activity. According to this logic, a decline in the agricultural population would threaten the viability of the area concerned and its continued habitation.

3) Areas affected by specific handicaps

These regions suffer from certain specific handicaps which include unfavourable production conditions of the soil, extra-ordinary saline content of the soil in coastal areas or small islands, unfavourable water condition of the land, production constraints caused by legal measures on the protection of the landscape, coastline or environment, and the high overseas transport costs incurred by farmers on islands. The total coverage of these areas was subject to a maximum percentage of the agricultural land area.

The original and subsequent Directives established eligibility criteria and the structuring and modulation of payments. The system of payment was based on the principle of compensation for disadvantage, subject to ceilings imposed at Community level. As such, payments were mainly compensatory allowances, with headage payments for cattle, sheep and goats, and area payments for other production types. Considerable discretion regarding payment rates was afforded to Member States with enhanced investment aid permissible in some situations. The basic underlying principle of LFA support remains the same today although various policy revisions have been undertaken to the classification and eligibility criteria and to payment systems over time, to reflect a changing set of priorities, objectives and circumstances.

4) Areas subject to environmental restrictions

With the introduction of Council Regulation 1257/1999, a fourth category of handicap was identified in areas with environmental restrictions (Article 16). The maximum total coverage of these areas along with areas with specific handicaps was set at 10 % of the agricultural area of the Member State (Article 21).

The goals of the LFA measure under Council Regulation 1257/99 are subdivided into two categories. The objectives of the aid for Less Favoured Areas under Articles 18,

19 and 20 serve to ensure continued agricultural land use and, thereby, to contribute to the maintenance of a viable rural community, maintenance of the countryside, and maintenance and promotion of environmentally sustainable farming systems. The objective of the aid for areas with environmental restrictions is to ensure that environmental requirements are being met and to safeguard farming in these regions. All payments are made on a per hectare basis, a significant departure from the previous system of headage payments, and compliance with nationally defined Good Farming Practice standards is a prerequisite for the aid.

The regions selected and classified as less favoured have been eligible to receive special benefits. The most important of these has been the annual compensatory allowance for farmers and aid for livestock farms. Farmers in these areas have also benefited from other measures of less importance at various stages in the implementation of the scheme, including investment aid for joint investment, higher rate of farm investment aid, higher ewe premiums and relief from co-responsibility levies in mountain regions.

Table 1.1 Timeline showing the development of the LFA measure from 1975

Year	Legislation	Audits and Reports	Other
1975	Council Directive 75/268/EEC of 28 April 1975 on mountain and hill farming and farming in certain less favoured areas (OJ L 128, 19.5.1975) (first proposed in 1973) Series of separate Directives listing all LFAs designated in individual Member States (e.g. Directive 84/169 (OJ L82 26.3.84) for the UK)		
1980	Council Directive 80/666 (OJ L180 14.7.80) amending Council Directive 75/268/EEC	Court of Auditors Special Report on the application of Council Directive 75/268/EEC on mountain and hill farming and farming in certain less-favoured areas (OJ C 358/1 31.12.80)	
1982	Council Directive 82/786 (OJ L237 24.11.82) amending Council Directive 75/268/EEC		
1983		Report drawn up on behalf of the Committee of Budgetary Control on the application of Council Directive 75/268/EEC on mountain and hill farming and farming in certain less-favoured areas (European Parliament Working Document)	
1985	Council Regulation (EEC) No 797/85 of 12.3.1985 on improving the efficiency of agricultural structures (OJ L 93, 30.3.1985)		
1987	Reform of the Structural Funds (Objective 1)		
1989	Council Directive 3808/89 (OJ L371 20.12.89) amending Council Directive 75/268/EEC		

Year	Legislation	Audits and Reports	Other
1991		Annual Report concerning the financial year 1990 together with the institution's replies, Court of Auditors (OJ C 324, 13.12.1991)	
1993			Commission Review of LFA classifications
1997	Council Regulation (EC) No 950/97 of 20 May 1997 (OJ L 142 2.6.1997) (Supersedes 75/268/EEC)		Working Document 'Rural Developments' DG AGRI
1998			Description of LFAs Conducted by Commission (VI7675/98)
1999	Council Regulation (EC) No 1257/1999 of 17 May 1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) and amending and repealing certain Regulations. (OJ L 160/80 26.6.1999)	Interim Evaluation of Rural Development Programmes (Objective 5a and 5b), 1.11.99, Commission Document	MS Mid-term evaluations and annual reports of the Rural Development Programmes for 2000-2006
2003		Court of Auditors Special Report No 4/2003 concerning rural development: Support for less favoured areas, together with the Commission's replies	
2004	Proposal for a Council Regulation on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) (COM (2004) 490 17.7.2004)		
2005			Commission non-paper 'Methodology for the redefinition of 'intermediate' Less Favoured Areas', February 2005

A Changing Emphasis in the Measure's Objectives and Implementation

Over time, the emphasis of the measure's objectives has changed. This has taken place against the backdrop of a broader paradigmatic shift in agriculture, captured in the concept of the productivist to post-productivist transition (Ilbery & Bowler, 1998; Wilson, 2001; Evans *et al.*, 2002). This transition describes a shift in the rationale for investment of public monies in agriculture in recognition of the multifunctional goods farming provides. Rather than supporting production within a 'productivist' logic, public subsidies are increasingly linked to the provision of environmental and landscape goods and services, within the frame of a 'post-productivist' logic. This changing rationale is manifest in Council Regulation 1257/1999. A new environmental category was introduced; the promotion of sustainable farming systems was integrated into the scheme's objectives and eligibility criteria through compliance with Good Farming Practice; and perhaps most significantly, all payments were to be made on a per hectare basis and not on the basis of livestock units.

These changes reflect a shift away from primarily production and income based considerations to a recognition of the value of positional public goods, including the quality of environment and landscape, and the value of rural structures, amenities and employment. The logic underpinning 'post-productivism' is captured in the concept of 'joint production'. Appropriate forms of agriculture produce social, cultural and environmental by-products. As such, those areas where generally low-intensive and traditional forms of agriculture are practiced are considered to be valuable to society, irrespective of what is produced there, as long as the farming systems underpinning the production of public goods remain viable and are maintained. The rationale for support, therefore, is based on the fact that agriculture is regarded as an effective, and arguably the most efficient, provider of public goods.

Second, there has been a gradual increase in the flexibility offered to Member States in the implementation of the scheme. In Council Regulation 797/85, the responsibility for fixing the levels of compensation, according to the severity of the handicaps, was left to Member States, as was the definition of the types of production to be covered by the aid scheme. In Council Regulation 1257/1999, the ability to modify LFA boundaries was passed to the Member States. The change to area payments reinforced the fact that agricultural land use continues to be the basis of the aid, even though certain types of production ceased to be favoured. Continued agricultural land use was expected to contribute to the maintenance of viable rural communities, a broader view compared to previous definitions, which were directed at maintaining a minimum population level.

Changes to the measure can also be seen to reflect the need to be responsive to the diversity of situations across the European territory. As observed upon Scandinavian accession in 1995, a strictly defined and centrally managed scheme was not sufficiently supple to respond to the wide variations in natural and structural disadvantages in an enlarged Union, extending from highly arid parts of the Mediterranean, to areas north of the Polar Circle. Greater flexibility in the present day LFA measure affords a mechanism through which common goals can be met on the basis of social, land use and environmental needs which better reflect the specific demands of each particular region. That said, considerable coordinated effort and common eligibility considerations are necessary so that the payment schemes are

reasonably consistent, true to common principles, avoid distortions in competition and provide an efficient mechanism for meeting the objectives.

2

THE EVALUATION APPROACH

Introduction

This study follows a standard evaluation approach to investigate the direct and indirect impacts of the LFA measure (introduced as Council Directive 75/268/EEC) and to assess whether Community objectives are being achieved in a relevant, effective and efficient way. It has involved the collection of data as part of an ongoing evaluation process to improve the quality of its implementation and to assess its progress in meeting Community needs. Moreover, it forms part of a response to requests from the European Parliament (budget discharge of 2002) and the Court of Auditors Special Report no.4 of 2003 for a comprehensive and detailed evaluation of the measure.

The approach comprises four steps: structuring, observing, analysing and judging. The first - structuring - constitutes a framing of the issue, setting out, at a Community level, the model of intervention logic for the LFA measure. Given the variation in morphological, political and socio-economic conditions across the EU, the intervention logic will be different in different contexts. In some countries, where the handicaps facing farming are most severe and widespread, the LFA measure forms a central component of rural policy and is seen as playing a prominent role in maintaining rural communities and supporting the continued management of the countryside. In other more populated, generally lowland Member States, however, the policy plays a more restricted and targeted role in furthering rural policy objectives.

The Evaluation is framed by seventeen evaluation questions and sub-questions which fall under six Evaluation Themes. These form the basis around which national and regional data are collected – the observing stage in the evaluation approach. The questions are both quantitative and qualitative in nature. Furthermore, some cannot be answered definitively with recourse to factual material, and require an informed assessment to be made. To confer rigour to the judgement process, tools such as indicators and judgement criteria have been deployed, in some cases, which help to define the limits within which judgements are taken and to reveal the assumptions being made.

The analytical phase seeks to examine the European-wide dataset, taking the Member State, and in some cases, the region, as the unit of analysis, and to conduct a comparative analysis of the material where the data allow. This is to afford an identification of commonalities and divergences in approach to the application of the policy, and to assess the differential effects of these approaches on the range of impacts observed. The judging phase assesses the extent to which the measure is being applied in a relevant, effective and efficient way and presents recommendations

for the future development of LFA policy within the frame of the forthcoming rural development Council Regulation (1698/2005).

The study serves to evaluate the implementation of the LFA measure in the 25 Member States of the European Union (Evaluation Themes 1 – 2) since the introduction of Council Directive 75/268 in 1975, along with its effects on farm incomes and structures (Theme 3) and its impacts on land use, the environment and the viability of rural communities (Themes 4 – 6). Given the recent introduction of the measure in the EU-10 Member States following their accession in 2004, it is beyond the purview of this study to evaluate the effects of the measure in these countries on farm structures and incomes, and its impacts on land-use, environment and rural communities. As such, six Evaluation Themes are only investigated in the EU-15 Member States.

The study covers the period from 1975 up to the present day (2004 in practice), the most recent year for which data are available, to capture both changes to the designations, eligibility criteria and objectives, along with the accumulated effects of the policy over time. Some questions seek to address the whole period while others focus predominately on the most recent period of implementation, either since 1992 or 1999 when significant changes were made to LFA policy under the auspices of Agenda 2000. Since the 1999 Rural Development Regulation is the current version of the policy in operation at the time of this evaluation, it is of special interest and concern.

This chapter introduces the Generic Model of Intervention Logic. Chapter three describes the data collection process, the sources used and a critical assessment of the quality and reliability of the data collected.

Generic Model of Intervention Logic

Social needs underpinning the aid scheme

The perceived social need for the scheme arises from the fact that within common product markets there are areas which suffer a competitive disadvantage. The competitive disadvantage of LFAs has remained over time as changes to the CAP have taken place. The new Single Payments are generally lower in LFAs than elsewhere because they reflect lower regional yield levels in most Member States. Hence, a policy objective is to raise farm incomes in these areas to a reasonable level in order to ensure the continuation of farming. This is assumed to be important to society for a number of reasons, a selection of which are discussed below and represented diagrammatically in Figure 2.1. The value to society of maintaining agriculture can be approached through an exploration of the counterfactual – the way things may be in these areas if the LFA measure was not applied – to deduce whether this would lead to a significant reduction in farming.

First, the land use could change. If farming is not a profitable and competitive activity, agricultural land would either be left fallow, afforested or given over to other land uses. These land use changes will have different impacts in different contexts.

Land use changes per se are not negative but they do have knock-on effects for landscape and environmental values.

In areas with a high landscape value that is derived from a particular pattern of farming, the special character of these landscapes would be eroded with the disappearance of agriculture. The extent of openness in a landscape varies significantly between regions. In mountain areas and in the north, the landscape consists of fragmented agricultural plots surrounded by forests and lakes; in the west, there is an extensive open coverage of hilly meadows; and in the south, regions of dry, sensitive and low-yielding terrains dominate. The landscape factors that are scarce in each region vary significantly, as do landscape preferences and definitions of landscape value. That said, many scenario studies investigating landscape values reveal an overwhelming public preference for open landscapes (Simpson *et al.* 1997; Tress & Tress, 2003; Hunziker, 2005). In turn, negative landscape impacts can have consequences for the attractiveness of an area to visitors and can undermine its existence value.

Second, certain farming patterns are associated with specific environmental effects. On the one hand, these can be positive, including, for example, the upkeep of semi-natural, structurally-diverse habitats through low intensity farming systems (Bignal and McCracken, 1992). Many of these areas and the farming practices associated with them are judged significant in conservation and biodiversity terms, indicated by the high incidence of High Nature Value farming (HNV) areas within Article 18 and Article 19 LFAs (EEA, 2004). An important aspect is also the preventative impact of certain types of farming in terms of the management of natural risks including the prevention of erosion, mud floods and fires. Conversely, agriculture has had negative environmental effects and has led to the pollution of waters due to the use of manure, fertilizers and pesticides (see Lowe *et al*., 1997). In principle, some negative effects would become less severe in line with the discontinuation of farming, but concomitantly, many positive effects would be lost. All these considerations emphasise the central role of farming in the provision of public environmental goods in these areas.

Third, farm families in LFAs often contribute a significant share of the local population base. In many of these areas, the population density is relatively low and, as such, sensitive to changes. If the local population base was to shrink further, there is a danger that the demand for many local services would fall below profitability levels and, consequently, the supply of services in these rural regions would deteriorate. This would impact on the standard of living of inhabitants and would increase the cost of having to acquire services further away. Once the infrastructure is lost, it can be expensive and difficult to reinstate. This would make farming and living in these areas less attractive, resulting in the emergence of a negative squeeze.

Finally, one might expect some concentration of agricultural production elsewhere if it was discontinued in LFAs. There are many areas which experience the effects of an intensive form of production, including, for example, those arising from ground water pollution. As a spill-over effect, the maintenance of farming in Less Favoured Areas represents the idea of dispersed production, which can be considered to be more environmentally friendly and, in some cases, even potentially safer for society.

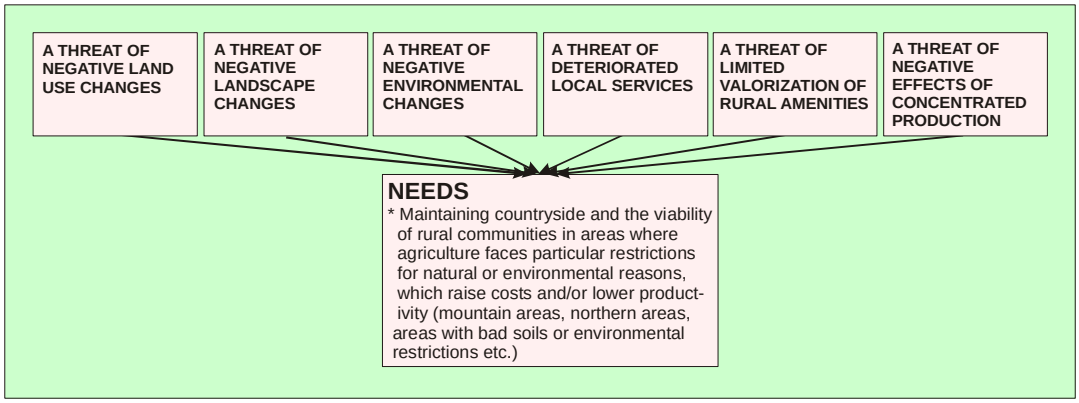


Figure 2.1 Social need as a basis for the LFA measure.

General Evaluation Framework

A standard framework is applied to evaluate the LFA measure in terms of its **objectives, inputs and outcomes**. The identified *needs* of society are translated into *general objectives*, these are further refined into *specific objectives* and these, in turn, into *operational objectives*. The operational objectives indicate the goals and basis for the policy *inputs*, namely, the resources invested in the measure. Along this continuum the emphasis shifts from the Union level to the farm level.

The means of implementation, the administrative and financial resources for example, are reflected in the *outputs*. The outputs generate the *results* of the scheme, with measurable changes in the indicators expected to contribute to the achievement of the specific objectives. The results, in turn, form the *impacts* of the scheme contributing to the achievement of the general objectives. These impacts are expected to satisfy the needs of society and create benefits - the *utility* - that should outweigh the costs incurred. Along this continuum the emphasis shifts from the farm level to the Union level.

This evaluation framework is presented in Figure 2.2. The figure also includes some general evaluation issues:

1) While progressing from the needs to the inputs through various specifications of objectives, there should be a strict *relevance* in the sequence: a hierarchical logic of increased specification and targeting of the actions, simultaneously fulfilling the higher level objectives in each case.

2) The *consistency* requirement applies to the outcomes of the implementation, which should progressively contribute to the realisation of the impacts and satisfaction of the needs.

3) The *effectiveness* of the measure can be assessed at all levels of objectives and outcomes and relates to the extent to which the respective objectives are met.

4) The *coherence* of the measure is to be tested against other measures, as there should not be too many contradictory criteria, requirements or impacts.

5) The *efficiency* of the measure is determined also in relation to other, possibly more cost efficient measures to achieve the same goals.

6) Finally, the *sustainability* of the measure means that the impacts should create long lasting benefits.

These evaluation issues are incorporated into the more specific questions within each evaluation theme, presented in chapters five to ten of this report. The interpretation of the objectives and outcomes of the LFA measure forms the framework for the intervention logic which is elaborated in detail in the following section.

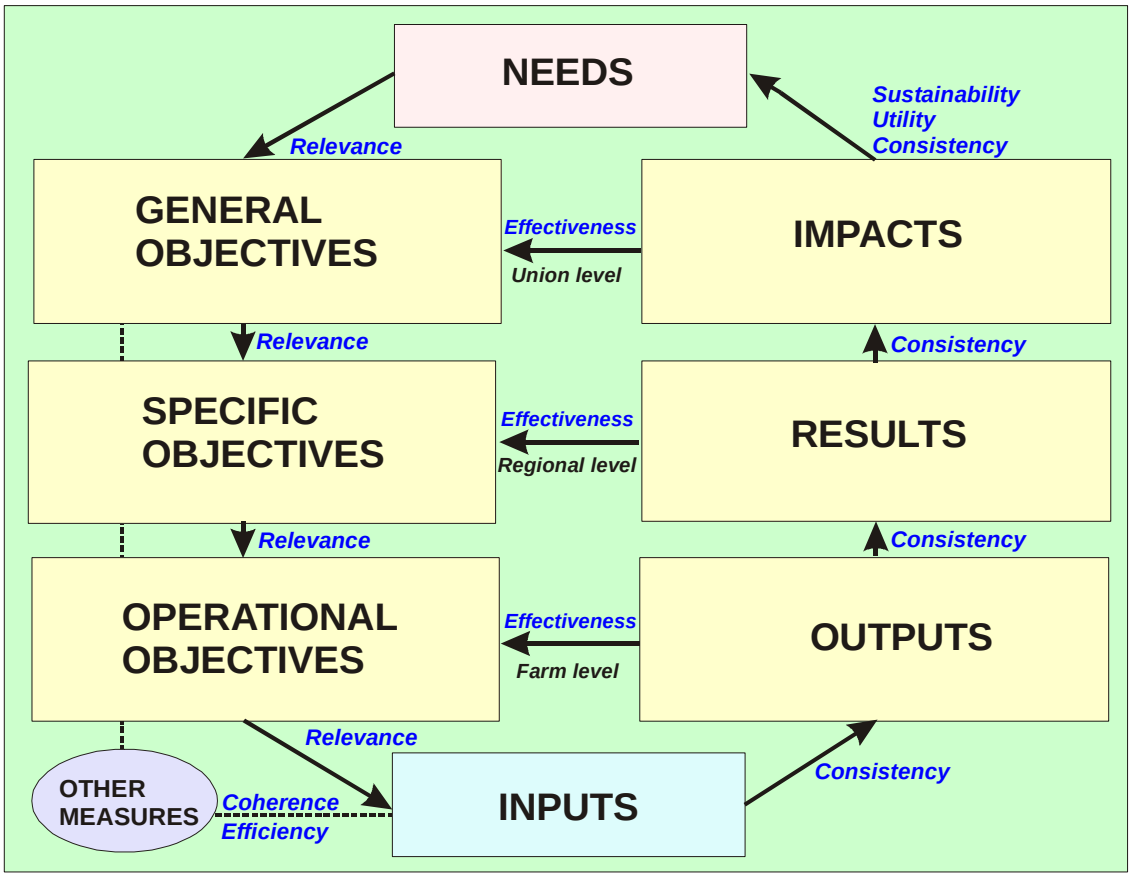


Figure 2.2 The evaluation framework for the LFA measure.

The general objectives and expected impacts of the measure

The desired outcome of the measure is stated implicitly in the general objectives. Under the Council Regulation 1257/1999, the overarching **general objective** is to ensure continued agricultural land use in LFAs. The set of general objectives, which contribute to the achievement of desired social needs also includes:

- Maintaining the countryside (Recital 24);
- Maintaining and promoting sustainable farming systems (Recital 24);
- Maintaining viable rural communities (Recital 24);
- Ensuring environmental requirements and safeguarding farming in areas with environmental restrictions (AERs) (Recital 28).

In other words, the expected **impacts** of the application of the measure should be evaluated against these objectives. More specifically, the impacts of the measure are shown in:

- The extent of agricultural land use;
- The quality and condition of the countryside;
- The sustainability of agriculture;
- The viability of rural communities;
- The continuation and sustainability of farming in areas with environmental restrictions (AERs).

These impacts potentially constitute the social benefits that create entitlement for the social costs incurred. One should observe, however, that the implementation of the measure may create some unintended or negative effects, which must also be observed and discussed in the evaluation. One of these issues relates to the coherence of the LFA measure with other policy measures, such as CAP Pillar One payments and agri-environment aid.

The specific objectives and expected results of the measure

The specific objectives of the measure set out the most *relevant* way of specifying the general policy objectives given the individual circumstances of each country and region. This affords scope for a different interpretation of the goals in different regions, according to their unique character. These **specific objectives** include formulations of the following goals:

- To promote Good Farming Practice;
- To compensate farmers in areas with environmental restrictions (AERs) for the additional costs/restrictions imposed by environmental standards;
- To maintain the viability of agriculture.

The relevant specification of the measure should, however, result in a reasonable income level for farmers in LFAs/AERs and a commitment to follow sustainable farming practices. Respectively, the expected **results** of the measure can be observed in:

- The extent of agricultural land use and the existence of sustainable farming systems;
- The levels of farm income in LFAs (gap between LFA and non-LFA);
- The extent of adherence to Good Farming Practice in LFAs/AERs;
- Levels of farm incomes in AERs.

The operational objectives and expected outputs of the measure

The **operational objectives** constitute the *relevant* goals and determine the rules of implementation needed to fulfil the specific and general objectives at the farm level. These objectives are to:

- Support farmers receiving an LFA compensatory allowance;
- Provide appropriate rates of payment to compensate for handicaps and avoid overcompensation, differentiating payments based on established criteria;
- Require participating farms to adhere to Good Farming Practice.

This set of objectives, at each of the three levels, determines the method of implementation, the **inputs** of the measure. These include the rates of payment, the detailed eligibility criteria for areas and for farms, the budgets and expenditure. The expected **output** of the measure can then be observed in:

- The number of farms supported;
- The area of agricultural land entered into agreements;
- The number of farms complying with Good Farming Practice.

This network of objectives and outcomes, along with their relationships, is presented in Figure 2.3.

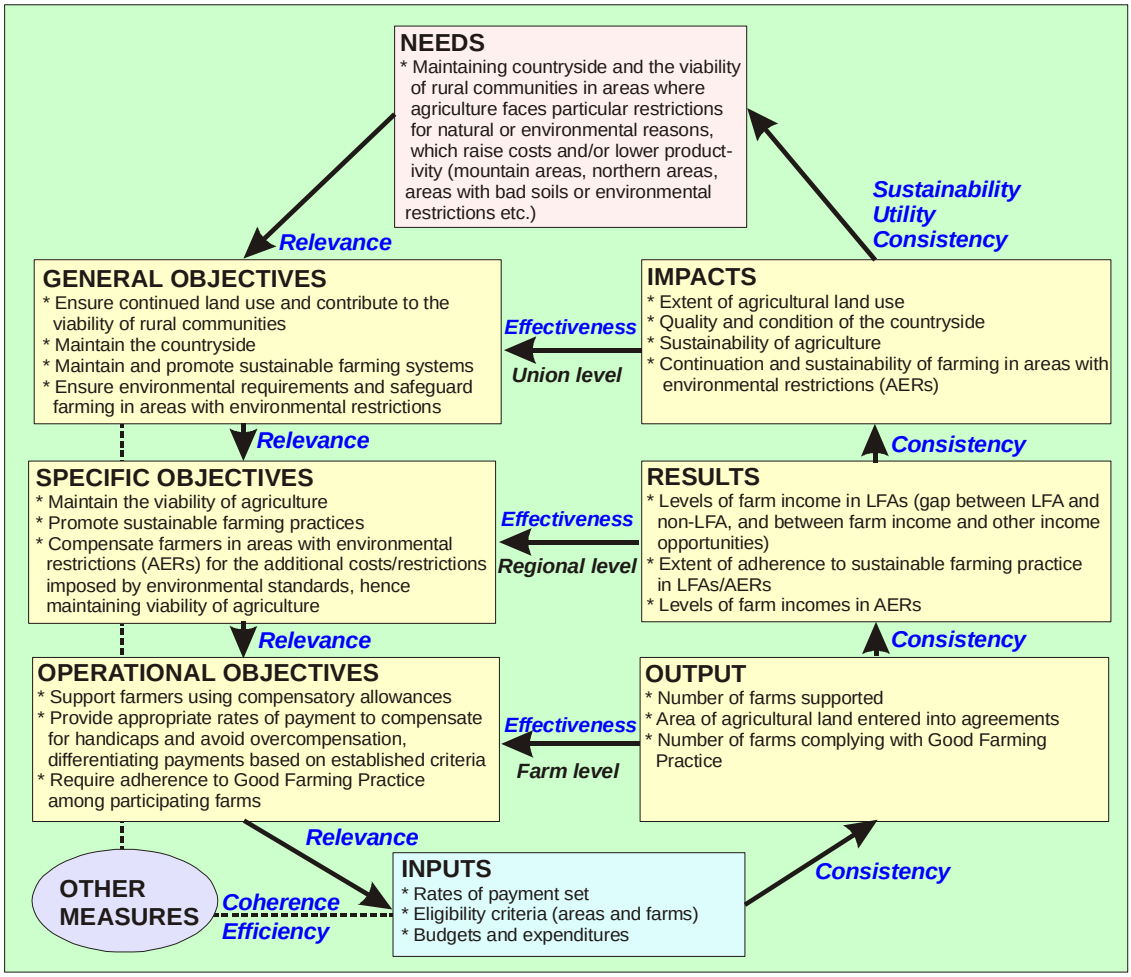


Figure 2.3 The objectives and outcomes of the LFA aid scheme.

Setting for Policy Design and Implementation

Union level and national issues

The first task of policy design is to define, delimit and target the issues that threaten the continuation of farming throughout the territory of the Union. For this purpose, four types of handicap categories are defined that are recognised threats to the continuation of farming and agricultural land use. The measure aims to compensate for the negative impacts arising from these handicap categories to the extent necessary to retain farming in these regions.

The mountain location (Article 18 of Regulation 1257/1999) of a farm can be seen to create an absolute handicap irrespective of any national consideration or reference point, if certain general criteria are met regarding minimum altitude, the gradient of the slopes or the northern location. As such, the framework is Union wide and absolute in reference terms.

'Other' LFAs (Article 19) have traditionally been defined according to a two-fold approach: on the one hand, farming conditions, and on the other, the vulnerability of the rural community. The handicaps in farming relate to low land productivity and to the limited capacity of farming to generate income. The handicap attached to a rural region is related to low population densities, at risk of decline, and which are dependent on agricultural employment. The simultaneous threat in both dimensions creates the handicap as a whole. The framework in this respect is relative and in the detailed instructions to Member States it is described as primarily national by the reference indicators. From this point of view, the handicaps are both absolute and relative in nature, respectively, and the emphasis in defining them varies from Union wide to national or local/regional.

Areas Affected by Specific Handicaps (Article 20) and Areas with Environmental Restrictions (Article 16) have a limited, unique handicap. As such, the framework is mainly at a local or national scale and could be evaluated as an absolute or relative handicap.

These considerations correspond to the four categories of Less Favoured Areas in Council Regulation 1257/1999. These categories can be seen as broad classes of threat to the continuation of farming. The definition of these threat categories and the severity of the constituent threats is the main task in the design of the measure. Furthermore, the success in capturing the correct risk factor and the actual delimitation of the corresponding areas are essential in determining the effectiveness of the measure.

The handicap factors associated with each category which are expected to be alleviated by the measure are as follows. These have been derived from the legislation and the supporting documents.

1) Mountainous and Northern Regions (Article 18)

    - Impacts of a short growing season;

- Impacts of steep slopes;
- Impacts of a combination of the two.

2) 'Other' Less Favoured Areas (Article 19)

- Impacts of relatively poor land productivity and the low productivity of the natural environment;
- Impacts of low and/or declining population, predominately dependent on farm employment.

3) Areas Affected by Specific Handicaps (Article 20)

- Impacts of many types of local handicaps: salty soils, water conditions, coastline protection requirements.

4) Areas with Environmental Restrictions (Article 16)

- Impacts of environmental restrictions derived from Community environmental protection rules.

Farm level issues

The farm and local level impacts of the handicap factors defined above establish the basis for implementation of the measure. If the impact of the specified handicap factors is properly defined for the farms and regions affected, the basis for public involvement is correctly targeted. The definition of the handicap factors - measurable, tangible, farm and local level factors - forms the implementation platform of the measure and provides the basis for the eligibility criteria for regions and for individual farms.

The operational farm and local level handicaps are expected to be reflected in the application of the measure at the farm level. These have been derived from the legislation, the supporting documents and logical reasoning, and are as follows:

1a) Impacts of a short growing season:

- Low yield and low gross income per hectare;
- High cost per unit of produce;
- Limited choice of production alternatives;

- Limited possibilities for expansion of the farm unit (such as short time for seeding and harvesting) and the impact of land use patterns such as fragmentation.

1b) Impacts of farming on steep slopes:

- High cost per unit of production;

- Limited possibilities for expansion of the farm unit (requiring special technology, impact of land use patterns, for example fragmentation).

2a) Impacts of poor land productivity:

- Low yield and low gross income per hectare;

- Limited choice of production alternatives (with possibly higher income potential).

2b) Impacts of a low and/or declining population, dependent on farm employment:

- Limited scope for diversification of farm activities due to lack of local markets or long distances from population centres;

- Declining rural services and the attractiveness of the region due to diminishing local population.

3) Impacts of many types of local handicaps: salty soils, water conditions, coastline protection requirements etc:

- Loss of income, extra costs or limited possibilities (production alternatives, expansion, diversification) caused by the specific handicap in question.

4) Impacts of environmental restrictions:

- Loss of income, extra costs of limited possibilities (production alternatives, expansion, diversification) caused by the specific handicap in question.

As such, there should be evidence of compensation for these operational problems at the farm or local level resulting directly from the implementation of the measure. The severity of the problems should logically serve as the basis for differentiation of the payment.

Concluding Comments

A diversity of farming patterns has emerged in LFAs. In some regions, the prevailing model is that of extensive farming occupying a large amount of land per farm. In some mountain regions, the prevailing model involves a rather small number of fragmented land plots in environmentally sensitive areas, with pluriactive farmers. In the northern regions, the prevailing model can include intensive, high-cost farming during the short growing season aiming to achieve a relatively high reference income level. This diversity emphasises two aspects of the measure. First, its background is socio-economic and reflects the diversity of farm handicap factors and outcomes (absolute/relative, farm specific/regional/national, structural, climatic, agronomic, economic, environmental etc.). This renders it sufficiently flexible to respond to diverse needs in different regions and societies. Second, and in spite of this demand for diversity and flexibility, the measure needs to be circumscribed so that it is socially and economically efficient and acceptable.

All these aspects of policy design and implementation of the measure at the national, regional, local and farm level are summarised in Figure 2.4.

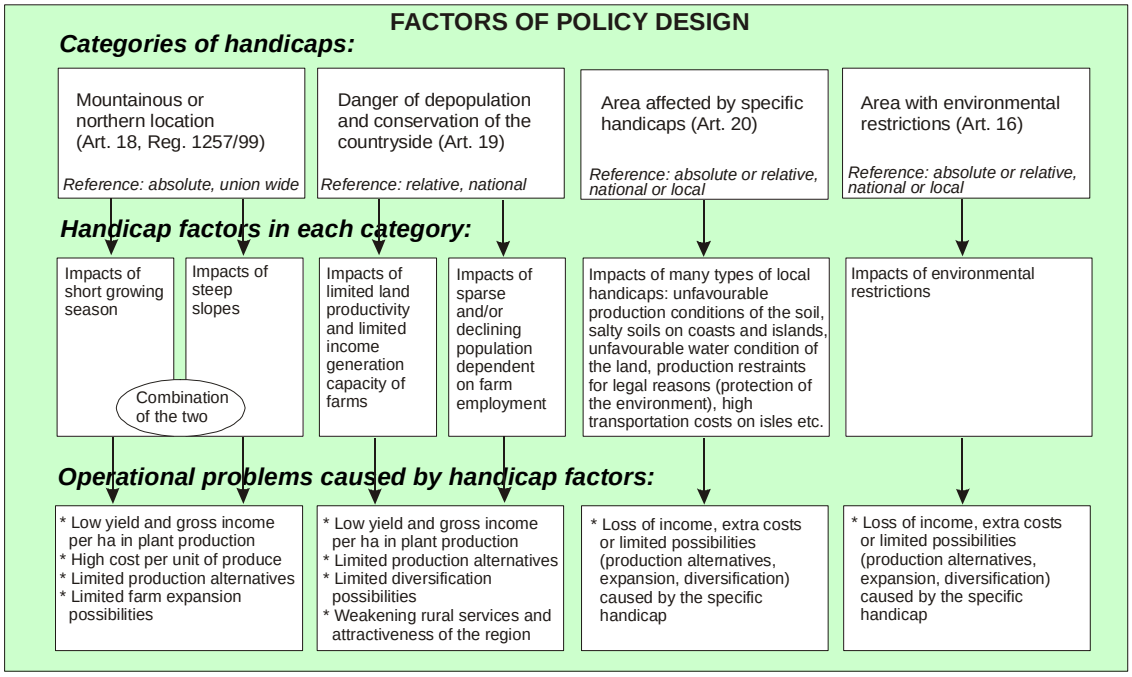


Figure 2.4 Factors in the design of the LFA measure.

The complete set of factors of policy design, objectives and outcomes gives rise to an overall model of intervention logic used as the framework for the analysis (Figure 2.5). The specific and operational objectives of the measure in different Member States and regions, and their translation into policy inputs (implementation), create a diversity of approaches and the factors which contribute to these differences are explored.

Differences in Implementation Approaches

While it is possible to specify a general intervention logic that reflects the objectives of the LFA measure at the EU level, and to use this model as a basis for the evaluation, it is important to recognise that variations in objectives and approach at the national and regional level may carry implications for the evaluation. These variations may reflect the different geographical and social conditions in a Union of 25 Member States. As a result of these differences, and in accordance with the principle of subsidiarity, Member Sates have considerable discretion over their approach to the implementation of the LFA measure.

In developing the overall evaluation framework, it is helpful to identify the broad approach to the application of the LFA measure alongside those which are Member State and regionally-specific, to examine the implications of these differences for the economic, social and environmental impacts of the measure. Where there are differences in broad approach, there is a case for specifying alternative models or variants to the model of intervention logic. In doing so, it is necessary to identify which differences in application are matters of detail, which may affect local impacts but do not profoundly influence the intervention logic, and which confer substantive differences in approach.

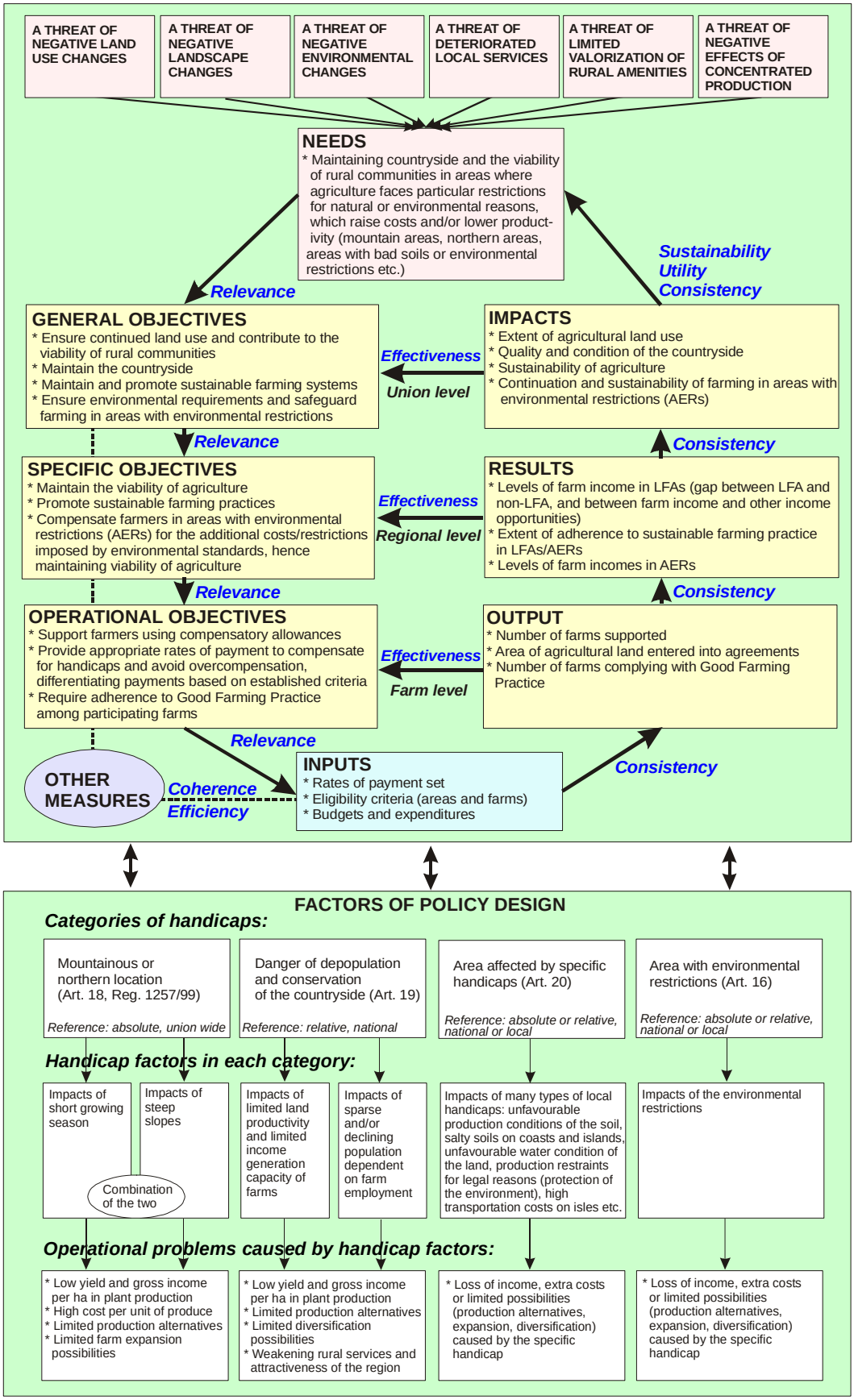


Figure 2.5 The model of intervention logic.

The impact of exogenous factors on the application of the LFA measure

Variations in geographical conditions

Approaches to the application of the LFA measure may vary according to the geography of the Member State or region concerned. Mountainous countries such as Austria, and northern countries such as Finland, might be expected to view the LFA measure in a different way from predominantly lowland Member States with more fertile soil, such as Denmark and the Netherlands. It might be expected that in those Member States where disadvantage is more widespread, greater emphasis will be placed on the LFA measure, since farms within the LFA will have greater overall prominence with respect to rural traditions, culture and the countryside. In these countries, the LFA measure might be expected to play a more central role in rural policy, whereas in areas where disadvantage is less widespread, it may be used in a more limited and targeted way to address specific issues in particular areas.

Arguably the most consistent indicator of differences in geographical context relates to the share of mountain areas in the national agricultural territory. Though different definitions of mountain areas under Article 18 can be observed, 'mountainous' can be considered as a common characteristic for LFA analysis. This definition is taken to include areas north of the 62nd parallel, which are treated in a similar way to mountain areas under Article 18. On this basis, three types of situations for Member States can be described:

- Countries with a high proportion of mountains. Considering the percentage of UAA designated as LFA under Article 18, the most mountainous countries (>50% of UAA designated as LFA under Article 18) are the core alpine countries: Austria, Slovenia, Greece and Italy. Finland, where a large percentage of the land area lies north of the 62nd parallel, also falls into this category. For such countries, the 'mountain issue' will be central to the needs associated with LFA, as will the maintenance of farming activity in difficult conditions. Nevertheless, the socio-economic context can vary significantly from the populated Austrian and northern Italian mountains to the rather depopulated Greek mountains.

- Some countries show a smaller but still significant proportion of mountain areas, between 25% and 50% of their UAA designated as LFA and 10-50% of their total UAA, including France, Spain, Portugal, Czech Republic, Slovak Republic, Cyprus and Sweden. Such countries designate significant areas of land under Articles 19 and 20 as well as Article 18. It is important in these countries to consider the specific disadvantage of mountain areas as well as the needs of the remainder of the LFA.

- The final category of countries comprises those with no (or very few) mountainous areas. It includes the United Kingdom, Ireland, Germany, Poland, Estonia, Lithuania, Latvia, Belgium, Denmark, Hungary, Malta and the Netherlands.

Rural development needs

The application of the LFA measure policy is influenced by wide variations in morphological and socio-economic conditions across the EU, some of which are captured in the climatic differences between northern and southern Member States. In countries such as Austria and Finland, where the handicaps facing farming are most severe and widespread due to the effects of altitude and latitude on the growing season, the LFA measure forms a central component of rural policy and is seen as playing a prominent role in maintaining rural communities and supporting the continued management of the countryside. However, in other more populated, generally lowland Member States, such as Denmark and the Netherlands, the measure plays a more restricted and targeted role in furthering rural policy objectives.

New and established Member States

A further distinction can be made between the EU-15 and the 10 new Member States, given that the former have a longer history of applying the LFA measure while the latter have applied it only recently. In the EU-15, the existing LFA measure has developed incrementally and over a long time period and as a result, there have been many variations in approach both between Member States and over time. In the new Member States, there is less experience in applying the LFA measure but the approach adopted has been more consistent, in line with guidance provided by the Commission during the accession process. Furthermore, the new Member States differ from the EU-15 with respect to their economic needs and their stage of agricultural development.

Differences in the application of the measure

Categories of measure applied

There are variations in the extent to which Member States and regions apply the different LFA categories defined under Articles 18, 19, 20 and 16. These variations reflect differences in regional conditions, policy priorities, and the extent to which issues are addressed by other measures.

Breadth of classification

Member States vary in the extent to which they apply the LFA measure over large areas or target it at areas of particular need. Along this continuum three broad groupings can be identified:

- LFA classification applies to entire land area – Finland, Malta, Luxembourg.

- LFA classification applies across wide areas but in accordance with specific criteria – most Member States and regions. Typically LFA area is between 30% and 90% of the agricultural land area.

- Relatively small areas are subjected to LFA classification, especially those with specific needs – Denmark, Flanders, Netherlands and Hungary. In Denmark only islands are designated, approximately 1% of UAA under Article 20.

Whether the measure is being used as a targeted instrument or a broad based agricultural measure has clear implications for the evaluation. For those Member States where LFA classification is applied across the entire land area, there is less of a distinction between LFA policy and broader agricultural policy measures. The evaluation needs to recognise that LFAs in these Member States are less favoured in a European, rather than a national context, although different categories of LFA may occur within the Member State. Where LFA classification is restricted to a small area, in some cases reflecting a rather specific problem, the evaluation needs to take account of the specific needs of these areas (such as the Danish islands and wetlands in Flanders).

Objectives

While LFA programmes are required to contribute to objectives specified at the EU level, as set out in the Rural Development Council Regulation (1257/1999), Member States and regions vary in the extent to which they emphasise these objectives, stressing, for example, social or environmental objectives. Many emphasise more specific objectives, for example, addressing particular environmental issues or regional priorities, such as preventing natural hazards.

Determining levels of disadvantage

Member States and regions vary considerably in the means employed to determine the extent to which farms are disadvantaged within an area classified as LFA. Some seek to measure disadvantage at an individual farm level, for example using a points system designed to measure soil and other agronomic variables. Others divide the LFA into broad zones. Greater specificity allows a more precisely targeted payment.

Payment structures

In all cases, application of the LFA measure follows a compensatory approach. The logic is that by paying compensation to farmers to reflect the impact on incomes of the handicaps faced, land can be kept in agricultural production, with benefits for the countryside and rural communities. Member States have some flexibility in setting levels of payment, within specified limits, as well as the structure of payments which can be differentiated by category, land use, size of farm, and in the use of payment supplements. Differences in levels of payment is one indicator of variations in the intensity of application of the LFA measure between different parts of the EU and reflects, in part, the priority attached to the measure. The modulation of payments according to farm size reflects significant differences in approach between Member States:

- Substantial modulation - payments skewed towards small and medium sized farms through tapering and/or ceilings - Germany, Ireland, Greece, Spain, France, Italy, Austria, Portugal;

- Light modulation - ceilings or tapering only applied at relatively high levels (for example, above 100 hectares) - England, Cyprus, Denmark, Luxembourg, Hungary, Poland, Sweden;

- No modulation - payments are set at the same per hectare rate - Netherlands, Malta and Estonia.

The LFA measure aims to enhance the returns from agriculture and hence to retain land in farming. Where schemes provide proportionately more support to small farms, there is an implicit objective to reduce the decline in the number of farms and/or farmers, and to safeguard small and medium sized farms. This suggests that the evaluation needs to recognise the objective of retaining farms, as well as farming, and consider the impact of intervention on the numbers of farms/farmers as well as on the area of land farmed.

Some care is needed in grouping Member States according to their approach to modulation, given that this reflects variations in farm size and structure as well as policy approach. As a result a 100 hectare ceiling, for example, may represent a much more significant restriction in some Member States than in others.

Intensity of application

Another fundamental issue is the intensity at which the LFA measure is applied within a given area, and its role within rural development policy as a whole. Levels of payments show a great variability between Member States, reflecting, in part, the 'intensity' of the support offered by national authorities. Some countries, such as Finland, concentrate a large proportion of rural development funding through LFA schemes, whereas others use their money for other rural development measures, and have relatively low LFA payments, for example Spain and Poland. In some cases, such as Austria, the LFA measure is combined with agri-environment payments and other rural development measures to mutually reinforce one another. Payment rates, however, are only a proxy for the intensity of application and are also likely to reflect differences in economic conditions and needs between Member States. Furthermore, they are not directly comparable as levels of intensity between countries must also take into account relative domestic economic standards. For example, each Euro of LFA support is clearly more significant as a proportion of national income, living costs and output per hectare in Poland or Lithuania than it is in Finland.

Conclusions

In different temporal and geographical contexts, each of the variables discussed above can be drawn upon to explain differences and similarities in approach and in the overall level of outputs, outcomes and impacts resulting from the application of the LFA measure. It has proved difficult to combine these variables to arrive at a synthetic typology which acts as a robust explanatory device given the diversity of conditions in a Union of 25 Member States and as such, the analysis takes account of these variables on a case-by-case basis.

3

DATA COLLECTION

Introduction

This evaluation of the LFA measure is firmly grounded in an evidence-based approach. As such, and to the extent that it is possible, the conclusions are based on a process of logical reasoning, drawing on empirical evidence. The evidence to answer certain evaluation questions, however, does not always exist, given the difficulty in isolating those impacts which can solely be attributed to the LFA measure. In reality, the relationship between policy instrument and environmental and social impacts, for example, is not straightforward and deterministic; impacts will differ according to the specific context. The complexity of the causal chain has implications for the data collection process. In certain cases, therefore, the potential effects of the measure have been derived from a theoretical understanding and with recourse to the counterfactual. The final section in this chapter identifies the data gaps and limitations, and considers the quality and validity of the data collected.

The main data collection phase was between December 2005 and April 2006. For the most part, data were collected by national consultants working in each of the Member States of the EU-25, although some data were gathered at a pan-European scale. In the EU-15 Member States, evidence was collected for the six evaluation themes, and in the EU-10 Member States, evidence was collected to answer the questions under Evaluation Themes 1 and 2.

The data are derived from a range of sources and take a variety of forms. As such, the evidence base comprises secondary data, including grey literature, official documentation on the implementation of the measure, scientific studies, and earlier pan-European and national evaluations of Rural Development Programmes and the LFA measure. Quantitative data have been derived from pan-European datasets including the Farm Accountancy Data Network (FADN), the Farm Structure Survey (FSS) and from national statistical databases, containing agronomic and economic data. Qualitative data have been gathered through semi-structured interviews. Where possible, multiple sources of information have been gathered for each question as a means of cross-checking the validity of individual data sources, to ensure a rich and robust data set, and to render the answers from different Member States more consistent and therefore comparable.

Scalar dimension to data collection

Data have been collected at various scales. Pan-European data have been derived from European databases, most of which have been used to answer the questions under

Evaluation Themes 2 and 3 on the levels of compensation and the effects of the LFA measure on farm incomes and structures. This pan-European data provides a relatively high level of consistency but introduces certain limitations, such as the exclusion of small holdings from the FADN sample, which are potentially significant in some LFA regions. In contrast, regional data have been collected through fifteen case studies.

Most data have been collected at the Member State level. To guide this process, a template was produced for national consultants, providing generic headings under which data should be collected, relating to each of the evaluation questions. The precise data source to answer individual questions was not specified in advance due to the fact that datasets are not available uniformly across Europe, and data are not of a consistent quality.

Semi-Structured Interviews

Many of the evaluation questions cannot be answered with reference to quantitative evidence or existing literature and rely on the informed opinions of experts. These were solicited through face-to-face or telephone semi-structured interviews, which lasted between 30 and 90 minutes, and were conducted by national consultants in each Member State during spring 2006.

Given that the evidence from informed experts represents an important data source, the identity of the interviewees is critical. Our aim was to encompass a broad range of perspectives to counter bias in the views expressed by any one individual and so that critical voices were included in the evidence base. Interviewees were recruited because they were seen to be 'informed experts'. They include academics involved in research on the LFA measure, officials in the national agricultural administration, in statutory agencies, non-governmental organisations and farming bodies.

Table 3.1 details the number of interviews conducted with each category of expert. To record the material, interviews were either taped, and a transcript produced of the interview, or detailed notes were produced immediately afterwards. A rich and extensive data-set exists, comprising material from 129 national interviews and 131 case study interviews.

Table 3.1 Interviews conducted and identity of interviewees.

	Number of Interviews	**National Administration and Statutory Agencies**	**Academic / Research**	**NGO/ Conservation Body**	**Farmers/ Farming Organisation**	**Other**
National Reports	129	69	22	5	23	3
Case Studies	131	47	6	7	55	3

Interview question check-list

The interviews were semi-structured, framed by a series of pre-defined questions which were sufficiently open to afford space for the interviewee to express their opinions and explain their position. A generic question check-list was designed by IEEP to be used by all national consultants, both for interviews with people in the national administration and regional actors, conducted as part of the case studies. The question check-list comprises 55 questions, with accompanying prompts to explore particular themes in more depth. It was designed in such a way to be flexible such that a sub-set of questions could be directed at individual interviewees depending on their subject knowledge and area of expertise.

Case Studies

Understanding the way in which policy is delivered and its impact at the local level is difficult using purely national and European data. Thus, the case studies serve to provide fine-grained evidence for the evaluation under a variety of political, administrative, economic, and natural conditions and to enhance comprehension of the way in which the different elements of the evaluation are tied together at the local scale. Specifically, fifteen case studies, located in seven Member States, including Germany, Ireland, Spain, France, Italy, Austria and Sweden, were conducted to provide a vehicle through which to explore different aspects of the implementation of the Measure and its varying impacts at a regional level (see Table 3.2).

Table 3.2 Case study regions and the focus of each study.

Member State	Case Study Region	Report Title
Austria	Bludenz-Bregenzer Wald	Combining LFA with other Rural Development measures to effectively target marginal rural areas: the case of Bludenz-Bregenzer Wald.
Austria	Waldviertel	The limited role of LFA in maintaining rural communities and the environment in the Waldviertel.
France	Cevennes	Maintaining extensive pastures with LFA support in Cevennes.
France	Plateau de Langres	The weak targeting of Good Farming Practice to extensive grassland management in the Plateau de Langres.
France	Marais Poitevin	Using LFA policy to target a particular environmental issue in the Marais Poitevin.
Germany	Vogelsburg	A case of the compensatory allowance positively affecting sustainable land management: Vogelsburg, Germany.
Germany	Thuringia	Examining the role of LFA in maintaining Natura 2000 sites in Thuringia.
Ireland	County Mayo	Case study on overgrazing in County Mayo.
Ireland	County Clare	The importance of LFA payments to maintaining agricultural activity and rural communities in County

Member State	Case Study Region	Report Title
		Clare.
Italy	Comunita Montana Peligna	The contribution of LFA policy to preventing land abandonment in the Comunita Montana Peligna.
Italy	Marche	Identifying the impacts of LFA policy and other rural development measures on agricultural structures and land use in Marche.
Spain	Villafafila	The perceived insignificance of LFA policy in the Villafafila 'Other Less Favoured Area'.
Spain	Bergueda	Farmers' discontent with the LFA scheme's inability to maintain rural communities or the agricultural landscape in Bergueda.
Sweden	Vastra Gotaland County	The impact of LFA policy in preventing rural depopulation in Vastra Gotaland County.
Sweden	Uppsala County	Questioning the applicability of LFA eligibility criteria in maintaining farming in Uppsala County.

Selection criteria

Case studies were selected because they can be regarded as illustrative of the different types of LFA areas designated under Articles 18, 19, 20 and 16 of Regulation 1957/1999, and of different approaches to the implementation of the measure. Not all Member States have applied each type of LFA and so an equal spread has not been sought. As a result, the majority of case studies focus on Mountainous (Article 18) and 'Other' (Article 19) LFAs. In addition, the case studies allow us to explore, in detail, the questions under Evaluation Themes 4, 5 and 6; the impacts of the LFA Measure on the environment, land-use and rural communities. Thus, they have been chosen because they are particularly illustrative of trends such as overgrazing, wetland management, land abandonment, depopulation and desertification.

Data collection

The case studies draw on a range of data sources, including statistical datasets, existing studies and evaluation reports, academic literature and qualitative material collected through semi-structured interviews. Table 3.3 details the number of interviews conducted in each case study and characterises the type of expert consulted.

Data collection was guided by a generic template, including a brief description of the area and framed by questions on the impacts of the measure. As windows onto a specific issue, individual case studies have focused on specific questions, emphasising environmental objectives and outcomes in some areas or a broader socio-economic strategy in others. All have attempted to capture the dynamics of change over time.

Material from the 131 interviews has been incorporated into the analysis and the answers to relevant evaluation questions. In addition, 15 case study monographs have been produced as a standalone document appended to the evaluation report.

Data Limitations and Quality

The data collected in the national data reports which form the core data source for the evaluation, have come from a variety of sources and there is little uniformity in the quality and availability of data between Member States. Furthermore, when assessing the limitations of the data in these reports it appears that there is a lack of consistency in approach to data collection both between Member States and within individual Member States over time. It can be difficult to establish the exact methods used for a particular dataset due to a lack of transparency in describing the underlying approach. Data are also not always available for the same year for all 25 Member States, which can make valid comparisons difficult. Some of the data collected are subject to significant variations over time for which there is no obvious explanation. Where these variations occur it can be difficult to interpret whether they reflect real changes or whether they are merely a function of different approaches to data collection. As a result, an effort has been made to highlight any apparent inconsistencies in approach and a cautious approach has been adopted when drawing conclusions from trends in the data.

Historical databases, directly comparable with more recent data, are also rare, and consequently there is a general lack of time-series data. As such, the collection of such historical data has proved difficult, and in the absence of accessible historical datasets, a few individuals have been relied upon to recount past events. The accuracy of recalled events diminishes with time, rendering the historical narrative less verifiable compared to more recent data.

In general, there is a scarcity of data and independent literature on the LFA measure in the 10 new Member States. As such, LFA specific data are not always available and other sources have been used. To a large extent, this reflects the measure's infancy, such that insufficient time has passed for the measure and its impacts to be an object of investigation and study. The implication of this is that, with the exception of the statistical material, the answers to the evaluation questions will largely be based on expert judgement rendering the interview material in these countries highly significant.

4

THE EVALUATION THEMES

The evaluation is structured around a logical sequence of seventeen questions which fall under six evaluation themes. The aim of this chapter is to discuss the logic underpinning each question, to illustrate the linkages between each, and to reveal the reasoning applied in our framing of the question and in reaching an answer.

The first two themes examine the ways in which the principal elements of the LFA measure have been applied at Member State level. Member States have considerable discretion over the precise way in which they apply the policy tools available to them within the framework imposed by Community legislation. The focus of Theme 1 is on the areas classified as LFAs by national or regional authorities and the eligibility conditions applying to farms within the areas designated. Theme 2 is concerned with the payments offered to eligible farms and the way in which payment levels have been determined.

Theme 3 considers the central issue of the effects of the payments on the incomes of beneficiaries and on farm structures within the LFA. Since LFA payments are only one strand of the support available to farmers in the areas designated, the analysis seeks to identify their role both in isolation and in the context of all direct payments. In attempting this, account needs to be taken of the variety of farm businesses and conditions in the LFA, which means that the operation of market related measures will vary greatly in significance between holdings.

As with many other policy evaluations, it can be difficult to establish the precise role of different factors in determining an outcome. In the case of the LFA, it is clear that there are many different influences on farmer behaviour and that, amongst these, there is usually more than one agricultural policy instrument being applied to the holding. Distinguishing the role of LFA compensatory payments in isolation from other forces is not easy. Analysis of this kind is assisted with reference to the counterfactual and farms of the same farming type within the LFA have been compared to those outside it in response to several requests to explore the impact of the LFA. Within the EU, however, it appears that nearly all the areas that meet the LFA criteria have been designated as such. This greatly hampers a comparison between farms which benefit from an LFA agreement and those that do not. It is possible to compare farms within the LFA and those outside it and this approach is used in response to several questions.

Assessing the effects of the varied policy measures adopted by Member States at a European level requires recourse to a consistent database, available over a period of years as well as in all Member States. For this reason, most of the questions in

Themes 2 and 3 are addressed by means of FADN and FSS data, both of which allow distinctions to be made between farms within and outside of the LFA boundary in order to compare the performance and characteristics of farms potentially affected by LFA policy and those that are not, although this is not wholly satisfactory. Precisely because they are in the LFA, holdings receiving payments will have characteristics which are not shared to the same degree by other farms outside the LFA as the farms concerned are operating under different conditions. For example, yields will tend to be lower and the proportion of farms practising extensive livestock management will be relatively high. A better counterfactual would be those farms situated within the LFA which do not receive payments, however, such holdings cannot be distinguished in the databases available.

Insofar as it is possible to detect the effects of LFA payments at farm level, through for example, the impact over time on family farm incomes, a basis is established for investigating second-order impacts that could be expected to flow from the primary impacts. Themes 4 – 6 examine issues that are central to the rationale for LFA payments and are concerned with the second-order impacts of the measure on land use, environmental quality and the viability of rural communities.

As noted in Chapter 2, there are assumptions embedded in LFA policy about the linkage between the continuation of farming in these zones and various public benefits, the precise outline of which might vary from place to place but the central premise of which is consistent. This relationship is expressed, or expected to be expressed, at a variety of levels. At the most fundamental level, there is an expectation that land will remain under agricultural management if the returns to farming enterprises are sufficiently attractive to compete with alternative land uses. Questions in Theme 4 are addressed at this issue. LFA payments constitute one of a number of factors contributing to the maintenance of farm incomes and the viability of agriculture. It is anticipated that temporary or longer term decline in viability will result either in changes in farm enterprise, in the structural characteristics of the regional agricultural sector, or in changes in land use. Some land use changes are distinct and can be detected in EU-wide data. In the LFA, this is often a transition to forestry or to recreational land, such as ski areas or urban/residential development. Less formal and discrete land use changes include the introduction of non-farm activities onto the holding, reductions in management intensity and outright abandonment. Data on such changes are more difficult to obtain.

Environmental impacts, explored in Theme 5, arise partly from the changes in land use discussed above and partly from the forms of management taking place on LFA farms and their relationship to a range of environmental objectives. Certain forms of management, such as the grazing of species-rich grassland, play a clear role in maintaining a specific environmental value. Others can be damaging to environmental values, such as when overgrazing occurs, destroying vegetation cover and damaging soils in extreme circumstances. Farms in the LFA are being managed to produce certain agricultural commodities and other outputs rather than environmental goods in most cases. However, because of the association between certain management systems and environmental values it is possible to identify management practices which are beneficial in environmental terms. The output of the farm is a mixture of purely agricultural products and a spectrum of environmental outcomes, which may be guided to varying degrees by specific rules, incentive systems, advice or tradition.

Environmental outcomes are more difficult to measure than land use changes and cannot be easily attributed to a specific policy driver, such as LFA payments. The interaction between a concrete farming activity and a desirable environmental outcome is not constant from place to place, even though there are some broad relationships. It is usually preferable, for example, for grazing to occur over the land area of a farm to avoid patches of complete abandonment and others of excessive grazing pressure. This requires a level of planning, management and resources which will not be present on all farms. The extent to which LFA policy influences management capacity and choices is one of the chains of causation embodied in Theme 5 and explored in the evaluation. The approach is largely qualitative given the lack of European data covering management decisions or environmental quality.

A similar qualitative approach is relied upon in addressing the question posed in Theme 6, which concerns the contribution, of LFA payments to the maintenance of viable rural communities in the areas concerned. In this case, there are various possible chains of causation. LFA payments, in principle, could affect variables such as the number of farms continuing in production, the level of employment on the farm and in the upstream and downstream industries, and the level of output and demand for processing, marketing and other activities. Less directly, if LFA payments have led to forms of land use and environmental outcomes which provide amenities for local people and visitors and help to attract investment in tourism and other services, they will have exerted an influence on this dimension of viability. Secondary and tertiary effects of this kind will be more difficult to detect and attribute to specific drivers than the more direct impacts explored in Theme 3, but may be no less significant. Effects which can be discerned through detailed study at a local level, for example in case studies, can illuminate the general analysis but questions will remain about their representativeness.

5

THEME 1: ELIGIBILITY CRITERIA

Introduction

Theme 1 examines the criteria that Member States and regions use to establish eligibility for LFA payments. Eligibility is defined at two levels: the area level and the farm level. To be eligible for payments, a farm must first be situated within an area that is classified as a LFA, and second it must comply with farm level eligibility rules.

Theme 1 presents two questions regarding eligibility criteria, the first relating to classification of LFAs, and the second relating to the farm level eligibility criteria applied by Member States and regions. These questions seek to establish the different approaches that Member States and regions have used to define eligibility for LFA payments; to consider the extent to which these criteria reflect the handicaps facing different areas and the farms within them, and to examine the role that these criteria play in meeting the objectives of the LFA measure, both at the EU and at the national or regional level. They also seek to identify any changes in eligibility criteria over time and the effects of these changes with regard to the objectives of the LFA measure.

Eligibility criteria have a vital role to play in LFA policy. Since the measure aims to secure the continuation of farming in disadvantaged areas where its future would otherwise be at risk from the threat of natural handicaps, it is important that it is applied in those areas and to those farms subject to these handicaps. Failure to include areas or farms that face significant handicaps could jeopardise the achievement of the measure's objectives. Conversely, the inclusion of areas or farms which are not handicapped in this way could result in overspending, limit the support available for farms with real handicaps, and undermine the credibility of the policy as a whole. The extent to which eligibility criteria reflect clearly identifiable handicaps which, in turn, affect the viability of farming, has been questioned in the Court of Auditors report on LFAs (2003), and is of interest in current debates on the liberalisation of trade in agricultural commodities.

By maintaining agricultural activity, the LFA measure is designed to meet specific objectives for the countryside, environment and rural communities. The type, location, structure and activities of the farms supported can be expected to influence the achievement of these objectives, and the effect of eligibility criteria in targeting support at particular types of farms and farm structures requires further interrogation.

Question 1 examines the way in which Member States and regions use the different Articles of Council Regulation 1257/99 to classify LFAs, analysing the criteria applied under each Article; changes to the criteria over time; the relationship of the eligibility criteria to handicaps; and similarities and differences in approach between Member States and regions.

Question 2 focuses particularly on the farm level criteria specified in Articles 14.2 and 15.2 of the Regulation. Article 14.2 defines criteria that Member States and regions must use to determine whether farms are eligible for payments (including farm size, an agreement to farm for a minimum of five years, and compliance with Good Farming Practice), while Article 15.2 specifies criteria that may be used to differentiate payments between farms (relating to regional development objectives, severity of handicap, environmental objectives, type of production and structure of holding). Question 2 examines the role of these criteria in meeting the overall objectives of the LFA measure; the extent to which these criteria have changed over time; the degree to which Member States or regions have used these criteria to add their own objectives; and the extent to which the criteria reflect real handicaps identifiable at the farm level.

Much of the evidence base used to answer these questions is contained within the national data reports for each Member State of the EU-25 and the case studies, which provide information about the classification of LFAs and the eligibility criteria applied at the area and farm level, and interpret this information with respect to the evaluation questions. The evidence is largely factual, although the questions also demand some judgment from the evaluators, for example, in assessing whether criteria reflect clearly defined handicaps; in examining whether criteria have improved over time; and in comparing and contrasting approaches taken by different Member States and regions.

Question 2a requires an assessment of the extent to which farm level eligibility criteria have contributed to the objectives of the measure. As such, it is more difficult to answer and depends on an analysis at the Member State or regional level, where material is available. Not all national data reports were able to answer this question, nevertheless, some useful examples are provided about the link between farm level eligibility criteria and the achievement of Article 13 objectives.

Question 2b, which addresses the extent to which Member States have added their own objectives via farm level eligibility criteria, is also less straightforward. This is because few Member States explicitly articulate national objectives, and thus it is necessary to surmise, through an analysis of farm level eligibility criteria, which additional objectives are pursued at the Member State or regional level.

Classification of Areas

Question 1a. *To what extent has the current classification of areas by Member States/regions been based on criteria corresponding to Articles 16, 18, 19 or 20 of Council Regulation 1257/99? Explain the differences compared to previous classifications.*

Introduction

The first part of the question involves an assessment of the extent to which different Member States and regions classify LFAs under the four Articles at the present time. This is addressed through Annex 2 of the report on the 'Implementation of Articles 16, 18, 19, 20 of Council Regulation 1257/1999' (IEEP, 2006) which accompanies this evaluation and sets out the area classified by Member State and regions, and for the EU as a whole, under each Article in 2004. The percentage of LFA classified under each Article is used to compare the relative importance of each Article in different parts of the EU.

The second part of the question requires an assessment of changes in the area classified over time. With the exception of Areas with Environmental Restrictions (Article 16), the broad criteria for classifying Mountain LFAs (Article 18), 'Other' LFAs (Article 19) and Areas affected by Specific Handicaps (Article 20) have been broadly consistent over time. The answer to this question therefore refers to a time series of data that gives the area classified by each Member State/region in the EU-15 between 1975 (or accession) and 2005.

Classification of LFAs under the four Articles

In 2004, the area of Utilised Agricultural Area classified as LFA in the EU-25 totalled 91 million hectares, which is equivalent to 54% of the Utilised Agricultural Surface of the European Union. The breakdown by the four Articles is as follows:

- 'Mountain' LFAs (Article 18) represent 28% of the total LFA;
- 'Other' LFAs (Article 19) represent 66% of the total LFA;
- 'Areas with Specific Handicaps' (Article 20) represent 5% of the total LFA;
- 'Areas Subject to Environmental Restrictions' (Article 16) represent 0.8% of the total LFA.

Table 4 of Annex 2 of the aforementioned report presents data on the area of LFA in different Member States under each Article in 2004. The data indicate that there are wide

variations between Member States in terms of the proportion of LFA that is classified under different Articles:

- Article 18, referring to 'Mountain and Northern LFAs', is applied in 14 of the 25 Member States. It accounts for more than 50% of the total LFA area in five Member States: Austria (82%), Slovenia (75%), Italy (71%), Finland (53%) and Greece (52%).

- Article 19, referring to 'Other' LFAs, is the most widely applied Article, used by all Member States except Malta, Denmark and the Netherlands, accounting for 66% of the total area of LFA in 2004. It accounts for more than 50% of the LFA land area in 15 of the 25 Member States, and for more than 90% in Belgium, Ireland, Latvia, Lithuania, Luxembourg and the UK.

- Article 20, relating to 'Areas affected by Specific Handicaps', is applied by all Member States except Latvia, although it only accounts for 5% of the EU LFA area. This is because it is, to a large extent, applied in a targeted way. In only three Member States – Finland, Slovak Republic and Hungary – do Article 20 areas account for more than 25% of the total LFA area, with the exception of Denmark, Malta and the Netherlands where they account for 100% of the LFA land area.

- Article 16, relating to 'Areas Subject to Environmental Restrictions' is applied only in Belgium, Germany, and Lithuania in 2004, and the Slovak Republic in 2005. It accounts for a small minority (<5%) of the overall LFA land area.

The average proportion of UAA classified as LFA for each Member State increased from 33% in the EU-9 in 1975 to 55% in the EU-15 in 2005 (of which 42% is in the EU-9) (Table 2, Annex 2 IEEP, 2006). Almost all Member States have shown a steady increase in the area classified as LFA. In addition, the enlargement of the EU over this period has resulted in the inclusion of Member States with a higher than average area of LFA land.

With regard to the classification of LFAs, Member States of the EU-15 can be characterised as:

- '***Expansionist***s' who have increased their LFA area by 10% or more since 1975 or accession. Based on the data in Annex 2, Table 1 (IEEP, 2006), this group includes Germany, Greece, Spain, France and Portugal[2]. The UK also falls into this category, although its LFA area has fallen since 1991 after a rise between 1975 and 1990. The steepest increases in the area classified occurred in Germany – from 29% of UAA in 1975 to 50% in 2005 (with some of this increase occurring after unification) – and the Netherlands (from 0% to 11% of UAA over the same period).

[2] It also includes Ireland and Italy if data for 1998 rather than 2005 are used. In both countries, the figures for 2005 indicate a significant drop in area, although they are not considered to be reliable.

- '***Consolidators***' with a more stable LFA area. This group includes Belgium, Austria, Luxembourg, Sweden and Finland. In some cases, for example Luxembourg, Austria, and Finland, the LFA area has always been a large proportion of the overall agricultural area, while in others, for example Belgium and Sweden, it has remained at less than 50% of the overall agricultural area.

Changes in the area classified as LFA over time

The STAR Committee report (1998)[3] gives data for the area classified under Articles 23, 24 and 25 of Council Regulation 950/97, which broadly relate to Articles 18, 19 and 20 of Council Regulation 1257/99, respectively.

The data compiled in Annex 2 of the aforementioned report (IEEP, 2006) reveal that:

- 'Mountain' LFAs (Article 18) accounted for 35% of the EU-15 LFA area in 1998, compared to 32% of the EU-15, and 28% of the EU-25 LFA area in 2004;

- 'Other' LFAs (Article 19) accounted for 61% of the EU-15 LFA area in 1998, compared to 61% of the EU-15, and 66% of the EU-25 area in 2004;

- 'Areas with Specific Handicaps'(Article 20) accounted for 4% of the EU-15 LFA land area in 1998, compared to 4% of the EU-15, and 5% of the EU-25 LFA land area in 2004.

At the EU level, the relative importance of Mountain LFAs (Article 18) has decreased slightly since 1998, while the relative importance of 'Other' LFAs (Article 19) has increased.

In general, the proportion of LFA land classified under the different Articles was broadly similar in 2004 to the situation in 1998 in most Member States. Some differences are apparent, however, as follows:

- Spain – Most growth occurred in Mountain LFAs (Article 18) which increased from 38% to 41% of the LFA land area, with 'Other' LFAs (Article 19) declining from 58% to 55% of the LFA area;

- France – Mountain LFAs (Article 18) decreased in area, and declined from 38% to 33% of overall LFA land area, with 'Other' LFAs increasing in area;

[3] STAR Committee data for 1998 are given in Table 5.1. They appear to be the best available data giving historic breakdowns of LFA area by Article, however, a number of apparent inconsistencies and arithmetic errors are evident, and as such, they should be treated with caution.

- Portugal – Mountain LFAs (Article 18) decreased from 35% to 30% of the LFA land area, with 'Other' LFAs (Article 19) increasing from 60% to 63%, and Areas with Specific Handicaps from 4% to 7% of the LFA area;

- Finland – While the overall LFA area was relatively stable, Mountain LFAs (Article 18) decreased from 65% to 53% of this area, with 'Other' LFAs (Article 19) decreasing from 25% to 22%, and Areas with Specific Handicaps (Article 20) increasing from 10% to 26% of the LFA area.

Table 5.1 Area classified under Articles 23, 24 and 25 of Regulation 950/97 and as a proportion of the total LFA.

Member State	Art. 23		Art. 24		Art. 25		Total	Total UAA (1990)	As percentage of the UAA in the total LFA			
									Art. 23	Art. 24	Art. 25	Total LFA
	In 1000s ha	In %	In 1000s ha	In %	In 1000s ha	In %	In 1000s ha	In 1000s ha	In %	In %	In %	In %
Belgium			273	100.00			273	1,357		20.12		20.12
Denmark					23	100.00	23	2,770			0.83	0.83
Germany	336	3.94	7,987	93.72	199	2.34	8,522	17,012	1.98	46.95	1.17	50.09
Greece	3,914	74.13	964	18.26	402	7.61	5,280	6,408	61.08	15.04	6.27	82.40
Spain	7,503	38.39	11,343	58.03	700	3.58	19,546	26,330	28.50	43.08	2.66	74.23
France-Dom	87	49.15	15	8.47	75	42.37	177	177	49.15	8.47	42.37	100.00
France-outs Dom	5,197	37.88	7,794	56.81	729	5.31	13,720	29,834	17.42	26.12	2.44	45.99
France	5,284	38.02	7,809	56.19	804	5.79	13,897	30,011	17.61	26.02	2.68	46.31
Ireland			3,456	99.65	12	0.35	3,468	4,892		70.65	0.25	70.89
Italy	5,218	59.02	3,405	38.51	218	2.47	8,841	16,496	31.63	20.64	1.32	53.59
Luxembourg			122	97.60	3	2.40	125	127		96.06	2.36	98.43
Netherlands					111	100.00	111	2,011			5.52	5.52
Austria	2,045	83.61	228	9.32	173	7.07	2,446	3,524	58.03	6.47	4.91	69.41
Portugal	1,227	35.74	2,056	59.89	150	4.37	3,433	3,998	30.69	51.43	3.75	85.87
Finland	1,407	65.05	536	24.78	220	10.17	2,163	2,549	55.20	21.03	8.63	84.86
Sweden	526	28.13	1,011	54.06	333	17.81	1,870	3,634	14.47	27.82	9.16	51.46
United Kingdom			8,341	99.99	1	0.01	8,342	18,685		44.64	0.01	44.65
TOTAL	**27,460**	**35.05**	**47,531**	**60.67**	**3,349**	**4.27**	**78,340**	**139,804**	**19.64**	**34.00**	**2.40**	**56.04**

Source: STAR Working Document, 1998

Conclusions

The proportion of agricultural land classified as less favoured under Articles 16, 18, 19 and 20 is not uniform and varies widely across Member States. Article 18 and 19 areas dominate at the EU level, together accounting for 94% of the total LFA. While there has been a steady increase in LFA area across the EU over time, trends in the area classified under different Articles follow no clear patterns common to Member States. There was a general decrease in relative importance of Mountain LFAs (Article 18) in the EU-15 between 1998 and 2004, though there was an increase in some Member States, including Spain. The typology of approaches to the implementation of LFA policy used in this study does not appear to help in the identification of patterns regarding trends in the area of land classified as less favoured.

Since mountains have relatively stable handicaps which can be measured objectively, the decrease in the relative importance of Article 18 across the EU as a whole suggests that a smaller proportion of LFAs are being designated in accordance with the clearest, most objective and measurable criteria. Article 18 now accounts for only 28% of the LFA land area in the EU. Much of the growth in LFA area has involved the classification of LFAs under Article 19, which, though it employs criteria that are generally clear and well defined, is generally applied in a more variable and less transparent way than Article 18. Question 1b assesses the extent to which the criteria applied under the different Articles correspond to clearly identifiable handicaps.

Correspondence of Classification Criteria to Severity of Handicap

Question 1b. *To what extent do the criteria chosen to classify areas correspond to handicaps clearly identifiable for an area?*

Introduction

This question considers the extent to which Member States/regions use clearly defined criteria in classifying LFAs, linked to evidence of particular handicaps. Under each of the four Articles:

- Article 18 – Classification is based on clearly defined criteria relating to altitude and/or slope (for Mountain areas) or latitude (for areas north of 62nd parallel).

- Article 19 – Classification is based on clearly defined criteria relating to:
  - Land productivity
  - Economic performance of agriculture

- Population

- Article 20 – Classification is based on other specific handicaps identified on the basis of clearly defined and measurable criteria, and evidence is provided that these handicaps threaten the continuation of farming.

- Article 16 – Classified areas correspond to clear environmental designations.

The answer to this question first examines the classification criteria specified under each Article at the EU level. It then reviews, compares and contrasts the criteria applied by individual Member States and regions. Consideration is given to the extent to which these are clear, well defined, and correspond to the EU level criteria.

Classification criteria for each Article

Tables 1 - 4 of Annex 1 of the aforementioned report (IEEP, 2006) summarise the classification criteria used by Member States/regions under the different Articles. The extent to which these criteria correspond to handicaps which are clearly identifiable for an area is considered as follows.

Article 18

Article 18 specifies that land may be classified as LFA according to:

- Altitude - resulting in adverse climatic conditions which shorten the growing season;

- Slope - at a lower altitude, farming may be hindered by slopes too steep for the use of machinery or requiring the use of expensive special equipment;

- A combination of altitude and slope - where the handicap resulting from each taken separately is less acute, but the combination of the two gives rise to an equivalent handicap;

- Areas north of the 62nd Parallel and certain adjacent areas, which shall be treated in the same way as Mountain areas.

All Member States which apply this Article classify Mountain Areas according to criteria relating to altitude and slope, except Finland, where classification is based on location north of the 62nd Parallel and certain adjacent areas. Sweden uses both sets of criteria, classifying both Mountain Areas (according to altitude and slope) and areas north of the 62nd Parallel.

In relation to the definition of these criteria:

- Altitude is defined clearly by all Member States. In most Member States, land is classified as LFA if it exceeds a certain minimum altitude, with the threshold typically varying between 500m and 1000m. In France, Italy and the Slovak Republic, whole communes/municipalities are classified as LFA if they have a minimum average altitude (600 - 800m). In Poland, municipalities where over half the farmland is above 500m are classified as LFA under Article 18;
- Slope is used separately by nine Member States to classify LFAs under Article 18. These Member States classify land as LFA under Article 18 if its slope exceeds a minimum level, between 15% and 25%. The area of land required to meet this criterion is defined in some, but not all, cases.
- A combination of altitude and slope is used by 12 Member States (all those that apply this article except Poland and Finland). These criteria are clearly defined in all cases. For example, Austria classifies land with a combination of 500m altitude and 15% slope, compared to individual criteria of 700m altitude or 20% slope.
- Finland and Sweden both classify land located north of the 62nd Parallel. Both additionally classify some adjacent areas, subject to clearly defined climatic criteria.

We can conclude therefore, that classification of LFAs under Article 18 uses clearly defined criteria in all Member States. This is in accordance and consistent with the requirements of the Rural Development Council Regulation (1257/1999).

Article 19

Article 19 defines 'Other' LFAs as areas which are in danger of abandonment of land-use and where conservation of the countryside is necessary. Eligible areas must be homogeneous in natural production conditions and exhibit all of the following characteristics:

- Poor land conditions - low productivity, difficult cultivation and limited potential which cannot be increased except at excessive cost, and which is mainly suitable for extensive livestock farming;
- Low levels of agricultural productivity - appreciably below average output per hectare;
- Low or declining population - predominantly dependent on agricultural activity, the accelerated decline of which would jeopardise the viability of the area concerned and its continued habitation.

Member States use a wide variety of criteria to classify areas under Article 19. This is especially the case for the criteria used to categorise land quality and productivity. These include:

- Proportion of land in permanent pasture (Wallonia, Greece, Spain, Luxembourg, Slovak Republic, Sweden, UK[4]);
- Output per hectare (Wallonia, Czech Republic, Greece, northern Spain, France, Italy, Lithuania, Luxembourg, Hungary, Slovenia, Slovak Republic, Sweden);
- LVZ[5] score and share of permanent grassland (Germany);
- Indices of soil fertility/land quality (Estonia, Cyprus, Latvia, Luxembourg, Poland, Slovenia, Finland);
- Ploughed area (Ireland);
- Rough grazing as a percentage of forage area (Italy);
- Stocking rate (Ireland, France, Italy, Portugal, Slovak Republic, UK[4]);
- Irrigated area and fallow area (Spain);
- Geographical criteria based on historical data (UK[6]);
- Number of days with frost each year (Wallonia).
- Income per work unit/worker (Wallonia, Ireland, Greece, northern Spain, Cyprus, Lithuania, Luxembourg, Hungary, Sweden);
- Gross farm income per family labour unit (France);
- Amount of social tax paid by people employed in agriculture (Estonia);
- Income tax per person living in territory (Latvia);
- Official land taxation values (Estonia);

[4] These criteria relate to changes made to the classification of the LFA in 1984 (See OJ No L 82/67 26.3.84).

[5] Landwirtschaftliche Vergleichszahl – an index measuring the quality of agricultural land.

[6] Initial classification of LFA based on natural handicap criteria drawn from the 1946 Hill Farming Act.

- Number of holdings and population density (Austria);

- Farm rents compared to national average (UK[6]).

Though varying widely, the above criteria are generally clear and well defined. Some, such as those based on national indices of soil or land quality, are nationally specific, whereas others, such as average yields per hectare, are easily comparable across Member States. While the criteria are generally well defined, they do not always relate closely to the condition and productivity of agricultural land. A notable example is Latvia's measure of income tax per person living in the territory.

In addition to the above mentioned criteria linked to land conditions and agricultural productivity, Member States tend to use a much more consistent set of population-related criteria in classifying LFAs under this Article which include:

- Population density and proportion of population engaged in agriculture (Wallonia, Czech Republic, Germany, Estonia, Ireland, Latvia, Luxembourg, Hungary, Poland, Slovak Republic, UK);

- Population density or declining population and proportion of population engaged in agriculture (Estonia, Greece, Spain, France, Italy, Lithuania, Austria, Slovenia, Finland, Sweden);

- Population density or declining population (Cyprus, Portugal);

- Proportion of farms that have left agriculture (Poland);

- Average farm size (Poland).

The main difference occurs between those Member States that, in classifying Article 19 areas, take into account declining population, low population density, and the proportion of the population employed in agriculture, and those which only consider the latter two criteria. Cyprus and Portugal do not appear to apply criteria relating to the proportion of the population employed in agriculture (although in Portugal, reference is made to the annual rate of loss of people employed in agriculture).

In general, therefore, it can be concluded that the criteria used to classify LFAs under Article 19, while variable between Member States, are generally clearly defined.

Article 20

Article 20 of Council Regulation 1257/1999 relates to Areas affected by Specific Handicaps, in which farming should be continued where necessary, and subject to certain conditions, in order to conserve or improve the environment, maintain the countryside, and preserve the tourism potential of the areas in order to protect the coastline.

There is no central definition of Areas affected by Specific Handicaps (Article 20). A variety of criteria are used by Member States and regions to define them:

- Ireland – Existence of unfavourable natural production conditions (island location, excessive ambient salinity, violent wind and low soil potential).

- Spain - Island location, soil salinity, strong winds, wet marshy soils, soil suffering from desertification through drought, conservation of pine forests formerly used as production areas for resin and areas with high ecological value such as the areas surrounding National Parks.

- Cyprus - Farms in communes which border occupied territory, if part of their land is occupied or where farming is not safe.

- Malta - 100% of the agricultural land area is classified under Article 20 due to a variety of natural handicaps.

- Slovenia - Frequent flooding, strong North wind (burja - bora), Ljubljana marsh, Karst and 'soft erodible hills' in central and eastern Slovenia.

- Finland - Areas with unfavourable natural conditions (index below 450) and of specific permanent handicaps including marshland, poor groundwater balance, low temperature, urbanisation, island location, northern location, length of growing season, sensitivity to water pollution, valuable landscape areas, traditional landscape areas, areas where the number of farms and the agricultural population are declining rapidly, importance of farm tourism and protection of the Baltic Sea.

Malta is an exceptional case in that the entire territory is classified, based on a general analysis of the natural handicaps with no attempt made to identify the specific handicaps facing particular areas within the national territory. While other Member States (Luxembourg and Finland) also classify 100% of their agricultural area as LFA, most of the land is classified under Articles 18 and 19, applying clearly defined and measurable

criteria[7]. Nevertheless, Malta is a small country, so the area of land classified under Article 20, whilst 100% of the agricultural area, amounts to only 10,000 hectares. In absolute terms, the area of land classified under Article 20 is greatest in Spain (816,000 hectares; 4% of the LFA), Poland (790,000 hectares; 9%), Finland (558,000 hectares; 26%) and Hungary (488,000 hectares; 55%).

Reference to the above list of criteria applied to classify Article 20 areas indicates that they are:

- Highly variable between Member States and regions. The criteria refer to a wide range of soil, climatic, topographic, hydrological, environmental and socio-economic conditions;

- Often qualitative rather than quantitative in nature, with a tendency to describe local conditions rather than measuring variations in productivity (in contrast to classification under Article 19);

- Flexible to local circumstances.

Nevertheless, a number of common themes are evident, with several Member States or regions classifying LFAs according to:

- Island location – Denmark, Estonia, Ireland, Greece, Spain, Portugal, Finland, Sweden, UK;

- Soil and hydrological conditions – Czech Republic, Germany, Ireland, Greece, Spain, France, Italy, Lithuania, Luxembourg, Hungary, Netherlands, Austria, Slovenia, Slovakia, Finland, Sweden, UK;

- Climate – Ireland, Spain, France, Slovenia, Finland, UK;

- Environmental sensitivity/landscape factors – Flanders, Germany, Spain, France, Italy, Austria, Finland, Sweden;

- Socio-economic factors – Greece, Finland;

- Border regions – Estonia, Greece, Cyprus, Austria.

In general, the criteria applied are likely to relate to clearly identifiable handicaps, although in many cases, these are not quantified or their effects on agricultural

[7] One of the national interviewees was critical of Malta's approach, on the grounds that this blanket classification does not distinguish between differences in the severity of handicaps between different parts of the island, and therefore does not help to target aid on those farms that need it most.

productivity assessed. The handicaps are numerous, often locally specific, and not amenable to EU-wide comparisons.

Article 16

Article 16 of Council Regulation 1257/99 allows Member States to make payments to compensate for costs incurred and income foregone to farmers 'who are subject to restrictions on agricultural use in areas with environmental restrictions on agricultural use based on Community environmental protection rules, if and in so far as such payments are necessary to solve the specific problems arising from such rules.'

Areas are classified by individual Member States/regions as follows:

- Flanders, Belgium – areas in Natura 2000 or in a regionally designated vulnerable nature zone, where a ban on manuring has been imposed;

- Germany – may be applied within Natura 2000 sites, where necessary. Article 16 has only been applied by certain federal states: Brandenburg, Bremen, Hamburg, Nordhein-Westfalen, Schleswig-Holstein, and Thuringia;

- Lithuania – applies within Natura 2000 sites;

- Slovak Republic – Certain sites, designated as SPAs under the Birds Directive (79/409/EEC) are eligible;

- Czech Republic – areas designated as Special Protection Areas under the Birds Directive (79/409/EEC), in which there is a ban on fertiliser applications. These are currently in the process of being approved by the Commission.

In general, Areas with Environmental Restrictions have been classified according to clearly defined criteria relating to the designation of Natura 2000 sites. In Flanders, additional areas are included which have been identified as vulnerable zones according to regional criteria, and in which a ban on the application of manure has been applied.

Conclusions

The following conclusions can be drawn:

- In general, Member States and regions apply clearly defined and measurable criteria in the application of Articles 16, 18 and 19;

- The criteria for classifying Areas with Specific Handicaps under Article 20 tend to be less well defined.

Though the types of handicap factors considered under Article 20 can reasonably be expected to influence the viability of agriculture, there is a tendency to make a qualitative assessment of their effect, rather than in accordance with specific thresholds or designations as under the other Articles. Article 20, therefore, is being used to cover areas deemed to be less favoured but not identified as such by the specific classification criteria specified under the other Articles.

The flexibility of Article 20 may be advantageous in allowing classification of areas that are genuinely less favoured but are not captured by the quantitative criteria applied under the other Articles. This implies that the Article should be applied in specific circumstances and to limited areas of land. The lack of measurable criteria is of more concern in those cases, such as Spain, Poland, Hungary and Malta, where Article 20 is applied to larger areas of land.

The use of clear and measurable criteria to classify LFAs does not necessarily imply that the areas classified suffer a degree of hardship that necessitates financial support. This depends on the extent to which the identified conditions, including, for example, altitude, slope, soil quality and climate, impact on agricultural productivity, incomes, and the extent to which these in turn affect the ongoing viability of farm businesses. Indeed, the report of the Court of Auditors (2003) was critical of the lack of evidence available to verify that the classification of LFAs was valid with respect to the severity of the handicap faced, and called for the Commission to undertake a comprehensive review of existing LFA classifications.

Changes in Classification Criteria over Time

Question 1c. *Is the current classification of areas an improvement in terms of identifying handicaps compared to previous classifications, and if so, why?*

The answer to this question identifies those Member States/regions where criteria for classifying LFAs have changed over time, and considers whether the current classification uses clearer criteria for identifying handicaps compared to previous ones. Criteria are considered to be clearer if they are more sharply defined, unambiguous, and/or measurable, and which are ideally accompanied by an explanation of the ways in which they relate to the handicaps facing farming.

At the EU level, there has been growth in the relative importance of 'Other' LFAs Areas (Article 19) since 1998, and a relative decline in the proportion of the total LFA classified as under Article 18.

Material collected by national consultants gives the following examples of changes in the criteria used by different Member States and regions:

- Germany - A major change occurred in 1986, when payments in areas other than Mountain Areas (Article 18) were extended from so-called centre zones to the total LFA. At the same time, the threshold for 'Other' Areas (Article 19) to qualify as LFA, which is based on LVZ, was raised. The boundaries of LFA changed again to a significant extent when some parts of the former German Democratic Republic (GDR) area were classified as LFA.

- Ireland – The criteria used to classify LFAs have been subject to five reviews, in 1976, 1981, 1985, 1991 and 1996. In each case, these reviews have increased the area of land classified as LFA. In general, the number of criteria used to classify LFAs has declined over time and their clarity increased, such that clear and measurable criteria based on farm income per work unit, cultivated area, and stocking rate are now used. This simplification of criteria has also tended to increase the inclusiveness of the scheme, such that the LFA includes more counties in their entirety and is less focused on particular islands of disadvantage. According to interviewees, this approach means that certain small pockets of land facing significant handicaps surrounded by areas of relative advantage are excluded from the scheme.

- Spain - The most significant change in criteria has occurred with the classification of Areas with Specific Handicaps under Article 20, which were previously 'zones with specific limitation'. The criteria now applied under Article 20 are more restrictive and limited to National Parks and their surrounding areas. As a result, many of the areas previously classified no longer qualify under Article 20, but most retain their status as LFA under Article 18. At the same time, some changes in the way the LFA criteria are interpreted and implemented have taken place over time, resulting in changes in the overall areas classified. Interviewees have indicated that there has been significant political debate regarding the classification of particular areas with several opining that the existing classification criteria do not provide a good reflection of the levels of handicap facing different areas.

- Italy – There have been no significant changes in the classification criteria although the area of land classified as LFA has increased, as have the number of claims and hectares in receipt of an LFA payment.

- Netherlands - There has been a substantial increase in the area of land classified as LFA. This is understood to have resulted from a desire to increase the number of farmers receiving a compensatory allowance in order to contribute to the maintenance of the cultural landscapes associated with agriculture. In turn, this has involved the inclusion of additional areas deemed to suffer natural handicaps and in need of special support. For example, the doubling of the LFA area in 2004/2005 included about 40,000 hectares of new LFA in the so-called Green Heart in the western part of the country, an area of deep peat meadows which can

only be maintained in the long term by applying a relatively high ground water level. Article 20, which accounts for the entire LFA area in the Netherlands, is sufficiently flexible for this to be an acceptable rationale for expansion of the LFA.

- Finland - The coverage of the LFA has been extended under Article 20 to cover the whole country, whereas the previous scheme operating from 1995 to 1999 covered approximately 85% of the country and excluded some southern regions. Interviewees commented that this extension was logical in an EU context, reflecting the fact that if a European baseline of disadvantage is applied, the whole of Finland suffers handicaps to agriculture production.

- UK - The LFA was extended in 1984 to include not only the originally classified 'Severely Disadvantaged Areas' (SDAs) but also 'Disadvantaged Areas' (DAs). These DAs were classified using similar criteria to the SDAs (grassland area, stocking rate, labour income per work unit, population density) but lower threshold levels were used to include areas with lower levels of handicap. There have been no significant changes since then.

In summary, the following comments can be made:

- Changes in LFA area over time partly reflect changes in classification criteria, but also the interpretation and application of those criteria.

- The increase in the total LFA is explained in part by the fact that Member States have taken advantage of the flexibility in the Article 19 criteria to expand their LFA schemes.

- The tendency for the LFA area to increase over time in all Member States since 1975 does not support the idea that changes in classification are a better reflection of real handicaps, unless levels of handicap have been consistently underestimated in the past. In general, criteria relating to natural conditions can be expected to remain relatively stable over time, whereas socio-economic criteria are more subject to change. There has been a tendency for changes in classification to work in one direction (in increasing the LFA area), but not in the other (in declassifying land on the grounds that handicaps no longer exist. Nevertheless, some changes in classification are considered to represent an improvement within the Member States, including:

    - Increased thresholds for classifying land in Germany under Article 19;
    - Use of more clearly defined classification criteria in Ireland;
    - More precise application of Article 20 in Spain;

- Refinements in classification criteria and more consistent application of data in France.

A general conclusion is that there has been a modest overall improvement in the definition of criteria used to classify LFAs in the EU, although this should be viewed in the context of a tendency to expand the areas classified, with a variety of administrative and political factors influencing the way in which the criteria are applied. As Dax (2005) points out, the expansion of the LFA in the EU since 1975 raises questions about the suitability of the criteria used to classify and delimit these areas, leading to continuing suggestions about the need to review and redefine classification criteria.

The Consistency of Criteria across Member States

Question 1d. *To what extent are the criteria interpreted in a homogeneous way by different Member States?*

The answer to this question requires consideration of the criteria specified at the EU level in the relevant Articles, and a comparison of the approach adopted by different Member States in interpreting and applying these criteria in classifying LFAs at the national or regional level. The answer to Question 1b (above) sets out the criteria that may be used to classify LFAs under each of the Articles, and summarises the ways in which these criteria have been interpreted in different Member States. The answer to this question therefore presents a summary and analysis of the information given in answer 1b.

The degree to which the different criteria have been interpreted in a homogeneous way can be summarised as follows:

- **Article 18**. The criteria specified in the Article are generally clear and refer to altitude, slope, a combination of altitude and slope, or location north of the 62nd Parallel. The interpretation of these criteria has been consistent across Member States, although not all criteria are applied by all Member States, and there are some variations in the thresholds applied.

- **Article 19**. A wide range of criteria are used by Member States to classify LFAs according to land conditions and agricultural productivity, with some of these unique to particular Member States. Other criteria, however, are used by several Member States, for example, output per hectare, income per work unit less than 80% of national average, and soil quality indices. Some of these criteria are consistent at the EU level whereas others are nationally specific, including indices of soil and land quality. The criteria relating to population are more evenly applied, with the main difference being between those Member States which include dwindling population, as well as low population, as a classification criterion.

- **Article 20**. A large number of different and often locally specific criteria are used to classify Article 20 areas, reflecting the great flexibility with which the Article is applied. Some Member States apply large numbers of classification criteria within a single territory. Certain common themes are evident between Member States, with, for example, several Member States classifying island areas, and areas with adverse soil or climatic conditions. Some Member States, such as Estonia and the Netherlands, classify Article 20 areas more according to landscape or natural criteria than to specific handicaps.

- **Article 16**. Application of the Article has been limited and restricted to just four Member States in 2004. There are some variations in the application of this Article. For the most part, it applies to Natura 2000 sites, although in certain Member States, its application is restricted to SPAs under the Birds Directive (79/409/EEC).

The relationship between the classification criteria and an objective measure of handicap is only clearly defined for Article 18 and 16 areas. However, over the period 1998 – 2004, the area of land classified under Article 18 has declined and under Article 16 remained small while the total area of the LFA has expanded, with the biggest increase in 'Other' LFAs. Given the increase in the size of Article 19 areas, it is of concern that the basis for classification in relation to a robust measure of handicap is less secure compared to Article 18 and 16 areas. Classification under both Articles 19 and 20 has occurred with reference to a wide range of national criteria, many of which are not comparable at a European level. This is not in contravention of the requirements of the Regulation, although it reduces transparency with regard to the equitable distribution of compensatory allowances. Furthermore, some of the classification criteria under Article 19, and in particular the three relating to rural population issues, no longer reflect the core objectives of the LFA measure and have been inherited from earlier incarnations under which areas were classified on the basis of needs that are no longer as pressing.

Given the progressive reorientation of the LFA measure towards sustainable land use and environmental objectives, and the absence of social objectives relating to the viability of rural communities under the forthcoming Council Regulation (EC) 1698/2005, the relevance of these population criteria as a basis for classification is open to challenge which, in turn, raises questions about the less favoured nature of those areas classified. In light of these revised objectives, a further concern is that Member States have made only limited use of the environmentally focused Articles 16 and 20, which accounted for 0.8% and 5% of the total LFA in 2004/5, respectively.

Eligibility at the Farm Level

Question 2a. *To what extent have the eligibility criteria (Articles 14.2 and 15.2) currently applied at farm level by Member States/regions contributed to achieving the objectives defined in Article 13 of Council Regulation 1257/1999? Detail the differences between current and previously applied criteria, in particular, with regard to the changes resulting from the move to area payments.*

Introduction

A first step to answering this question is to consider what effect the various farm level criteria might be expected to have in meeting the objectives and then to consider evidence at the Member State and regional level as to whether the different criteria have contributed to achieving the objectives. The second part of the question requires an assessment of the extent to which the eligibility criteria applied have changed over time, particularly in relation to the switch from headage to area payments under Council Regulation 1257/1999. This involves a comparison between current and previously applied criteria and, as far as possible, an assessment of whether changes in the criteria have contributed, to a greater or lesser extent, to meeting the objectives of the scheme.

The relationship between farm level criteria and the objectives of the scheme

Objectives of LFA Policy

The objectives set out in Article 13 of Council Regulation 1257/1999 are to:

- Ensure continued agricultural land use and contribute to maintenance of viable rural communities in LFAs;
- Maintain the countryside in LFAs;
- Maintain and promote sustainable farming in LFAs;
- Ensure environmental requirements and safeguard farming in areas with environmental restrictions.

Article 14.2

Article 14.2 establishes eligibility criteria relating to a requirement to:

- Farm a minimum land area;
- Undertake to farm for at least 5 years;
- Apply Good Farming Practice (GFP) standards consistent with the protection of the environment/countryside.

The criteria relating to minimum land area and the requirement to farm for at least five years are intended to help to secure continuity of agricultural land use, thus helping to maintain the countryside and the viability of rural communities. The requirement to farm a minimum land area aims to ensure that the measure supports farming operations that help contribute to the management of the countryside and the maintenance of the rural community and economy, rather than small scale 'hobby farms'.

Member States and regions have set a variety of different limits on the minimum farm size qualifying for LFA payments (Table 5.2). These range from 0.1124 hectares in Malta to 10 hectares in England, with several Member States applying a limit of one (particularly new Member States) or three hectares.

Table 5.2 Minimum farm size eligible for LFA payments.

Minimum Area (ha)	Member State/Region
0.1124	Malta
0.15	Madeira
0.3	Cyprus
0.5	Netherlands, Portugal
1	Estonia, Lithuania, Hungary, Poland, Slovenia
2	Greece, Spain (1 hectare in Canary Islands)
3	Wallonia, Germany, Ireland, France (except DOMs – 2 hectares), Luxembourg, Finland, Scotland, Northern Ireland
5	Czech Republic (except organic farms 1 hectare and National Parks and protected landscapes – 2 hectares), Denmark
6	Wales
10	England

This range demonstrates variations in farm structure between Member States, as well as overall differences in approach to LFA policy, reflecting differences in the size of farm

considered significant in maintaining rural communities and the countryside. There may also be differences in policy stance between Member States and regions depending on the perceived importance for rural communities and the environment of maintaining a large number of farms, rather than overall farmed area. In Spain and Italy, for example, half of the holdings in the LFA fall below the eligibility thresholds of two and three hectares, respectively, implying that support is not being targeted on small farms.

To maximise the effectiveness of the LFA measure in achieving its objectives, these minimum size limits should exclude farms that are too small to make a significant contribution to the maintenance of rural communities and the countryside, while not excluding farms contributing to these objectives.

The requirement to farm for at least five years has been universally adopted as a condition for entry into the scheme. The requirement to apply Good Farming Practice conditions aims to ensure that LFA payments promote sustainable agriculture that maintains the quality of the countryside and environment, and that environmentally damaging operations are not supported. The application of Good Farming Practice – and its contribution to the protection and enhancement of the environment – is addressed in Question 14.

In addition to these mandatory criteria, most Member States apply country specific criteria to define eligibility for the scheme at the area and farm level which include, for example: age of the farmer; address or permanent residence of the farmer; family income; off farm income; crop and livestock types; type of person/entity eligible to receive payments; and minimum or maximum stocking densities.

In general, the interview material in the national reports indicates that these area and farm level eligibility criteria contribute to, or at least do not conflict with, the objectives of the measure. In several Member States, interviewees commented that these criteria do not greatly limit eligibility.

With regard to minimum farm size:

- In Estonia, the requirement to farm a minimum area of one hectare is accompanied by a rule that the minimum field area should be 0.3 hectares. This has presented problems in several LFA areas, especially islands, which have many small fields, the maintenance of which is important to the landscape. This has led to calls for this criterion to be relaxed.

- In Greece, eligibility criteria are broad which results in a large number of beneficiaries (including part-time farmers with relatively small farms), and a reduced level of compensation for each beneficiary.

- In France, the three hectares limit is considered to exclude only the very smallest farms, with the majority of farms having a significantly greater area. The Cévennes case study,

however, found that the threshold presents problems for a large number of farms, concentrated on terraces, which account for the majority of agricultural activity in this area.

- Madeira has a much lower threshold than that for the rest of Portugal on account of its small average farm size. Adopting the Portuguese limit would exclude a large proportion of farms and threaten the objectives of the scheme.

The requirement to farm for a minimum of five years was generally seen by interviewees as helping to contribute to the objectives of the LFA measure by promoting continuity of land use.

Article 15.2 requires LFA payments to be differentiated according to the:

- Situation and development objectives of the region;
- Severity of permanent natural handicap;
- Particular environmental problems to be solved;
- Type of production and, where appropriate, structure of the holding.

These criteria aim to increase the effectiveness of LFA support in meeting Article 13 objectives by enabling Member States to provide enhanced support to particular regions or farms. Areas with more severe natural handicaps are likely to need enhanced payments to maintain farm viability and ensure the continuation of agriculture. Particular environmental problems may need to be addressed through specific management practices and require enhanced levels of support. In other cases, there may be a need to offer increased payments for particular types of production or farm structures that are deemed important for the maintenance of the countryside, environment and/or rural communities.

Member States and regions differentiate payments in a variety of ways, although some common themes can be identified:

- Local agricultural conditions – Germany, Navarra, Basque Country, Lithuania, Austria, Slovenia and Slovakia;
- Geographical zones – Czech Republic, Ireland, Poland, Sweden, Finland and UK;
- Environmental criteria or practices – Navarra, Basque Country and England;
- Farming systems/land use – Greece, Spain, Cyprus, Italy, Austria, Northern Ireland and Scotland;

- Stocking rates – Wallonia, Navarra and Scotland;

- Farm size - Wallonia, Ireland, Spain, France, Cyprus, Italy, Hungary, Austria, Poland, Portugal, Sweden; and others (Denmark, England, Wales) apply limits that affect only bigger farms (100 or more hectares);

- Full-time/part-time farmers – Luxembourg and Portugal;

- Labour inputs – Basque Country and Luxembourg;

- Young farmers – Wallonia, Greece and Navarra;

- Socio-economic criteria – Navarra and Basque Country;

- No differentiation – Flanders, Netherlands, Malta, Denmark and Estonia.

The above examples demonstrate that, collectively, the Member States and regions apply all of the four criteria identified in Article 15.2 to differentiate payments.

The national data reports and case studies, and the interviews on which they are based, suggest that these differentiation criteria do contribute to the achievement of the objectives of the scheme, illustrated with several examples below:

- Wallonia - Limiting eligibility to extensive livestock systems is deemed to contribute to both the maintenance of a viable rural community and the quality of the landscape and countryside.

- Denmark – Modulation, with a 100 hectare ceiling on payments, is seen to play a role in maintaining the number of local recipient farmers and hence contribute to a viable rural community.

- Slovenia - Previously abandoned areas have been returned to cultivation, which suggests that the scheme is contributing to its objectives, though no evidence is available on the way payments have achieved this.

- Finland - The differentiation of payments by region is seen as vital in maintaining agricultural activity in areas with more severe handicaps.

Differences between current and previously applied criteria

The change within the LFA scheme to a system of area payments in 2000 was accompanied by a variety of changes in criteria determining the eligibility for, and differentiation of payments. Examples of changes within the EU-15 are as follows:

- Wallonia - Eligibility has been extended to part-time farmers. It is conditional on sustainable nitrogen management, avoidance of substances having a hormonal or thyrostatic action, and of ß-agonists, freedom from prohibitive measures concerning the control of Bovine tuberculosis. Due to the fact that headage payments were limited by per hectare limits and payment ceilings, the change to area payments has had a limited impact on payment levels.

- Ireland - The change to an area-based scheme allowed a much greater number of dairy farmers to become eligible for payments. Two other changes (prior to the change to area-based payments) include the removal of the off-farm income limit (1989) and the place of residence of the applicant (1998). In the original scheme, applicants were required to reside within the disadvantaged areas but could live in another county. This was changed in 1998 to include beneficiaries residing within 70 miles of their farm holding. These two changes had little impact on the level of applications.

- Greece - The Rural Development Plan for 2000 to 2006 extended eligibility to include farmers for whom farming is not the main occupation and main source of income (as long as the beneficiary does not hold a permanent occupation outside agriculture). This recognised the importance of pluriactivity and off-farm employment in maintaining rural communities. Driven by budgetary constraints and the aim of concentrating support towards smaller farms, limits were introduced on receipts such that aid was limited to the equivalent of 30 LU per holding. The criterion requiring the farmer to adhere to the code of Good Farming Practice was added.

- Spain - Like the current area based system, the previous headage based system was relatively complex with payments differentiated on the basis of land use. Criteria were also introduced to prioritise certain types of recipient in the case of budgetary difficulties. These criteria – which have not yet been applied – relate to young farmers, farms located in the Natura 2000 network and farms with high agri-environmental standards.

- France - A series of changes to farm eligibility criteria has been implemented, with the largest being a gradual expansion in the types of production eligible, particularly the range of livestock types. The change to area payments was implemented with a commitment to minimise the impact on farm incomes of those affected. Other significant changes have been the introduction of a

requirement to adhere to Good Farming Practice, and the extension of the scheme to pluriactive beneficiaries.

- Portugal - Payment ceilings have been increased from 100 to 500 hectares, to allow the inclusion of larger, more extensively managed farms. Maximum stocking densities have also been increased, and the scheme has been extended to part time farmers.

- England - The main changes to eligibility criteria with the transition to the area based scheme included an increase in minimum land area from 3 to 10 hectares, the introduction of environmental enhancements and changes to stocking rates. Under the former scheme, a maximum stocking rate of 1.4 LU/ha was applied to discourage overstocking. At present, a minimum stocking rate applies which, coupled with the introduction of Good Farming Practice, aims to prevent undergrazing.

There are some common themes that underpin the change in eligibility criteria since 2000:

- Broadening of types of farming systems eligible for payment (Ireland, France, Finland, Scotland). The move from headage to area payments allows a wider range of farming systems to be supported, providing they are deemed to contribute to the objectives of the LFA measure.

- Changes in restrictions on eligible recipients, including part time farmers and place of residence (Luxembourg, Wallonia, Ireland, Greece, France, Portugal, Finland). Restrictions have been relaxed in most cases but tightened in Luxembourg, to exclude part time farmers. This reflects a general recognition that part time farmers play an important role in delivering the objectives of the measure.

- Changes in minimum or maximum area of eligible land (Denmark, Greece, Portugal, England, and Wales).

- Changes in minimum and maximum stocking densities (Portugal, England, Northern Ireland and Wales). The move to area payments reduces the risk of overgrazing and introduces a risk of undergrazing, resulting in the relaxation of maximum stocking density limits and an introduction of minimum stocking density limits.

- Introduction of environmental enhancements (England, Scotland). The switch to area based payments is amenable to the use of environmental top-up payments.

Conclusions

In general, the eligibility criteria applied under Articles 14.2 and 15.2 appear to have contributed to the objectives of the LFA measure. Article 15.2 gives Member States and regions a great degree of flexibility in the way in which they differentiate payments, and a variety of differentiation criteria have been used.

Many of the changes in eligibility criteria over time refer to detailed aspects of scheme eligibility. There are several examples, however, where the move to area payments has been accompanied either by a relaxation of eligibility criteria, or the introduction of new conditions. Whereas the previous system of headage payments often focused on supporting particular farming systems and structures, there has been a tendency to broaden eligibility criteria to compensate for a wider range of farm systems. In turn, this wider range of criteria is expected to contribute to the objectives of the LFA measure. For example, several Member States have extended eligibility to part-time farmers, recognising the importance of a diversified income base in ensuring the viability of farm businesses and therefore in supporting the structure of rural communities. In other cases, eligibility includes a wider variety of grazing systems and livestock types, which are able to play a role in maintaining the countryside, agricultural landscapes and the rural economy. At the same time, the introduction of new criteria, including the need to comply with Good Farming Practice and other environmental conditions, has contributed to the environmental objectives of the scheme.

Evidence of the Application of National Objectives

Question 2b. *To what extent have the Member States added their own objectives via these criteria?*

Some Member States have specified their own objectives explicitly, and used criteria for farm eligibility and payment differentiation to contribute to these. Alternatively, criteria have been applied in order to meet particular objectives that are implicit. Modulating payments to benefit smaller farms, for example, suggests that encouraging the retention of smaller farms is an objective of the policy even if this is not articulated directly. As such, it is necessary to judge whether the way in which the criteria are being applied is designed to meet particular objectives at the Member State or regional level.

This question considers the extent to which:

- Member States/regions have specified their own objectives in their LFA schemes, additional to the objectives specified in Article 13;

- Member States/regions have applied farm eligibility criteria in Article 14.2 in order to meet additional objectives (either explicit or implicit);

- Member States/regions have applied criteria to differentiate payment rates in Article 15.2 in order to meet additional objectives (either implicit or explicit).

Most Member States identify the objectives specified in Article 13 as the overall objectives of their LFA scheme. Only a few Member States articulate additional objectives, including:

- Czech Republic – Protection of natural resources (especially water resources) and stabilisation of rural population. Payments are only made for grassland, in order to meet resource protection objectives.

- Germany - There are no additional objectives included at the Member State level. The Länder, however, have their own objectives which closely reflect the joint agreement objectives but are often more detailed. Many Länder name the maintenance of the cultivated landscape as a specific objective.

- Spain - National objectives include the control of fire and erosion.

- France - National objectives include the prevention of natural hazards.

- Luxembourg - Objectives include the maintenance of the fabric of rural communities, the prevention of villages from becoming commuter suburbs, and the preservation of the family farm.

- Netherlands - National objectives include the preservation of the tourism potential, maintenance of coastline, and the maintenance of cultural landscapes.

- Portugal - Objectives include promoting social cohesion which is reflected in favourable payments to mountain areas and smaller farmers.

- Finland - Objectives include maintenance of food production and regional cohesion. These are reflected in higher rates of payment in those areas facing the greatest handicaps.

- Sweden - Objectives include guaranteeing the delivery of raw materials to dairies and slaughterhouses.

As well as these explicit national objectives which are, in turn, reflected in the eligibility criteria applied and/or the differentiation of LFA payments, some Member States have

introduced additional implicit objectives via their eligibility criteria and the payment differentials introduced. For example:

- Greece - Differentiation of payments in favour of young farmers and the successors of early retired farmers implies that supporting this segment of the farming community is an objective of the policy.

- Navarra - A variety of supplements at the farm level serve to support young farmers, investment aid, co-operative membership, Natura 2000 sites, extensive livestock systems and food processing.

- Austria - Supplements are used to encourage the maintenance of dairy systems in LFAs.

- UK - Environmental enhancements are used in different countries to support mixed livestock systems, suckler cow systems, maintenance of woodland and arable crops, organic agriculture and low stocking rates, all of which are regarded as conferring environmental benefits.

We can conclude that most Member States and regions pursue the EU level objectives of the LFA measure, as specified in Article 13. Some Member States also include additional objectives designed to meet national priorities, and use the eligibility criteria in support of these. Given the broad nature of the Article 13 objectives, these additional objectives can usually be seen as expanding on the overall EU level objectives and contain nothing which contradicts or undermines them. Encouraging young farmers, maintaining family farms and promoting tourism, for example, can be seen as a means of maintaining rural communities and the countryside, while more specific environmental objectives can be seen to contribute to the overall aims of maintaining the countryside and promoting sustainable farming in LFAs.

Farm Level Handicaps and their Reflection in Eligibility Criteria

Question 2c. *To what extent do the eligibility criteria reflect handicaps identifiable at farm level?*

Introduction

This question requires an assessment of the extent to which Member States/regions have applied eligibility criteria that reflect handicaps at the farm level rather than at the regional level. Most Member States classify broad areas of land according to regional or sub-regional conditions, including for example, topography, agricultural productivity or

farm incomes in the area. Individual farms are eligible for compensation payments if they fall within the classified area and meet certain minimum eligibility criteria (for example, minimum farm size, agreement to farm for at least five years and to respect Good Farming Practice). Some Member States, however, apply additional eligibility criteria relating to handicaps at the farm level.

The answer to this question is based on a review of the farm level eligibility criteria applied by different Member States and regions, in each case assessing the extent to which these reflect handicaps at the farm level.

Measuring handicaps at the farm level

The LFA measure aims to compensate farmers for natural handicaps, in order to ensure the continuation of agricultural land use, and therefore to meet the objectives set out in Article 13. To meet these objectives, it is important that eligibility for the scheme reflects the material handicaps faced by farms in the areas concerned. Eligibility criteria are important to ensure that payment levels are differentiated where appropriate to reflect the degree of handicap faced by individual farms.

The question is most relevant to the criteria for differentiating payments specified in Article 15.2, since the criteria in Article 14.2 do not relate to farm level handicaps. From the review in answer 2a above, it is evident that most Member States and regions define eligibility and payment rates at the area level and do not use farm level criteria to differentiate payments.

The following Member States and regions, however, do apply farm level criteria and the evidence in the national data reports suggests that payments do provide a good reflection of handicaps at the farm level due to the sophisticated system of land classification upon which some of these criteria are based:

- Germany varies payments according to LVZ score and the physical condition of land and crop;

- Spain takes account of farm incomes in setting payment rates;

- Navarra uses a variety of supplements based on criteria at the municipality level that reflect handicaps (altitude and slope, depopulation, Objective 2, cereal yield) and farm level criteria to support particular structures and practices (for example, young farmers, co-operative membership);

- The Basque Country differentiates payments to reflect handicaps at the farm level, taking account of the type of holding, cultivated area, altitude of the farm, slope of

the farm, number of people depending on the holding, distance from an urban area, environmental restrictions and livestock density (Gipuzkoa province only);

- Austria pays supplements for dairy farms facing locational disadvantages. Payments are additionally differentiated according to slope, soil, climate, land use and the presence of rough grazing/alpine pastures;

- Rather than reflecting the severity of the farm level handicaps, Greece and Luxembourg differentiate payments at the farm level largely to promote particular structures, as does the UK to promote particular environmental practices.

In other Member States and regions, the extent to which the eligibility criteria reflect farm level handicaps depends on the process for classifying the areas as less favoured. Key factors include the suitability of the criteria applied, the spatial resolution, the quality of data used, and the extent to which they reflect current conditions.

- In Ireland, for example, the refinement of classification to a smaller unit, the townland, at the time of the third review, was generally considered to improve the extent to which eligibility for LFA payments reflects local handicaps. The criteria were last reviewed in 1996, although it is likely that they continue to provide a fair reflection of the degree of handicap.

- In France, the interviews and case studies suggest that, though the system broadly compensates for natural handicaps, the absence of farm level eligibility criteria means that some farms are over- or under-compensated. One example relates to farms that continue to receive compensatory payments, despite the removal of natural handicaps through drainage.

- In Luxembourg, the national scheme is considered to reflect farm level handicaps because evidence suggests that there are few differences in levels of handicap between different parts of the country, with comparisons in yields for relevant crops between the north and the south revealing no significant differences.

- In Malta, there was some difference in opinions between interviewees, with one suggesting that all farms have some degree of handicap so a flat rate payment is appropriate, while another argued that there are different conditions and levels of handicap between north and south which should be reflected in different payment rates.

- In Finland, handicaps in farming increase from the south towards the north of the country and various studies have been undertaken to describe these differences. The length of the growing season is identified as the most important indicator of differences in the level of handicap and is the basis on which the regional differentiation of payments is made. Inevitably, however, the use of a single

indicator is not sensitive to all handicaps, and farms close to the boundary between zones could be seen to be penalised by this approach.

- In Sweden, the Uppsala case study finds that the present system is widely perceived to be a good reflection of the overall level of handicaps. Handicaps fall along a spectrum of intensity and within a classified area, a general scheme cannot take all of these differences into account which, according to regional authorities, results in some beneficiaries being overcompensated.

- In some Member States, notably Denmark, Malta, the Netherlands and Estonia, the LFA scheme fails to reflect the degree of handicaps experienced at the farm level, largely as a result of the lack of modulation of payments rather than of the eligibility criteria.

Conclusions

We can conclude that, in most Member States and regions, eligibility criteria broadly reflect handicaps identifiable at the area and, where applied, farm level. While some Member States define farm level criteria specifically to reflect local handicaps, criteria applied at an area level can also be effective in capturing these handicaps if those faced by different farms are similar in that area.

In general, schemes such as that in Malta, which apply flat payment rates to broad areas of land, are least likely to reflect differences in farm level handicaps. It is important to note, however, that there is a trade-off between the simplicity and cost of administering the scheme and the degree to which payments reflect local handicaps. Schemes which attempt to quantify handicaps at the individual farm level, or to designate LFAs according to local criteria, are likely to be more complex and costly to operate than schemes which use more broadly based criteria if a system classifying the quality or productivity of agricultural land, like in Germany for example, is not already established. Flat payment structures are likely to be most applicable in areas with relatively homogeneous agricultural conditions, whereas regions with wide variations in conditions and localised differences in levels of disadvantage may call for a more complex approach.

Overall Conclusions

EU legislation establishes criteria for the classification of LFAs at the area and farm level. In practice, within this legislative framework, Member States and regions have a significant degree of flexibility with regard to the classification of LFAs, and, as a result, a wide variety of approaches can be identified. A variety of criteria are used to classify LFAs, particularly under Articles 19 and 20. Member States also differ in the extent to which they apply criteria at the farm level to determine the eligibility for, and level of payments.

In that LFAs extended over a majority - 54% - of the UAA of the EU-25 in 2004, the application of the LFA measure has broad based, rather than being targeted on specific areas of greatest need although Member States have the option to target support more precisely through the eligibility criteria and the system of structuring payments. There is also evidence that political factors as well as agricultural conditions have influenced the classification of LFAs in several Member States, and the Court of Auditors (2003) identified resistance from Member States as a significant barrier to the review of LFA classification criteria.

It can be concluded, therefore, that the eligibility criteria applied have been effective in ensuring that farms facing disadvantage are eligible for LFA payments. The extent to which these criteria serve to exclude farms that are not substantially disadvantaged is less clear, particularly since the criteria tend to be defined in terms of natural conditions rather than with direct reference to farm viability.

6

THEME 2: LEVELS OF COMPENSATION

Introduction

Since Council Regulation 797/85 came into force, Member States have had a prominent role in fixing the levels of the LFA compensatory allowance. The payment should be fixed at a level which is sufficient 'in making an effective contribution to compensation for existing handicaps', but which does not overcompensate the beneficiaries (Council Regulation 1257/99, Article 15.1). It should also reflect the severity of the handicaps affecting agriculture.

The compensatory allowance should also be duly differentiated according to:

1) The situation and development objectives peculiar to a region;
2) The severity of any permanent natural handicap affecting farming activities;
3) The particular environmental problems to be solved (where appropriate);
4) The type of production and (where appropriate) the economic structure of the holding (Council Regulation 1257/99, Article 15.2).

In the Regulation, minimum and maximum (average) payment rates are given.

As such, there should be a straightforward and explicit link between the characteristics of a region (or a farm) and the respective level of payment. The key issues relating to the level of payments are the process by which they are set and the extent to which they contribute to safeguarding the continuation of farming in a particular region, where it would be threatened in the absence of the compensatory allowance.

If differentiation, often referred to as "modulation", of the payment is applied, this, in turn, should relate to one or a number of the elements mentioned above. Considering the variety of situations within the European Union, one can expect that a wide range of payment rates will exist, supported by a similar number of rationales for arriving at the levels at which they are fixed. Irrespective of this diversity, the connection between the level of payment, the severity of the natural handicap and the objectives of the scheme should be evident.

Given the variety of conditions, setting appropriate payment levels is a challenge for policy design. In an 'optimal' situation, the system of differentiated payment rates would be defined on a transparent basis. This process should result in appropriate compensation for cost disadvantages and income foregone to the extent necessary to safeguard the continuation of agriculture in these areas.

Evaluation themes

In this chapter, payment levels are evaluated under two sub-themes:

1) First, the correlation between the level of payment and the handicap is discussed (under Questions 3a, 3b and 3c). The main focus of the analysis is on the relationship between the payment rate and the nature and intensity of the natural handicap. The evolution of payment levels and disadvantages is also discussed. Most of the discussion under this theme relies on statistical information.

2) The second sub-theme relates to the process by which payment rates are determined (Question 4). As such, it requires a more qualitative analysis to capture the nature of the process, the variety of approaches implemented, the reasoning behind setting the aid levels, and the extent to which these levels reflect real disadvantages. This section also reflects on the role of the LFA measure in the broader agricultural and rural policy framework.

Conceptual issues

The analysis of payment rates is framed by a number of conceptual issues which concern the relationship between the payment rate and the handicap; the measurement of handicap; the impact of the regional or national context; the relationship between the LFA measure and other policy tools; the scale of the analysis; and the role of the counterfactual.

Relationship between the payment rate and the handicap intensity

The interpretation of the relationship between the level of payment (compensatory allowance) and the natural handicap is presented in the model of intervention logic. The payment reflects a link between the policy objective (the continuation of a sustainable form of agricultural land use) and the disadvantages caused by the natural handicaps. This has several implications for the evaluation:

1) The threat of the discontinuation of farming is a key concept. The operational problems faced by farms, which are caused by their location, inform the nature of this threat. The same absolute handicap may have a different potential impact in different contexts, resulting in different degrees of threat. The payment rate, in turn, should reflect this range of threats.

2) The operational problems at the farm level are extremely diverse in nature. They may include, for example, exceptionally low yield levels, additional costs caused by special machinery, and limitations in availability of production alternatives. Many of these factors are reflected in (lower) output and/or (higher) costs. This points to the need to explore the way in which these issues form a threat to the continuation of farming in each case and for careful investigation of the setting of the payment rate.

As such:

- The factors included in the payment specification method should reveal evidence of the threat;

- There should be a correlation between the payment rate and the degree of the threat;

- The specified policy objectives should also be reflected in the intensity of the aid scheme in a logical way.

The reference point

Handicaps are specified in the EU Regulations but their severity in various combinations should, in principle, be measured against a baseline or reference point. Indeed, the concept of "less favoured" is a relative term. The absence of handicaps is, in principle, the reference point. In practical terms, this may equate to production conditions on fairly flat, productive land, rather than the very best soils in the most favoured climatic conditions.

The reference point can be conceptualised at a national level with degrees of disadvantage measured against a national baseline. This approach is adopted in several Member States, such as Germany, where there is a variety of agricultural conditions and a clear gradient between the better, higher yielding land and less favoured regions, as in the mountains. This approach may not be coherent in much smaller Member States where the diversity of conditions is relatively limited, as in Malta or Luxembourg. In this case, a broader European reference level, whether implicit or explicit, seems appropriate.

A European reference point is also relevant where a Member State experiences less favoured conditions and there is a degree of handicap affecting all or nearly all farmland. The EU Regulations do not specify what reference level is to be used when measuring handicaps and Member States are free to adopt either approach, although the payments should be proportionate to the degree of threat to the continuation of farming. This raises no difficulties provided that clarity about the reference points is retained.

The regional and national context

The regional and national context is important in the interpretation of the threat and thus, the payment level. The continuation of farming in a specific region depends, in particular, on the income obtained from farming over a period of time. The low income generation capacity of land should be judged in relation to the regional or national context as well as to other non-agricultural and business opportunities. There are wide differences in average incomes between different regions in Europe and this should be considered when determining the reference payment level.

The counterfactual

A further conceptual issue concerns the logic of the evidence base, the counterfactual. The importance of the compensatory allowance can be investigated in many ways, but we do not know what the situation would be in LFAs if the compensatory allowance was not paid. The absence of the payment could have caused a more dramatic decline in farming in certain regions than the pure percentage share of compensatory allowance in farm incomes would suggest, due to the accumulation of the negative impacts of farm closures and regional marginalisation. On the other hand, lower subsidies could have accelerated structural changes and enhanced competitiveness. Consequently the counterfactual has many limitations in the analysis of payment rates, and the results should be reflected against a broader background of potential development processes in the absence of the payment.

Scale at which handicaps are measured

Handicaps are experienced and alleviated at the farm level, but the degree to which they are specific to individual farms varies on a case by case basis. For practical reasons, however, determination of the level of payment takes place at a scale that is typically larger than the individual farm. There are clearly handicaps, specific to individual farms, like wet or salty soils on certain farms but not on neighbouring farms. In mountain regions, a number of farms may experience similar kinds of cost disadvantages due to a need for special machinery. This is a regional disadvantage. An arid or cold climate, implying low yield levels and/or high costs, may concern a whole country. This is a national disadvantage. The nature of the handicap in this respect should be reflected in the payment scheme and, possibly, in the farm level eligibility criteria.

Time scale

The time scale is relevant in two respects. First, the economic results of farm businesses vary sometimes quite significantly between years due to, for example, changes in the weather and markets. In addition, the structure of farms and production methods are also in frequent flux, such that certain natural handicaps are subject to changing interpretations.

Synergy with other aid schemes

Finally, all Member States apply a number of aid schemes. In many cases, payment rates are set whilst taking into account the global framework of policy measures. This makes it more difficult to reveal the match between the underlying handicap and the payment rate. On the other hand, the impacts of other policy measures may run counter to the goals of the LFA measure. Some of these issues are revealed in the analysis of the process of determining payment levels and in the modulation of payments.

Thus, care must be taken when interpreting LFA payment levels. Indeed, the analysis should be conducted within a global framework which takes account of the full spectrum of policies and measures applied and the variety of situations in different regions.

Data Limitations

The analysis is further beset by a number of data limitations which are discussed on a case by case basis. Most of the data problems relate to a lack of availability of time series data and to an absence of exact details relating to calculation methods. In addition, in-depth information on the specific handicaps experienced by farms is far from complete. Even though a comprehensive dataset does not exist, informative conclusions can be drawn.

Correlation Between the Level of Payment and the Severity of Handicap

Introduction

The level of LFA payment is analysed with recourse to three evaluation questions:

Question 3a. *To what extent have payment levels applied by the Member States compensated for the handicaps resulting from farming in LFAs?*

Question 3b. *In the case of areas with environmental restrictions, to what extent have payment levels compensated for income foregone and costs incurred?*

Question 3c. *What changes have taken place in payment levels and in disadvantages (e.g. specific investment needs, higher operating costs) in LFAs over the period since 1975?*

The following section includes a presentation of the variation in average payment levels between Member States and a description of the process by which payment rates are determined, as well as their variation between Member States.

Average rates of payment

Average rates of payment per hectare vary significantly between Member States. In 2004, the average payment rate was €74 per hectare (EU-25). The average payment rate in the EU-15 (the old Member States) was somewhat higher compared to the new ones (€78 per hectare versus €60 per hectare). However, this may diminish in the future as in several new Member States, the level of LFA payments may move upwards in line with increased EU funding. Payments range from €15-25 per eligible hectare (Spain, Estonia) to €180-250 per hectare (Malta, Finland, Austria). The total public LFA expenditure, the number of hectares of agricultural land receiving a

compensatory allowance and the average payment rate per hectare are presented in Table 6.1.

Table 6.1 Average rate of LFA payment per hectare of participating farms.

Member State	Public expenditure on LFA measure, million EUR	Number of hectares receiving CA in 2004, '000 ha	Average LFA payment in 2004, €/ha
Austria	276.2	1548.2	178
Belgium[1]	0.6	3	215
Denmark	1.5	24	64
Finland	426.2	2178.4	196
France	475.4	4328.7	110
Germany	335.4	4316[2]	78
Greece	166.5	2098[2]	79
Ireland	230	2614	88
Italy	74.9[2]	925[2]	81
Luxembourg	15.8	117	135
Netherlands	0.5[2]	5[2]	94
Portugal	93.3	672[2]	139
Spain	126.1[2]	8102	16 [3]
Sweden	22.5	543.6	41
United Kingdom	236.9[2]	4420	54
TOTAL EU-15	**2483.2**	**32**	**Weighted average 78**
Cyprus	9.4	62.3	151
Czech Republic	90.3	721	125
Estonia	7.4	297	25
Hungary	25	212	118
Latvia	45.8	815	56
Lithuania	56.5	1121.8	50
Malta	2.2	8.9	250
Poland	225.1	4853.2	46
Slovakia	71.5	1107	65
Slovenia	38.9	286.6	136
TOTAL EU-10	**572**	**9484.8**	**Weighted average 60**
TOTAL EU-24	**3055.3**	**41379.7**	**Weighted average 74**

Source: 'Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) 1257/1999 in the 25 Member States' (IEEP, 2006).

[1] CAP-IDIM data, 2001-2003.
[2] Data for 2003, Source: European Commission, DG for Agriculture and Rural Development, Rural Development Monitoring Data System CAP-IDIM.

[3] It appears anomalous that the average payment rate per hectare for Spain in 2003/04 is €16/ha, whereas the minimum rate applied in 2004 is €45/ha (see Table 6.2). This may be explained by the fact that the figure for Spain is actually the UAA of farms receiving the payment and not the number of hectares receiving a compensatory allowance. In the Spanish scheme there is a cap on payments above 100 hectares and a maximum payment of €2000 per farm (for 2002-04). In combination, these factors will contribute to a low average payment rate per hectare.

Modulation of payments

The average payment rates, however, only afford a general picture of the application of the measure. The amounts actually paid are, in many Member States, differentiated between LFA categories and according to a range of other criteria, including:

1) *The region or location* (for example, classification of area under different Articles of the Regulation, zoning, or in a few cases, farm specific scoring points);

2) *The farm size* (for example, tapering systems in which payment per hectare decreases with farm size, ceilings with minimum or maximum aid levels, or number of eligible hectares per farm);

3) *The type of production* (only certain crops or systems eligible, often grassland or grazed area, different levels of aid for different crops);

4) *The intensity of production or other environmental aspects* (ceilings or differentiation according to stocking density, different levels of aid for organic or environmentally friendly farming, or certain types of pastures);

5) *The structure or income from farming* (eligibility thresholds or differentiation between full-time and part-time farmers, or relative income level);

6) *Integration with other policy measures* (bundle of subsidies considered in determining payment) prevalent in the Nordic countries.

This differentiation, which may be applied through exclusions, or variation in the payment rates based on the conditions met, or the use of supplements, creates a continuum of payment rates. As a result, the payment rate per hectare actually paid is, in many farms and regions, considerably higher or lower than the national average payment rate per hectare of LFA. For example, the tapering of the payments in favour of small farms or excluding part of the hectares on large farms will raise the actual payment rate per hectare in these farms and regions, as in Spain. The various ways in which individual Member States differentiate payments is indicated in more detail in Table 6.10, which is found at the end of this chapter.

In 2004, there were approximately 156 individually fixed payment rates in Member States and more than 25 (or 390 if the French subzones are considered) specified scales at which the payment was determined on a farm or regional basis. The minimum rates applied were below €10 per hectare (actually falling below the minimum provided by the Regulation) and the maximum rates actually paid (normally for a very limited number of farms in marginal areas including small Austrian and Italian mountain farms, and farms on Portuguese islands) are €700-800 per hectare. An illustration of this diversity is presented in Table 6.2.

Table 6.2 Number, minimum and maximum payment rates per hectare applied in Member States in 2004.

Member State	Number of Payment Rates	Min, EUR/ha	Max, EUR/ha
Austria *)	Farm specific scale and supplements	45	1170
Belgium **)	2 basic and supplements	122	200
Denmark	1	58	58
Finland	3	150	210
France **)	Regional scaling around national averages, supplements	Not defined	Not defined
Germany	Farm specific scale	25	200
Greece **)	9, supplements	55	140
Ireland	3	76	102
Italy	28 rates and 16 scales	3	800
Luxembourg **)	4, supplements	51	150
Netherlands	1	94	94
Portugal	24	5	750
Spain **)	3, supplements	45	120
Sweden	12	39	267
United Kingdom **)	20, supplements	10	69
Cyprus	Two scales	Not defined	250
Czech Republic	7	89	147
Estonia	1	25	25
Hungary	2	11	86
Latvia	6	26	64
Lithuania	3	56	89
Malta	1	250	250
Poland	3	40	71
Slovakia	18	21	115
Slovenia	5	25	202

*) Austria: theoretical (not actual limits).
**) Supplements may increase the figures.

Sources: 'Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) 1257/99 in the 25 Member States' (IEEP, 2006). National data reports produced as part of this evaluation.

Variation in payment levels between Member States

Three groups of Member States can be distinguished regarding average payment rates per hectare in 2004. In the proceeding analysis a number of factors are explored, such as the extent of coverage of the LFA scheme, the length of the growing season and the average national income level, to see if any patterns emerge with regard to the level of payments.

The highest average payment rates are found in Malta, Finland and Austria (above €175 per hectare). The LFA measure covers a large part of the UAA of these

countries (70-100% of UAA), reflecting a widespread disadvantage due to mountains in Austria or cold climate in Finland. The length of the growing season varies from favourable figures in Malta, to levels below 200 days in Austria and Finland which drops considerably in their most disadvantaged LFA areas. The average national income level[8] (for example, average gross earnings in industry and services), is rather high in Austria and Finland, but less than half of the EU-25 average in Malta.

At the other extreme, the aid level is relatively low (€15-55 per hectare) in a number of Member States. This rather diverse group of countries includes: Spain, Estonia, Latvia, Sweden, United Kingdom, Lithuania and Poland. Some of these are new Member States, with generally low rates of farm support in recent years. They may be capping the payment in line with limited, but progressively increasing, funding from the EU and so, budgetary factors may be particularly significant in setting payment rates. In these countries with low average payment rates, the total area of farmland classified as LFA covers about 40-80% of the UAA, with the highest figures in Spain and Latvia. Length of the growing season is below the EU-25 average in the Baltic States, Sweden and Poland, but above the average in the UK and Spain. However, many of the Spanish regions are very dry and mountainous. The average national income level is rather low in the new Member States under transition (Latvia, Lithuania, Estonia, Poland), at an intermediate level in Spain, and relatively high in the UK and Sweden.

In the remaining 15 Member States, the average payment rates range from €65 to €150 per hectare. This group includes countries in which the application of the scheme is very limited and targeted (Denmark, the Netherlands, Hungary) and countries where the total LFA area covers 70-100% of the UAA (Luxembourg, Portugal, Ireland, Slovenia). The length of the growing season in these Member States or in most of their LFA is close to the EU-25 average or longer. The average national income level in many of these countries is well above the EU-25 average (Denmark, Germany, Luxembourg, Belgium) or close to it, with only a few countries having intermediate (Greece, Portugal, Cyprus, Slovenia) or a relatively low national income level (Slovakia, Hungary, Czech Republic).

At this first level of analysis, based on highly aggregated national data, it is difficult to draw firm conclusions about the principal factors influencing the level of the LFA compensatory allowance at a European level.

Variables which influence the level of payments in Member States

At a second level of analysis, a number of explanatory variables which may influence the average level of payments in individual Member States are identified. These include:

1) An economic proxy of the severity of disadvantage. Farm Net Value Added per hectare, excluding subsidies provides a single measurable indicator of the

[8] Average income levels in a Member State are a useful reference point in examining the necessary level of farm income to ensure agricultural viability and hence the extent of support that might be required in the LFA.

financial consequences of the handicaps rather than of the natural conditions themselves (see Box 6.1).

2) The general severity of disadvantage. This would be expected to be a key explanatory variable, however, it is difficult to capture this through a single indicator. As such, the length of the growing season in days per annum has been taken as a measurable and not unreasonable proxy for a group of natural handicaps.

3) The extent of the LFA as a percentage of total UAA in individual Member States. This gives an indicator of the scale of the handicaps present but also the availability of national budgetary resources, which will be more tightly stretched where the area is large, possibly reducing the average level of payments.

4) The predominant farming system in the LFA, reflecting natural conditions and the overall intensity of production per hectare. More extensive grazing systems, with a lower value added per hectare, might be expected to be associated with lower payment levels. The indicator selected here was the percentage of livestock production in the total agricultural output in 2001.

5) The national reference income level. Whilst it is not an objective of the LFA measure to compensate for differences in the level of income between LFA beneficiaries and non-beneficiaries and the average gross earnings in other sectors, the extent to which the incomes of LFA beneficiaries fall below the reference level will impact on the incentive to continue farming. If the incomes of LFA beneficiaries are low relative to farms that do not face significant handicaps or to other employment options, the competitiveness of the LFA farm and its long term viability will diminish as farmers seek other employment opportunities.

Box 6.1 Farm Net Value Added per hectare (excluding subsidies): an economic proxy of disadvantage

Logically, natural disadvantages should be reflected in output per hectare and in some additional costs. Perhaps the best statistical proxy available for the evaluation of the degree of natural handicaps is the Farm Net Value Added (FNVA, excluding subsidies) per hectare. This is found in the Farm Accountancy Data Network (FADN), which provides time series data for EU-15 and in due course EU-25 farms on a sample basis. This indicator is defined as 'total output less intermediate consumption and depreciation'. As such, it approximates the impact of possibly lower output and possibly higher capital costs due to special machinery or structural disadvantages. The subsidies are excluded since, in principle, the payment should alleviate natural handicaps per se reflected in business results rather than the impacts of other policy measures. One of the merits of this indicator is its neutrality with respect to differences in the structure of the labour (family/hired) and capital (own/borrowed), which tend to be nationally or regionally embedded to a certain extent. Studying the relationship of the compensatory allowance per hectare to Net Value Added will afford a general picture of the linkage between the payment level and the degree of the handicap. However, it must be emphasised that the FADN has certain drawbacks as a data set and only represents a proportion of the farms in the EU-15. This is because it excludes the smallest farms and the representativeness of the data also varies according to farm type and Member State. Traditionally, dairy farms and farms in western and northern Member States have been rather well represented, partly explained by the minor share of very small farms in these countries (see Terluin *et*

A simple correlation analysis was carried out to explore the variation in payment rates between Member States, based on these five factors and the results are shown in Table 6.3. Certain assumptions had to be made to complete this exercise because of a shortage of data. Part of the missing data was estimated (income figures for some countries) and some data are approximations (length of the growing season). However, these estimates are not likely to significantly bias the results.

This analysis reveals a negative correlation between the levels of payment between Member States and the economic proxy of disadvantage. Among the EU-15 Member States, the 2004 LFA payment rate has a strong negative correlation with the FNVA per hectare in the LFAs as compared to non-LFAs in each country. Thus, as would be expected if payment levels reflect the severity of handicap, the lower the Net Value Added of farms in the LFA as compared to non-LFA farms, the higher the payment. This reflects the compensatory effect of the LFA payments. The national differences in the payment rate have some logic: the larger the gap in FNVA per hectare (reflecting the handicap), the higher the payment. However, as a stand alone indicator, the relative FNVA per hectare explains only about 25% of the differences in payment rates between the Member States. Unfortunately, this indicator is not available for the new Member States**.**

The length of the growing season also has a fairly strong negative correlation with the payment rate in the EU-15. A short growing season indicates natural disadvantages

that are reflected in low FNVA per hectare, thus the shorter the season, the higher the payment. In the new Member States, however, the correlation is highly positive, thus reflecting a different kind of relationship between the variables and payment rates. This raises questions about how well natural handicaps are being reflected.

The average national or "reference" income level of Member States has a positive correlation with the payment rate and this relationship is pronounced especially in the new Member States: the higher the average income level in the country, the higher the payment rate tends to be. The significant distinction in the correlation coefficients between the old and the new Member States could suggest that the latter give more weight to the relative income position of LFA farmers compared to other economic sectors in setting their LFA payment rates.

The overall scale of the LFA scheme in a Member State, in terms of its share of UAA, has a modest positive correlation with the payment rate, which is slightly higher in the new Member States compared to those in the EU-15. Widespread disadvantage is connected with higher payment rates, for example, in Austria, Slovenia and Portugal (extensive mountain areas) and in Finland (extensive cold climate). This may reflect the inherent importance of the European reference level in these Member States.

The share of livestock production has a modest positive correlation with the payment rate, but not in the new Member States where it is slightly negative. This is because many schemes target animal husbandry and/or specify higher compensation rates for this type of production compared, for example, to arable farming.

This statistical analysis indicates that only about a quarter of the differences in the payment rates between the Member States correlate with logical variables. It is unclear whether the availability of other aggregate measures of handicap such as soil quality, would reveal a stronger relationship with payment levels. Nonetheless, these results indicate that, even though there is a logic to the pattern of the payment rates and also a connection to climatic and structural variables, much of the variation is attributed to factors not revealed by these basic economic, structural or climatic indicators at the Member State level.

Table 6.3 Factors potentially explaining the differences in LFA payment rates between the Member States in 2004.

EU-15	LFA/HA	LFASEASON	REFINCOME	LFA/UAA	LIVESTOCK	FNVA
LFA/HA	1					
LFASEASON	-0.376	1				
REFINCOME	0.045	-0.575	1			
LFA/UAA	0.371	0.153	-0.44	1		
LIVESTOCK	0.121	-0.294	0.675	0.069	1	
FNVA	-0.502	0.43	-0.029	-0.418	-0,137	1

EU-10	LFA/HA	LFASEASON	REFINCOME	LFA/UAA	LIVESTOCK
LFA/HA	1				
LFASEASON	0,874	1			
REFINCOME	0,659	0,832	1		
LFA/UAA	0,387	0,352	0,258	1	
LIVESTOCK	-0,019	-0,154	-0,137	0,517	1

EU-25	LFA/HA	LFASEASON	REFINCOME	LFA/UAA	LIVESTOCK
LFA/HA	1				
LFASEASON	0.183	1			
REFINCOME	0.073	-0.044	1		
LFA/UAA	0.360	0.201	-0.230	1	
LIVESTOCK	0.072	-0.255	0.273	0.15	1

Variables:
LFA/HA = Average LFA payment in 2004, EUR/ha

LFA/UAA= Share of LFA in UAA in 2004, %

REFINCOME = Average gross annual earnings in industry and services, full time workers in firms with more than 10 employees, EUR/person

LFASEASON = Approximate average length of growing season in 1960-90 in the LFA in each Member State, days

LIVESTOCK = Share of livestock production in total agricultural production in 2001, %

FNVA = Farm Net Value Added (excluding subsidies, EUR/ha) in LFAs compared to non-LFAs in 2003.

Notes: An estimate of the "reference" income for Austria, Ireland, Italy, Czech Republic, Estonia, Hungary and Slovenia was derived from other statistics; the share of livestock production in Cyprus is an estimate; the relative FADN-figure for Denmark and Netherlands is arbitrarily set at 75%, and for Finland by comparing with non-LFAs in Sweden.

Source: Data based on Eurostat statistics, national data reports and data from the Finnish Meteorological Institute.

In part, this may be explained by the fact that for all of the indicators employed in the analysis, there is a distinct difference within each country between the situation in the LFA as compared to the national average. Aggregate data can be misleading. Secondly, both national and regional policy objectives also play a role in setting the

payment rates. Thirdly, the effective payment rates may differ somewhat from the average rate. In order to achieve a more detailed insight into the differences in payment rates, the analysis should be carried out with farm and regional data.

Relationship between degree of natural handicap and payment levels

In the following analysis, a measure of the level of aggregate handicap is obtained by comparing FNVA per hectare (excluding subsidies) in the LFA with non-LFA regions in the same Member State, bearing in mind the issue of the appropriate reference level discussed earlier. The FNVA per hectare, however, will vary considerably between farm types, for example, it is generally higher for horticulture than for extensive livestock production. Consequently any analysis based on FNVA and comparing areas with different levels of handicap, including LFA with non-LFA, will be more robust if farm types are taken into account. Where regions are characterised by a particular type of production, this will be a key factor in any comparative exercise undertaken.

The analysis is carried out primarily at the Member State level with some reference made to the regional level where appropriate. The key judgement criteria are defined by the question of whether the LFA payments have compensated for the differences in Farm Net Value Added (excluding subsidies) per hectare and per farming type between LFA and non-LFAs.

Taking the analysis a step further, FADN data affords a more detailed investigation of the relationship between, on the one hand, the payment rate and, on the other, the impacts of the natural handicaps as reflected by the proxy of Farm Net Value Added per hectare. In interpreting the results, one should observe that they rely entirely on the FADN data, and this introduces certain biases.

As farming systems adapt to local conditions over time, there are important differences in farming systems inside and outside the LFA making direct comparison of national averages partly misleading. In Mountain LFAs (Article 18), grazing livestock farms are much more common compared to areas outside the LFA, whereas crop farms are, in most regions, rarer. Grazing livestock farms are also more common in the 'Other' LFAs (Articles 19, 20 and 16) as compared to non-LFAs, but in these areas the permanent crop farms are rarer than in non-LFAs (see Chapter 7 for details)[9].

One should observe that the differences between farms in terms of FNVA per hectare will reflect not only the impacts of natural handicaps, but also the long-term impact of established farm structures, non-LFA policies, the way farms are managed, available know-how and resources exploited. All the farmer's responses to the opportunities and limitations afforded by the environment will affect the FNVA indicator. As such,

[9] FADN and FSS data do not make a distinction between farms in each of the four LFA categories as specified under Council Regulation 1257/99. It differentiates between farms in Mountainous LFAs (Article 18) and 'Other' LFAs which include areas classified under Articles 19, 20 and 16. As such, with reference to FADN data, 'Other' LFAs is treated as an aggregate category, whilst elsewhere in the text, 'Other' LFAs refers exclusively to those areas classified under Article 19.

it has limitations, but it is probably the best available indicator of the existence and impacts of natural handicaps.

Unfortunately, for statistical reasons, a reliable time series analysis can not be provided, since LFA payments have only been identified separately in the FADN data since 2000.The results are thus based on one year only.

In Table 6.4, the relationship between the 2003 Farm Net Value Added per hectare, per Member State and per farm type, and the contribution of subsidies, especially the LFA payment, is presented.

These results reveal several clear patterns. First the Farm Net Value Added (FNVA) excluding all subsidies per hectare in the EU-15 is considerably lower in the LFAs compared to the non-LFAs (except for Austria and mountain sheep farms). Indeed, in 2003, the market driven income generation capacity per hectare of farms within the LFA was less than that of non-LFA farms. Specifically, the income generation capacity of farms within Mountain LFAs and of those within 'Other' LFAs is 62% and 30%, respectively, of that of non-LFA farms. Part of this difference is explained by the fact that in a large number of LFAs, low-yielding farming types, such as extensive livestock systems, dominate, although it also affords some indication of the existence of natural handicaps in LFAs.

Second, if a comparison is made by Member States and by farm type, the FNVA per hectare (excluding subsidies) is higher in Mountain LFAs compared to 'Other' LFAs. The only exceptions to this are for Austria and Spain and for diary and pig farms. Average FNVA per hectare (excluding subsidies) is likely to be higher in Mountain LFAs because of the relatively high figures in Mediterranean Member States, such as Greece and Italy, and because of the high figure for horticultural crops in the Mountain LFA. A higher FNVA per hectare (excluding subsidies) may be due to a more labour intensive mode of production on Mountain farms, affected by smaller farm size and the scarcity of non-farm employment options in many cases.

Examining the results in more detail, the beef and mixed cattle farms yield a negative FNVA (excluding subsidies) in the 'Other' LFAs and a very low positive figure in Mountain LFAs (Article 18). As such, there is an immediate threat of discontinuation of farming in the absence of subsidies. A similar type of situation prevails in Finland and in north Sweden.

Table 6.5 indicates that in spite of the LFA payment contributing to balancing the negative effects of natural handicaps, it falls short of full compensation in all types of farms, with the exception of sheep farms. Many of these can take advantage of the extensive grazing opportunities in some specialised LFAs. This is true of all Member States, with the exception of Austria, which is probably due to a high share of small farms not represented in the FADN data (in 2003 only 42% of Austrian farms were included). If all the Austrian farms were included, the results would probably be more in line with those of other Member States.

So far, the analysis has not taken other subsidies into account. Agricultural policy measures can be divided into market mechanisms (influencing prices) and other more direct subsidies. In this respect, the relationship between the FNVA, the LFA

payments and other subsidies is highly relevant. The results in Table 6.4 indicate that the total amount of subsidies and direct payments per hectare, but excluding the LFA payment, is sometimes lower in the LFAs as compared to non-LFAs. The average level of these other subsidies per hectare in 2003 was about 95% of that of non-LFAs in the Mountain LFAs (Article 18) and about 83% of that in the 'Other' types of LFAs on FADN farms in the EU-15. Many CAP payments are determined on the basis of reference yields that are generally low in LFAs reflecting the natural handicaps that prevail in these areas.

Table 6.4 Aggregate Farm Net Value Added per hectare and subsidies per hectare of UAA in 2003, per Member State and per farm type.

Member State	Farm Net Value Added excl. all subsidies, EUR/ha			LFA Payments, EUR/ha			All other subsidies, EUR/ha		
	Non-LFA	Mountain-LFA	Other LFA	Non-LFA	Mountain-LFA	Other LFA	Non-LFA	Mountain-LFA	Other LFA
Austria	361	363	561		200	62	549	568	547
Belgium	1743		550			31	288		336
Denmark	500						357		
Finland		-148	-200		200	177		742	567
France	511	88	82		94	13	329	276	353
Germany	530		169			46	338		332
Greece	1718	1202	937		79	48	489	658	615
Ireland	410		120			71	298		273
Italy	1887	974	373		13	14	398	252	135
Luxembourg[1]	6569		152			118	1042		392
Netherlands	3011						291		
Portugal	723	215	142		46	18	300	151	168
Spain	1057	527	590		8	7	237	213	183
Sweden	31	-186	18		115	26	297	481	272
United Kingdom	429		19			37	304		173
Farm Type									
Arable	384	297	123		23	17	352	269	280
Dairy cattle	966	361	446		129	53	232	352	235
Beef and mixed cattle	230	25	-15		73	47	468	362	352
Sheep and goats	302	453	89		58	40	293	237	182
Pigs	2235	2076	2152		83	41	348	484	400
Poultry and mixed	4649	3319	3251		19	27	655	268	466
Mixed livestock	715	423	281		40	33	384	239	341
Mixed farms	341	315	107		44	23	357	300	323
Permanent crops	3084	1844	1072		22	8	275	415	276
Horticulture	18034	12974	9879		64	9	234	823	387

[1]98.4% of the UAA was classified as LFA under Articles 24 and 25 of Regulation 950/97. Non-LFA farms in Luxembourg are mainly involved in wine production which explains the high FNVA/ha (excluding all subsidies) of non-LFA farms.
Source: Own calculations based on FADN-CCE-DG Agri; adapted LEI.

Table 6.5 Extent to which LFA payments correspond to the difference in FNVA per hectare between LFA and non-LFA farms (2003).

Member State	LFA Payments, EUR/ha		Difference in FNVA (excl. all subsidies) in LFA as compared to non-LFA, EUR/ha		Difference in all subsidies (excl. LFA) in LFA as compared to non-LFA, EUR/ha	
	Mountain-LFA	**Other LFA**	**Mountain-LFA**	**Other LFA**	**Mountain-LFA**	**Other LFA**
Austria	200	62	2	199	19	-2
Belgium		31		**-1193**		48
Denmark						
Finland [1)]	200	177				
France	94	13	**-423**	**-429**	**-53**	24
Germany		46		**-361**		-6
Greece	79	48	**-516**	**-781**	168	126
Ireland		71		**-289**		-25
Italy	13	14	**-913**	**-1514**	**-146**	**-264**
Luxembourg [2)]		118		**-6417**		**-651**
Netherlands						
Portugal	46	18	**-508**	**-580**	**-149**	**-132**
Spain	8	7	**-531**	**-467**	**-25**	**-55**
Sweden	115	26	**-217**	-13	184	-24
United Kingdom		37		**-410**		**-131**
Farming Type						
Arable	23	17	**-87**	**-261**	**-83**	**-72**
Dairy cattle	129	53	**-604**	**-520**	120	3
Beef and mixed cattle	73	47	**-205**	**-245**	**-106**	**-116**
Sheep etc	58	40	151	**-213**	-55	**-111**
Pigs	83	41	**-159**	**-82**	136	53
Poultry and mixed	19	27	**-1330**	**-1398**	**-387**	**-190**
Mixed livestock	40	33	**-291**	**-434**	**-145**	**-43**
Mixed farms	44	23	-26	**-234**	**-56**	**-33**
Permanent crops	22	8	**-1240**	**-2012**	141	2
Horticulture	64	9	**-5060**	**-8156**	590	154
TOTAL EU-15	**58**	**32**	**-330**	**-604**	**-19**	**-56**

[1)] In Finland the FNVA is negative in both categories and there is no non-LFA for comparison.
[2)] In Luxembourg the non-LFA figures include only a limited number of permanent crop farms (with a rather high FNVA/ha) and, therefore, the gap is artificially high.

Key: Cases where the LFA lags behind the non-LFA areas are shaded, indicating that there is a need for compensation. The cases where the LFA Payment falls short of this difference (i.e. the need of compensation) are in bold.

Source: Own calculations based on FADN data (FADN-CCE-DG Agri; adaptation LEI).

Some of the impact of the LFA measure is diminished because it compensates for the difference in the level of subsidies per hectare between LFA and non-LFA farms. In arable, beef, sheep (not Mountain LFAs), poultry, livestock and mixed farms, the entire LFA payment contributes to bridging this gap. For dairy farms, permanent crops, horticulture and pigs, the difference in subsidies favours the LFA areas. In Italy, Portugal and Spain, the LFA payments are not enough to bridge this gap in both categories of LFAs, probably due to a low reference yield and, consequently, low CAP payments per hectare. The same applies to Finland and north Sweden, which employ extensive national subsidies to compensate for natural handicaps and low CAP payments.

If one looks further at the contribution of LFA payments to FNVA per hectare for the main farm types in 2003 as compared to the non-LFA, it appears that:

- The differences in FNVA per hectare (excluding subsidies) between Member States were generally more significant within each farm type compared to the difference between LFAs and non-LFAs within a Member State;

- The average LFA payment eithin an individual Member State was not sufficient to compensate farmers in the LFA for a lower FNVA per hectare compared to non-LFA farms;

- The potential impact of the LFA payment is highest where the FNVA per hectare is lowest (beef, sheep, arable and mixed farms), but for some farming types the impact of the LFA payment is generally insignificant in bridging the gap, due to high output per hectare (such as pig, poultry, permanent crop and horticulture farms);

Austria and Germany provide interesting examples for examining the relationship between the differentiation of payments and a measure of the intensity of handicap because of the sophistication of the underlying land classification system in each country. This affords a rather precise measurement of handicap and therefore, one may expect an accurate match between the level of compensation afforded by the LFA payment. In the Vogelsberg case study, and based on Testbetriebs data, a majority of farms were compensated by 0-50 per cent of income foregone. Austrian Article 18 areas are divided into four sub-zones (1-4) to distinguish between different intensities of handicap, with four being the most severe. LFA payments compensate for 43% of income disparities with non-LFA farms of similar farm type in category 1 areas, and for 36% in category 4 areas, despite significantly higher payments.

Generally, the pattern of compensation payments in relation to disadvantage appears more logical ehrn aggregated at the EU-15 level than when payments for individual Member States are considered seperately. The FADN data show that compensation levels relative to the average FNVA per hectare vary in the Member States over a sizeable range on either side of the mean and thus, opposite deviations from the mean cancel each other out.

Basis for the differentiation of LFA payment

Differentiation of payment rates within each Member State allows them, in principle, to fine tune payments to specific local conditions and pursue objectives additional to those core to the LFA measure. It allows them to spread with greater accuracy the 'blanket of payments' so as to capture the difference in handicaps faced within regions and farms. The various approaches Member States have adopted to the differentiation of payments are summarised in Table 6.10. The data in Table 6.6 attempts a more synoptic view of the various approaches adopted by Member States. The regional differentiation of the payment is most ambitious in Austria and Germany, where farm specific differentiation criteria are applied, and in France, where intensive sub-zoning is applied. Three Member States do not differentiate payments. Differentiation based on farm size (tapering, ceilings) is most pronounced in mountainous countries (Austria, Italy, Spain), where there are a lot of small farms, whereas nine Member States do not differentiate payment according to farm size at all.

Differentiation according to production (most often the exclusion of certain crops) is most common in the old Member States and very rare in the new ones. The same applies to differentiation according to intensity of production (for example, stocking density limits, organic farming) and to other differentiation criteria (for example, relative income level of the farmer, full-time versus part-time farmers).

The level of payments generally rises with the severity of handicaps but this is not always the case. Most accurate differentiation per region or per farm size is made in countries where the variety and intensity of handicaps is greatest due to mountains, islands or the existence of a dual farm structure. In some countries, the handicap is relatively widespread affecting most of the farms in a similar way (Scandinavia, part of the Baltics), and rendering a detailed differentiation unnecessary. The only exception to this logic is possibly Malta, where a flat rate is applied without any modulation on very small farms, potentially offering an income support function.

The other criteria for modulation (type and intensity of production) reflect the orientation of policy design, where certain farming practices or farmer groups are favoured. In many cases, these include livestock systems, especially cattle, sheep and goats, which are generally considered to maintain traditional agricultural landscapes and sometimes labour intensive forms of agriculture. In some countries, other very general social objectives are also directly incorporated in the modulation of the payment (for example, income and employment).

Table 6.6 Criteria against which payments are differentiated in Member States.

Member State	Region	Farm size	Type of production	Intensity of production	Other (income, employment etc.)
Austria	xxx	xxx	xx		x
Belgium	x	x		x	
Denmark		x			
Finland	xx				x
France	xxx	xx	xx	xx	x
Germany	xxx	xx	xx		x
Greece	xx	xx	xx	x	x
Ireland	xx	xx	x		
Italy	xx	xxx	xx	x	
Luxembourg		xx			x
Netherlands					
Portugal	xx	xxx	xx	x	x
Spain	xx	xxx		xx	x
Sweden	xx	x	x		x
United Kingdom	xx	x	x	x	
Cyprus	xx	x			x
Czech Republic	xx				
Estonia		(x)			
Hungary	xx	xx			
Latvia	xx				
Lithuania	xx				
Malta					
Poland	xx	xx			
Slovakia	xx				
Slovenia	xx		(x)		

Key

xxx = Very significant (very targeted application with multiple criteria and with significant income redistribution effects).

xx = Significant (targeted application with noticeable income redistribution effects within the farming sector).

x = Applied.

Note: For countries with regional application an "average" situation is evaluated.

Sources: 'Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) 1257/99 in the 25 Member States' (IEEP, 2006). National data reports of 25 Member States.

Based on the analysis, it is difficult to conclude to what extent the differentiated systems of payment serve to alleviate specific handicaps found only on certain types of farm, and to what extent a certain type of farming is encouraged as a policy objective. Council Regulation 1257/99 deploys a compensatory approach coupled with a system for differentiating payments to pursue multiple goals within the frame of a single measure[10].

The ways in which the Member States use the flexibility at their disposal appears to be compatible with the Regulation. Some measures have explicit objectives, for example, encouraging livestock producers or organic farms, others may have more than one aim. It is common for payments to be subject to a ceiling or to taper downwards according to farm size, the scale of which varies greatly according to the conditions in the country. These measures discriminate against larger holdings. This may be because of an observed threat of discontinuation of smaller farms due to higher production costs per hectare or a regionally embedded "rural" preference for supporting smaller farms; a calculation that payment ceilings avoid over compensation for larger farms; to maintain the status quo following the transition from headage to area payments; or due to a combination of these factors. Precise objectives are frequently not clear.

Measures with an environmental focus tend to favour the continuation of grazing by livestock subject to stocking density limits. Relatively extensive forms of farming such as this are not generally labour intensive and may be possible with a structure of larger farms. The capacity of a single measure offering only an annual area payment to address these potentially diverse or even conflicting aims requires interrogation and a more precise explanation of the differentiation applied by the Member States should be the subject of detailed national study.

Development of payment rates over time

An examination of total public expenditure on the LFA measure in the EU-15 over the period 1998 – 2004, which incorporates the transition to LFA area payments, reveals a substantial increase of 36.9% at an aggregate EU-15 level (see Table 6.7). In the majority of Member States, the total public expenditure has increased. Total public expenditure has declined in Germany, the Netherlands and Sweden (the figures for Belgium are excluded for reasons given in the accompanying footnote). In line with these increases in budgetary outlay, the number of holdings receiving a compensatory allowance over the same period at the aggregate EU-15 level has declined slightly. Greece, Luxembourg and Spain have experienced a marked increase in public expenditure, 82.5%, 50.9% and 115.3% respectively, whilst the number of holdings

[10] In this respect, Article 15.2 of Regulation 257/99 which sets guidelines for the differentiation of LFA payments, gives rise to certain tensions. On the one hand, it provides a framework to compensate for natural handicaps to safeguard the continuation of farming where it would otherwise be threatened, which reflects the idea of social and environmental public goods. On the other hand, Member States are asked to differentiate the payment according to the situation in the region or on the holding, environmental aspects, or type of production, which clearly implies favouring certain priorities by providing incentives. Member States have attached differing importance to these two central demands of the Regulation.

receiving a compensatory allowance has declined considerably, by 31.6%, 33.2% and 10.6%, respectively. In other Member States, such as Finland, France and Ireland, whilst the public expenditure on the LFA measure has increased, the number of holdings receiving the compensatory allowance has remained the same. Given that there has been a widespread increase in expenditure on the LFA measure, while the number of holdings receiving a compensatory allowance has remained reasonably stable and even declined in some Member States, we can infer that average payment rates are increasing over time.

Conclusions

Based on the analysis and bearing in mind the caveats which apply, for example, in the use of FADN data, the following conclusions can be drawn:

- There is a wide variation in payment rates between Member States;
- Approximately 25% of this variation can be explained by a set of measurable variables clearly linked to the intervention logic, including the apparent severity of the natural handicap;
- A considerable proportion of the variation cannot be explained in this way, raising questions about the link between payment levels and intensity of handicap;
- The fixing of payment rates is strongly embedded in the specificities of the national and regional context, rather than in relation to a single European benchmark of handicap;
- LFA payments contribute to balancing the effects of the natural handicaps, but the impact of this hectare based payment is targeted mainly to types of farming where the output per hectare is low (for example, grazing livestock, cereals and mixed farms);
- The difference in FNVA per hectare between the LFA and non-LFA, for similar farm types within an individual Member State, is a crude measure of handicap. Based on this measure, however, the average LFA payment, is not sufficient to compensate farmers in the LFA for a lower FNVA per hectare compared to non-LFA farms;
- The total public expenditure in the EU-15 on the LFA measure has shown an overall increase from 1998 – 2004 whilst the number of holdings receiving a compensatory allowance over this period has declined slightly overall suggesting the average payment rates have increased over time;
- The change to area payments since 2000 has not led to significant change in the average payment rates;
- Member States actively differentiate payment levels; regional and farm size based differentiation is intensive where the handicaps vary substantially

(Mountain areas). Differentiation by other criteria (environmental, economic or social objectives) is more common in the old Member States compared to the new ones;

- A small minority of Member States (Austria, Germany, Slovakia) have rather comprehensive farm level data providing a clear indicator of disadvantage. Most rely on more generic regional or national data;

- Member States are required to relate the payment strictly to the experience of natural handicaps (avoiding overcompensation in particular) but should also differentiate the payment according to various criteria which are difficult to measure in some cases. This makes evaluation of the accuracy of the compensation difficult;

- Non-LFAs enjoy higher subsidies (excluding LFA payments) under the CAP compared to LFAs. Because of the distribution of non-LFA support and its link to past or present production levels, it is clear that this confers an additional disadvantage to farms in the LFA which carries implications for their relative competitiveness and hence viability.

Table 6.7 Changes to total public expenditure on the LFA measure by EU-15 Member States, 1998 - 2004

Member State	Total Public Expenditure on the LFA measure (million EUR)			Number of holdings receiving a Compensatory Allowance		Percentage Change
	1998	2004	Percentage Change	1998	2004	
Austria	209.95	276.20	31.6	93570	105048	12.3
Belgium	17.29	0.60	-96.5[1]	6168	6728	9.1
Denmark	1.01	1.54	53.1	486	606	24.7
Finland	272.30	426.20	56.5	68479	68803	0.5
France	375.84	475.40	26.5	113616	112677	-0.8
Germany	352.00	335.44	-4.7	162181	147806	-8.9
Greece	91.21	166.46	82.5	161068	110211	-31.6
Ireland	156.18	230.00	47.3	101664	100144	-1.5
Italy	48.52	101.16	108.5	38227	59527	55.7
Luxembourg	10.46	15.79	50.9	2313	1545	-33.2
Netherlands	3.34	1.25	-62.6	4260	1829	-57.1
Portugal	47.83	93.26	95.0	64076	114182	78.2
Spain	58.60	126.15	115.3	143641	128434	-10.6
Sweden	72.74	22.53	-69.0	23858	19678	-17.5
United Kingdom	132.15	236.95	79.3	56129	47544	-15.3
Total EU-14 (excluding Belgium)	**1832122**	**2508322**	**36.9**	**1033568**	**1018034**	**-1.5**

Source: Implementation of Articles 18,19,20 and 16 under Council Regulation (EC) no. 1257/99 in the 25 Member States (IEEP, 2006).

[1] This decline is inflated by the fact that the Wallonia LFA scheme is nationally funded.

The Process of Determining Payment Levels

The determination of payment rates is analysed in the light of the following evaluation question:

Question 4. *To what extent do the methods actually used by Member States/regions to calculate or modulate payments reflect real disadvantages?*

As shown in the analysis of the actual payment rates, there is a high degree of variation in payments. It can be expected that many kinds of approaches, tools and data sources have been employed in defining this multitude of rates. Therefore, the key judgement criterion in the evaluation of the process is whether the methods used have been reliable and relevant in establishing a sound relationship between the payment rates and the handicaps. This is partly a question of the existence of an objective evidence base and partly a question of reasonable policy design and targeting.

A summary of the methods of fixing payment rates in each Member State is presented in Tables 6.8 and 6.9. Table 6.8 reviews the method used, and the type of data drawn upon to determine the payment rates, while Table 6.9 lists the criteria used in the modulation of payment rates. The characterisation of the methods used in the fixing of payment rates as "quantitative", "qualitative" or "arbitrary[11]" was undertaken by members of the evaluation team in each Member State drawing on the judgements of interview respondents. Most of the countries use either primarily quantitative or qualitative approaches in the determination of payment rates. In most cases, this is data on agricultural income, which is compared to non-LFAs to define the differential for the basis of the payment rate. In other cases, pure cost data is used (Slovenia), whilst a mixture of income and cost data is also rather common. Finally, reference to historic subsidy levels is a yardstick deployed in many countries (including France, Ireland, the Netherlands).

As such, the baseline in determining the payment rate includes, in most cases, some intraregional comparisons (to non-LFA and/or between LFA categories or zones) and intertemporal comparisons (past income, cost and/or subsidy levels). These comparisons take place in a national or subregional frame without direct reference to the EU level.

[11] By arbitrary it is meant that the logic behind the calculation of the payment rates is not transparent.

Table 6.8 General approach to determining the payment level in Member States.

Member State	Method Applied in determining the payment rates				Type of data used in determination of the payment rates
	Quantitative	Qualitative	Arbitrary	Cannot be Specified	
Austria	+		+		Index (BHK) scaling the severity of handicap per farm (slopes, location, soil, climate, etc.)
Belgium					
Flanders	+		+		Income and cost calculations
Wallonia	+		+		Income data (compared to non-LFA)
Denmark			+		Available funds are reflected in the payment rate
Finland	+		+		Arbitrary fixing within defined zones, taking into account other subsidies (bundle approach: income data)
France			+		Arbitrary fixing locally: earlier rates considered
Germany	+	+	+		Farm specific scoring points (LVZ); for Art. 16 areas a flat rate based on income and cost calculations
Greece		+	+		Farm and income and cost levels, yield levels, economic structure of holdings
Ireland		+	+		Zoning of the areas is reflected in fixing of the rates
Italy					
Pietmonte	+		+		Profitability data (compared to non-LFA)
Valle d'Aosta	+	+	+		Various productivity indexes based on FADN data; qualitative data on production possibilities, labour and capabilities (compared to non-LFA)
Liguria		+	+		Public goods approach (landscape and environmental value of production activity)
Lombardia		+	+		Cost data (production, maintenance work)
Veneto	+	+	+		Cost and income data, handicap remarks (compared to lowlands)
Bolzano	+		+		Income data per hectare (calculations)
Trento	+	+	+		Farm scoring points
Friuli-Venezia-Giulia	+		+		Average standard gross income data per farming type (compared to non-LFA)
Emilia-Romagna				+	
Toscana				+	

Member State	Method Applied in determining the payment rates				Type of data used in determination of the payment rates
	Quantitative	Qualitative	Arbitrary	Cannot be Specified	
Italy (continued)					
Umbria		+	+		Qualitative remarks on maintenance of livestock activity in marginal areas, environmental protection and population base
Marche		+	+		Qualitative remarks
Lazio				+	
Abruzzo	+		+		Gross production per hectare (compared to non-LFA)
Molise	+	+	+		Standard gross income per hectare (compared to non-LFA); payment level considerations
Campania	+	+	+		Standard gross income per hectare (compared to non-LFA); payment level considerations
Puglia				+	
Basilicata	+		+		Farm economic result data (compared to non-LFA)
Calabria				+	
Sicilia				+	
Sardegna				+	
Luxembourg	+		+		Calculations on income foregone
Netherlands				+	Derived from the maximum allowances in the LFA directives in the past
Portugal		+	+		Agricultural income/AWU compared to reference income on regional basis, available funds
Spain	+		+		Calculation formula using coefficients for many indictors (type of area, land use, location, employment etc.)
Sweden	+		+		Arbitrary fixing within defined zones, taking into account the other Subsidies (bundle approach: income data)

Member State	Method applied in determining the payment rates				Type of data used in determination of the payment rates
	Quantitative	Qualitative	Arbitrary	Cannot be Specified	
United Kingdom					
England		+	+		Income data (FBS): regional and earlier levels
Northern Ireland		+	+		Income data (FBS): regional and earlier levels
Scotland		+	+		Income data (FBS): regional and earlier levels
Wales		+	+		Income data (FBS): regional and earlier levels
Cyprus	+	+	+		Income and cost data, yield levels, economic structure of holdings, qualitative data (proximity); earlier payment levels
Czech Republic	+		+		FADN data: income foregone due to lower productivity, opportunity costs (extensiveness) per category
Estonia		+	+		Minimum rate applied; for Art. 16 areas income loss calculations (income foregone due to limitations)
Hungary	+		+		The payment rate compensates for the difference in gross farm income per ha up to 80% of the national average: fixing per article
Latvia	+		+		The land fertility points are compared to non-LFA areas; the difference is converted to monetary values and cut by 5-25% depending on the category; a separate calculation for NATURA farms (income foregone)
Lithuania	+		+		Income and cost data (FADN), yield levels: regional comparisons
Malta			+		Not applicable
Poland	+		+		210 farm models: agricultural income compared to non-LFA areas
Slovakia	+		+		FADN data on GVA/ha compared to national average; scaling under art. 18 based on yield levels: income/cost calculations for Art. 16
Slovenia	+		+		Cost based approach (yield levels, labour and machine work productivity) for six crops and various difficulty zones

Source: Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) no. 1257/99 in the 25 Member States. (IEEP, 2006). National data reports of 25 Member States.

Table 6.9 Criteria used in determining the payment level in Member States.

Member State	Method applied in modulation of the payment rates					Criteria used in modulation of the payment rates				
	Quantitative	Qualitative	Arbitrary	Cannot be Specified	Situation in the region	Regional development objectives	Severity of natural handicaps	Type of production	Economic structure of holding	Other
Austria	+		+		+	+	+	+	+	
Belgium										
Flanders										
Wallonia				+				+	+	Environment
Denmark			+		+		+		+	
Finland			+		+	+	+		+	Environment, other subsidies
France				+	+	+	+	+	+	Environment
Germany	+	+	+		+		+	+	+	Incomes
Greece						+	+	+	+	Environmental, income level
Ireland										
Italy										
Pietmonte		+	+		+		+	+	+	
Valle d'Aosta	+	+	+		+		+	+	+	
Liguria		+	+		+	+	+	+	+	Environment
Lombardia	+	+	+		+	+	+	+		
Veneto				+			+	+	+	
Bolzano				+	+		+		+	
Trento				+	+		+	+	+	Environment
Friuli-Venezia-Giulia	+	+	+		+		+	+	+	
Emilia-Romagna				+				+		
Toscana			+		+		+		+	
Umbria		+	+		+	+	+	+	+	

Marche		+	+		+				+	
Lazio			+						+	
Abruzzo			+		+		+		+	
Molise		+	+		+		+		+	
Campania		+	+		+		+		+	
Puglia			+		+		+	+	+	
Basilicata		+	+		+	+	+	+	+	
Calabria		+	+		+	+	+		+	Social issues
Sicilia			+		+		+		+	
Sardegna			+		+		+	+	+	
Luxembourg			+			+			+	Incomes, employment
Netherlands										
Portugal		+	+		+	+	+	+	+	Employment, environment
Spain	+		+		+	+	+	+	+	Incomes
Sweden			+		+	+	+			Environment, other subsidies
United Kingdom										
England		+	+		+	+	+	+	+	Environment
Northern Ireland			+		+	+	+	+	+	Environment
Scotland		+	+		+	+	+	+	+	Environment
Wales					+	+	+	+	+	Environment
Cyprus		+	+		+		+	+	+	
Czech Republic										
Estonia										
Hungary	+		+				+		+	
Latvia	+		+				+			
Lithuania	+		+		+		+			
Malta										
Poland	+		+				+		+	
Slovakia	+		+				+			
Slovenia										

Many variations are apparent in the data represented in Tables 6.8 and 6.9, however, the most widespread approach to determining the actual payment rates used is broad brush. This contrasts with the greater precision employed in delineating LFA areas. There are cases, however, where the payment rates are drawn directly from income and cost data (for example, the Czech Republic), mainly emphasising the interregional dimension of setting payment rates.

The other, intertemporal, dimension produces a strong element of path dependency in the evolution of the payment rates. The "original" aid rates may date back some time (EU accession, first scheme etc.), after which the payment rates have been altered on the basis of some statistical criteria concerning cost or income data. This provides stability for farmers, but also includes a risk of institutionalisation of the scheme and of a drift away from its core focus.

The more arbitrary element is also interesting. On the one hand, there is never complete provision for identifying and rigorously compensating for handicaps which would be extremely demanding and impractical in administrative terms. Some simplification and reliance on approximations and manageable procedures is inevitable. Such approximations include the limited regional coverage of some data, the wide range of farms found in many payment zones, reliance on relatively few levels of payment with wide variations in farm conditions within each band, and a transparent but partly arbitrary method of connecting handicap "points" to monetary values. On the other hand, in many cases, the procedure is rather arbitrary in the sense of not having a clearly specified focus or link between an evident handicap and the payment rate. As an example, the Spanish system includes a complicated calculus for deriving the specific Compensatory Allowance for the farm, including rules such as a higher weighting for irrigated land. However, the starting point of LFA payment rates per category from which the final payments are derived is not clearly justified and appears more arbitrary. It is these "basic rates" per LFA category (for example, in Spain) or per national average (for example, in France) that have no clear connection with the handicap in some cases, whereas the relative precision of the payment rates for different subregions and farming types better reflects the situation in the farming sector. This baseline for the whole scheme ("basic rates") has its origins early in the history of the measure. Naturally the provisions of the Regulation and budgetary resources have also played a role in determining payment levels. It is worth noting that the Regulation is not definitive on the baseline to be used, on the measurement of disadvantage, or the necessary extent of compensation.

Even if the fixing of payment rates is based on very detailed (even farm specific) scoring scales or calculation procedures, in all cases, there will be a significant judgement element involved when the relation between the actual handicap and the effective payment rate is assessed. This is because in the payment calculation procedures, issues of policy objectives and design also play a role. Indeed, as long as additional policy objectives are pursued in the modulation of the payment (for example, favouring extensive livestock farming), a completely consistent and purely compensatory determination of the payment rate is not even possible. This aspect of the Regulation is discussed earlier in the report, but it also has implications for the methods of setting the payment rates. When Member States attempt to determine sufficient but not excessive compensation for threatened areas and, at the same time,

to differentiate the payment along many dimensions, the procedure easily becomes complicated and an arbitrary or incentive element will be included.

Again the Spanish case is a good example. First, the aid units are derived, based on the area of different kinds of cultivation (pastures, irrigated, fallow, extensive, plantations) using various coefficients (0.15-1). These units are multiplied by basic aid rates for various LFA Articles to arrive at a gross payment. This is then adjusted by means of various procedures and coefficients concerning farm size and income of the farmer and finally, minimum and maximum limits of the aid per farm are applied. As such, the procedure is transparent, but the connection between the final payment rate and the various degrees of natural handicaps and threats of discontinuation are hard to identify in detail. This is the case in most Member States reflecting the problems of setting a single payment for the potentially multiple handicaps faced by different kinds of farms and regions.

There appear to be two kinds of basic problem in setting the payment rates. First, it is difficult to find an appropriate "fit" between the degree, nature and cover of the handicaps and the single measure in use, the hectare payment. This is mainly a technical problem, which has been settled rather well by the Austrian and German farm specific schemes, for example. Other Member States mostly have insufficient data to capture the level of handicap very precisely, so that appropriate differentiation in payment is difficult to achieve, even if this is the goal.

Second, it seems that the demand in the Regulation that compensatory allowances should be differentiated according to four criteria while pursuing the basic compensatory logic creates tensions and potential confusion of objectives and scheme design. The basic task of the LFA scheme – safeguarding continuation of farming in classified areas – has been challenged by additional policy requirements favouring certain types of farming and types of farms. More specific guidance is required for Member States as to how they should pursue different objectives within a single measure while retaining a transparent approach to determining payments. Alternatively a simplification of objectives could remove these tensions.

Overall Conclusions

Based on the analysis, the following conclusions can be drawn:

- Methods of payment rates appear to be more arbitrary than the delimitation of LFAs. In many cases, these two issues are integrated (for example, classification relies on extensive quantitative data but there is more arbitrary determination of the payments within the defined area or zones).

- In most cases, some statistical information has been used to derive the basis for the payment from income foregone or cost differentials between LFAs and non-LFAs, including FADN data, farm models, specific data on costs, yield levels or certain cost items.

- The baseline used for setting the payment rates includes, in most cases, both an interregional element (comparison to non-LFA and/or other aid

zones) and an intertemporal element (comparison to past income, cost or subsidy levels). The first dimension provides a coherent basis for the scheme but only in a national or subregional framework (rather than EU wide aspects). The intertemporal dimension is often associated with a strong path dependency in the evolution of the payment and some institutionalisation of the scheme. This occurs when the basic aid rates are historical (EU accession, first scheme etc.) and these basic rates have then subsequently been adjusted for cost changes or other indicators.

- Use of category averages and the incorporation of regional and national policy objectives in the modulation of the payment brings a less transparent and more arbitrary element to the fixing of the payment rates. The payment calculation method, no matter how complicated or sophisticated it may be, in most cases includes some degree of arbitrariness. In some cases, the process of arriving at a certain payment for a certain farm appears to rely on a multitude of factors so that transparency is lost, as in France.

- Few Member States have the data to allow accurate calculation of handicaps particularly at farm level and it seems unlikely that they will acquire such information given the costs of doing so.

- National and regional objectives, often not expressed in a very explicit way have a significant influence on both eligibility conditions and the rules for fixing payments. This can lead to payment regimes that are complex and not particularly transparent, such as 370 sub-zones in France, or produce higher payments for more advantaged land, for example, irrigated areas in some Member States. This can confuse and weaken the essential compensation logic of the measure. Simplification and clearer guidance to Member States could improve coherence and transparency.

Table 6.10 Differentiation of Payment Rates by Member States in 2004/2005 according to different criteria

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Austria	Yes	BHK-index 0-570, farm specific	Yes	Max. for 100 ha per farm; tapering in six stages (-6, 6-60, 60-70, 70-80, 80-90, 90-100 ha)	Yes	Normal aid for grasslands and pastures; for other land a lower aid and land under certain crops is not eligible (e.g. fodder crops, wheat, fruit); payment rate differentiated in favour of farms with roughage feeding			Yes	For dairy farms with difficult transport conditions a special supplement max. 2000 EUR/holding (14,53 EUR/ha)
Belgium										
Flanders	(Yes)									
Wallonia	No		Yes	Max. 1736 EUR/beneficiary			Yes	Normal aid for 0,6-3, 5 LU/ha of grassland, but cut by 20% per each 0,1 LU exceeding 3,5 LU/ha		
Denmark	No		Yes	Min. 290 EUR, max. 5800 EUR per farm (=100 ha)						
Finland	Yes	Articles/zones (three rates)	No						Yes	A bundle approach (integration with other subsidies)

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
France	Yes	Zoning (over 370 sub-zones)	Yes	Max. for 50 ha, tapering in two stages (aid for the first 25 ha 20% higher than for the additional hectares)	Yes	For forage area only (in dry areas also other crops eligible); premium increased by 30/10% for specialised grazing sheep and goat farms	Yes	Min. and max. stocking density limits for different types of areas; payment differentiated according to stocking density (highest for 1-1,4 LU/ha, decreasing in both directions)	Yes	Min. 50% of income from agriculture with some exceptions
Germany	Yes	LVZ-index 0-100, farm specific	Yes	Min. 100/250/500 EUR, max. 16000 EUR per farm (64000 EUR per co-operative); if more than 2 FTE, may be exceeded by 8000 EUR/FTE ref. new Länder)	Yes	In NW, HB only for grasslands and pastures; exclusions also in MV and ST; Art. 19 and 20 funding for arable land is only half of that for grassland and pasture			Yes	Total income limit in BW, HB, SH, RP; two safety net systems in operation

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Greece	Yes	Articles and Aegean islands	Yes	Max. 4000 (art. 19, 20) or 4500 (art. 18) EUR/beneficiary; higher (4500-6000 EUR) for specific groups (young farmers, sustainable farms, islands)	Yes	The aid per ha is differentiated between four categories of crops in all areas (highest aid for grazing land for fodder)	Yes	Intensive cultivations are excluded (tobacco, cotton, sugar beet, citrus tree plantations, flowers and vegetables (not potatoes))	Yes	Min. 25% of income from farming, max. 150% of the reference income; increased aid for young farmers
Ireland	Yes	Zoning	Yes	In mountain type zones an increased payment level (101,58 EUR/ha) for the first 10 ha; in all areas aid for max. 45 ha (respective max. aid 4126,60/3999,60/3428,10 EUR)	Yes	For forage areas only				
Italy										
Pietmonte			Yes	Max. for 40 ha	Yes	Between four categories of crops (highest for fruit and vegetables)				
Lazio			Yes	Max. for 30 ha per holding; tapering in three stages (2-10, 11-20, 21-30 ha)						

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Abruzzo	Yes	Articles	Yes	Max. for 100 ha per holding; tapering						
Molise	Yes	Articles	Yes	Tapering						
Campania	Yes	Articles	Yes	Tapering						
Puglia	Yes	Articles	Yes	Tapering	Yes	The aid is differentiated between two categories of crops (forage, and meadow and grazing area)				
Basilicata	Yes	For protected area the aid is increased by 10%	Yes	Max. for 50 ha per farm; tapering in three stages (-10, 10-20, 20-ha)	Yes	For forage area only				
Calabria	Yes	The figures are for protected areas and particularly disadvantaged areas; for other areas the aid is cut by 20%, respectively	Yes	Max. for 100 ha per holding; tapering in five stages (2-5, 6-12, 13-30, 31-100 ha)					Yes	The higher aid figures apply also for young farmers (less than 40 years) and women
Sicilia	Yes	Articles	Yes	Tapering: the aid is cut by 50% for the hectares exceeding 40						

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Italy										
Sardegna	Yes	Articles	Yes	In mountain areas max. for 50 ha in livestock holdings and for 10 ha in other holdings, in other areas max. for 50 ha in livestock holdings; tapering	Yes	The aid is differentiated between livestock farms and other farms				
Luxembourg	No		Yes	Max. for 70 ha (full-time farmers) or 25 ha (part-time farmers); tapering (for full-time farmers 50 EUR/ha for the first 60 ha and 75 EUR/ha for the next 10 hectares; for part-time farmers 102 EUR/ha for the first 15 ha and 51 EUR/ha for the following 10 hectares)					Yes	Eligibility requires a theoretical farm income to be at least 9750 EUR/holding; if there are more than 1,5 labour units, the maximum eligible area is increased by 30%
Netherlands	No		No						No	

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Portugal	Yes	Articles and three scales for various islands (Acores, Madeira)	Yes	Max. for 500 ha in mainland, 80 ha in Acores and 50 ha in Madeira; tapering in four stages (mainland, 0, 5-5, 5-20, 20-50, 50-500 ha; Acores, -7, 7-14, 14-21, 21-80 ha) or five stages (Madeira, 0, 15-0,5, 0,5-1, 1-2, 2-5, 5-50 ha)	Yes	Annual forage and permanent pasture areas not eligible, except for livestock farms when eligible up to 1 LU/ha	Yes	Forage area eligible in livestock farms up to 1 LU/ha	Yes	In the mainland part-time farmers receive lower rate for hectares above 20
Spain	Yes	Articles	Yes	Tapering (a full aid up to first 5 ha, a gradual reduction in aid/ha up to 100 ha above which no aid); min. 300 and max. 2500 EUR/farm			Yes	Irrigated area eligible only up to 5 ha; for forage areas full aid only for permanent pasture (for other pasturage areas a reduction of 50 or 85 %)	Yes	Min. 50% of income and employment from farming; aid increased by 20% if farmer's income less than 50% of the reference income.
Sweden	Yes	Zoning (six rates)	Yes	Tapering, two stages (-60, 60- ha)	Yes	Potato and cash crops are eligible only in mountain areas with a reduced rate			Yes	A bundle approach (integration with other subsidies)

Member State	Region	Comment	Farm Size No	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
United Kingdom										
England	Yes	Three categories					Yes	Payment increased by 10/20% depending on livestock density and other conditions		
Northern Ireland	Yes	Three categories (two rates)			Yes	Increased payment possible for farms having at least 25% their LUs are suckler cows and heifers				
Scotland	Yes	Two categories including three levels (six rates)	(Yes)	Minimum payment 515,72 EUR	Yes	Eligible area adjusted positively along higher livestock density and share of cattle in livestock.	Yes	Eligible area adjusted positively along higher livestock density		
Wales	Yes	Two categories	Yes	Tapering, three stages (-140, 141-650, 651- ha)			Yes	Payment increased by 10/20% depending on the conditions met in increased environmental enhancement project		
Cyprus	Yes	Articles/five categories	Yes	Tapering (in art. 19 & 20 area payment for 1st 10 ha 150 €/ha & 100 €/ha for additional ha)					Yes	The aid is integrated with the Single Farm Payment (a common maximum aid level per ha)

Member State	Region	Comment	Farm Size	Comment	Type of production	Comment	Intensity of Production	Comment	Other	Comment
Czech Republic	Yes	Zones								
Estonia	No		(Yes)	Option: tapering if budgetary constraints apply (a cut of 15% for farms over 200 ha UAA and 30% for farms over 300 may be made)						
Hungary	Yes	Articles	Yes	Tapering in five stages to a half of the full aid per ha (1-50, 51-100, 101-300, 301-500, 501-ha)						
Latvia	Yes	Three categories per article (soil fertility index)								
Lithuania	Yes	Two zones (not in art. 16 areas)								
Malta	No		No							
Poland	Yes	Three zones	Yes	Max. for 300 ha per holding; tapering in four stages (1-50, 50,01-100, 100, 01-300 ha)						
Slovakia	Yes	Articles and sub-categories								
Slovenia	Yes	Seven categories (five rates)			(Yes)	Not for vineyards				

Source: Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) no. 1257/99 in the 25 Member States. (IEEP, 2006). National data reports of 25 Member States.

7

THEME 3: EFFECTS ON FARM INCOMES AND STRUCTURES

Introduction

This theme examines the actual flow of LFA payments made by Member States over time and the apparent impact of these payments on farm incomes, farm structures and land prices. Since LFA policy is aimed at compensating for certain handicaps and securing the provision of public benefits, the impact of payments is central to any evaluation of outcomes. In principle, were there to be no discernable impact on farm incomes or the longer term viability of holdings, the effectiveness of the measure would be questionable. Assessing evidence about impacts on farm incomes and farm structures is a first stage in examining impacts on land use, the environment and rural communities (Themes 4 - 6).

A group of related questions arise under this theme. Question 5 focuses on the flow of payments, and seeks to establish the proportion of farms and farmed land in the areas classified as LFA that receive payments at the levels described in chapter 6. This serves to indicate how comprehensively the LFA measure has been applied, and the extent to which eligibility criteria and other factors have influenced its scope. It is not compulsory for Member States to make such payments or to do so regularly under EU legislation so there is a further question about whether the payments have been provided regularly over time.

Question 6a examines the impacts of the payments on farm incomes in the Member States. Since the LFA compensatory allowances are only one of a number of transfers to farmers under the CAP which may vary in scale and over time, Question 6b investigates other subsidies and direct payments and the proportion of farm income they comprise.

Direct payments maintained over time might affect the economic performance of farms and the flow of income. The expectation of further payments in the future can have an impact on agricultural land prices and rents, lifting them above what they might otherwise have been. Direct payments can thus be ‘internalised’ into land prices, reducing their impact on farm income and other variables. This potential impact is the focus of Question 7.

Question 8 explores whether LFA payments have an impact on the evolution of farm structures in LFAs, and in particular, on arresting or slowing a decline in the number of farm holdings, agricultural labour and the Utilised Agricultural Area. Restructuring

may be influenced by the level of payments, and the extent to which they are modulated, through, for example, the application of a limit to the number of eligible hectares, or a declining scale of payments according to increasing farm size or other schema.

In approaching this theme, the evaluation seeks evidence of sustained rather than ephemeral impacts. The main focus is on longer time series, particularly the period 1990-2003. Since the new Member States (EU-10) have applied LFA policy over a relatively short period, starting in 2004, and little data is available for the period since 2003, the analysis focuses on the EU-15 rather, than on the EU-25.

The primary level of analysis is the Member State. The main sources of data for specific farms are two EU wide surveys, the Farm Accountancy Data Network (FADN) and the EU Farm Structure Survey (FSS). Additional material has been collected through interviews with government officials and informed experts in the EU-15 Member States.

Compensatory Allowances and Payment Regularity

Question 5: *What proportion of farms and proportion of hectares in the designated areas actually receive Compensatory Allowances and have these payments been provided regularly over time?*

Introduction

In order to analyse the proportion of farms and hectares in LFAs that receive compensatory payments, the number of holdings with these payments is related to the total number of LFA farms. In the next step, the number of hectares used for the calculation of the LFA payment on recipient farms is related to the total number of hectares of Utilised Agricultural Area (UAA) in the LFA as far as this is known.

The share of holdings receiving LFA payments is analysed for the period 1985-2003. Data on the total UAA where payments have been received is more limited and only useful since 2000 when the area payment system was introduced. Prior to this, the main bulk of payments were made in the form of livestock headage payments.

Assessments from the national data reports are used to answer the question whether payments were provided regularly over time.

Not all LFA farms receive LFA payments

Not all farms located in the LFAs receive Compensatory Allowances (CAs) and the proportion varies greatly between Member States. The proportion has fallen over time in many Member States. There are several reasons why farms in the LFA might not receive compensatory allowances:

1) The Member State or region concerned may choose not to offer allowances at all, or to suspend them for a period because of budgetary concerns. This is rare but has happened at a regional level on some occasions.

2) Farms are excluded because they cannot meet the essential eligibility conditions laid down at the EU level, for example, a commitment to farm for at least five years, as requested by the current Regulation.

3) Farms are excluded because they are too small to be eligible. Under the current legislation, Member States are obliged to set a minimum area of land that must be farmed. This threshold is most commonly set at three hectares in the EU-15, and one hectare in the EU-10, but varies considerably. For example it is 0.5 hectares in the Netherlands and Portugal, variable between regions in Spain and Italy (with two hectares common), about 0.11 hectares in Malta, five hectares in Denmark and 10 hectares in England. Several Member States raised the thresholds when introducing the current generation of measures in 2000. In Austria, for example, this excluded a number of farms.

4) Farms are excluded because they do not meet the eligibility criteria set at the national or regional level. These vary considerably (see IEEP, 2006). In many Member States, farmers who are over 65 or receiving a state pension are ineligible. A few require that a certain proportion of farmer income is derived from agriculture, for example, at least 50 percent in France. A number require permanent residency in the LFA or within a certain distance from the holding. Some require the keeping of grazing livestock, for example, Ireland, and it is common for more intensive farm land uses or all crops to be excluded from payments.

5) Farms which have no eligible land uses, for example, no grassland or grazed areas in those Member States which focus on supporting livestock systems, may not be formally excluded but may have insufficient, or no, eligible land for receiving a payment high enough to justify making the application. So they are excluded de facto.

6) In some cases, eligible farms may choose not to apply because they are deterred by the conditions attached, such as meeting the Good Farming Practice obligations, or do not consider the effort worthwhile, especially if small farms are involved. In regions with very small farms this may be a significant factor.

Data on the number of farms receiving compensatory allowances is obtainable from Commission sources, including annual reports from EAGGF, STAR Committee Report V17676/98 and CAP – IDIM. These do not always agree with national data provided by governments in the course of this evaluation. In a few cases, such as Italy and Portugal, there are significant variations between years which seems unlikely to reflect simply fluctuations in the number of claims. Italian data is also affected by incomplete coverage of some regions in some years.

Data on the number of holdings in the LFA is taken from the Eurostat Farm Structure Survey. This survey, based on farm census data for all holdings above a minimum

size, covers the majority of holdings once a decade conducted in 1980, 1990, 2000 etc. However, it relies on much more limited sample surveys carried out three times a decade, the most recent data for which is available is 2003. Consequently, variations in the number of LFA holdings recorded in the FSS between full survey years may not reflect developments on the ground very accurately. More weight should be put on the data from 1980, 1990 and 2000.

Trends in the total number of holdings and those receiving Compensatory Allowances in the LFA are shown for the EU-15 in Table 7.1. Bearing in mind the caveats set out above, it appears that the number of farms receiving payments in EU-15 countries has fallen over time with Austria a notable exception. In most cases the apparent number of farms in the LFA has been falling less rapidly, so the proportion receiving LFA Compensatory Allowances has been falling as well. Considering the position in 2000-2003 and taking account of separate data for 2004 on allowances paid from the Commission's CAP-IDIM statistics, the following pattern emerges:

- In a few Member States, notably Austria, Finland and Ireland, coverage is fairly complete, 90 percent or more holdings receiving Compensatory Allowances.

- In a second group including Germany, the UK and Luxembourg, the coverage is around 60-66 percent of farms. The proportion is similar in the Mountain LFA in France.

- In France as a whole, only about 40 percent of LFA farms receive Compensatory Allowances. This is because the proportion in the non-Mountain LFA is about 30 percent. It is also around 40 percent in Portugal, whilst being nearer to 50 percent in Sweden.

- In the remainder of Southern Europe, the proportion of farms receiving Compensatory Allowances is considerably lower, around 25 percent in Greece, 15 percent in Spain and only 6 percent in Italy.

- The proportion of farms receiving Compensatory Allowances is higher in the Mountains than in the 'Other' category in nearly all Member States. Spain and Austria, where the proportion of recipients is similar in the two LFA categories, are the exception.

The significant amount of small, part-time farms (often with a mix of crops and few if any livestock) found in Mediterranean regions helps to explain the low participation rate in Southern Europe. By contrast, the larger, predominantly grassland farms in much of North West Europe, meet the eligibility criteria more readily.

Following the Agenda 2000 reforms and the amendment of the LFA rules in the 1999 Rural Development Regulation, eligibility rules were adjusted in some Member States, with minimum size thresholds increasing, for example. This, and departures from the normal expenditure around the end of the programming period, may explain the significant changes in the number of farms receiving Compensatory Allowances around the advent of the Agenda 2000 legislation.

The area of agricultural land used as a calculation base for Compensatory Allowances, so in principle benefiting from payments, can be taken from the Commission's CAP-IDIM data systems (see IEEP, 2006). Data from earlier years than 2000, however, is not reliable. For 2000 onwards, it is possible to estimate the proportion of the UAA in the LFAs which is farmed using data on beneficiaries of the Compensatory Allowances. One would expect this to be less than 100 percent because:

- Many farms are ineligible for LFAs – (see above);

- In many Member States, there is a limit to the number of hectares on a farm on which Compensatory Allowances can be claimed. Consequently, some agricultural land on eligible farms will be excluded (as in Denmark, England, France, Ireland, Poland, Spain and Northern Ireland).

There is no definitive European record of the total UAA on farms within the LFA. The Farm Structure Survey (FSS) does include data of this kind but the extent to which it accurately reflects the situation on the ground is limited between the full sample years in 1990 and 2000, as noted above.

Both the FSS and CAP-IDIM are utilised in Table 8.2 in Chapter Eight. This gives an estimate of the area of UAA on which Compensatory Allowances were claimed in 2000-2003 and of the total proportion of the UAA covered. The pattern is similar to the proportion of holdings covered by the LFA policy, i.e. participation is greater in North West Europe than in the South.

- More than 90 percent of the UAA is farmed by LFA payment recipients in Luxembourg, Ireland and Finland, but nearer to 70 percent in Austria.

- In France, only 35 percent of the UAA is covered, less than Spain where it is 42 percent, or Germany at 61 percent.

- In Portugal it is 28 percent, Greece 16 percent, whilst figures for Italy were not obtainable.

Whilst the data for some countries is missing, this analysis shows that in the EU-15, it is only in a minority of the Member States that more than half of the UAA in the classified LFAs benefits from a payment. A large area of UAA, especially in Southern Europe, does not benefit from a Compensatory Allowance.

Few irregularities in LFA payments

According to material collected by national consultants, LFA payments are provided regularly over time without serious irregularities in most countries. In Denmark, a slight irregularity arose in 2002, when the EU cofinancing rate changed from 25 percent to 50 percent. In the current programming period (2000-2006), Greece has adapted a new and simpler payment system, which provides LFA payments more regularly. In the past, there were often payment delays of up to 18 months due to the complexity of the payment system. In Portugal, only farmers subject to periodic monitoring have the payments delayed until the checks are completed. In Italy, delays also occur, especially where farm level checks have not been completed.

Table 7.1 Holdings in classified LFA areas estimated to have received LFA payments, 1985-2003

Member State	1985		1990		1995		2000		2003	
	holdings	as % of total LFA holdings	holdings	as % of total LFA holdings	holdings	as % of total LFA holdings	holdings	as % of total LFA holdings	holdings	as % of total LFA holdings
Italy [1)]	64150	5	92000	6	49969	4	21173	2	50172	6
Spain			228039	21	185373	20	143659	15	112514	15
Greece	213350	47	214151	42	180825	38	197324	41	118203	24
Portugal			111842	28	99338	32	58834	20	103234	40
France	133608	38	161559	49	131997	49	115293	41	108629	40
United Kingdom	53996	58	55935	66	57181	73			48931	57
Luxembourg	3242	74	2507	63	2402	76	2003	71	1590	65
Belgium	9208	67	7853	65	6635	66				
Germany	121760	46	245679		228919		154308	60	145222	66
Austria					97635	65	99285	72	105935	86
Finland					74733	84	73654	117	70108	94
Ireland [2)]	91605	69	100010	91	92636	80	92021	105	98800	118
Denmark							631		597	
Netherlands			1557		4850		3753		851	

[1)] For 1995 only 9 regions out of 21 replied
[2)] The shares >100 percent for 2000 and 2003 are likely due to payments to holdings which are not included in the FSS.
Source: Total number of holdings from Eurostat Farm Structure Survey; adapted LEI; Holdings with LFA payments: for 1985-1995 from 'The Agricultural Situation in the European Union', various reports; for 2000: Table from report on the 'Implementation of Articles 18, 19, 20 and 16 of Regulation 1257/99 in the EU-25 (IEEP, 2006); for 2003: European Commission, CAP-IDIM'.

Farm Payments and Incomes

Question 6a. *To what extent have LFA payments received by individual farms contributed to securing farm income?*

Introduction

Since the core objective of the LFA measure is to sustain agricultural land use, farms need to remain economically viable, generating sufficient income to continue some form of agricultural management. The form of management may alter, and structural change will occur so that land may be managed by fewer people, with the number of holdings falling over time. Nonetheless, there is a minimum level of income below which agricultural activity ceases to be worthwhile, whether in the short term or over a longer period when some level of investment in farming operations will be required.

It is difficult to forecast what this required income level is. A range of considerations including lifestyle preferences, expectations of future land values and cultural conditions influence the choices made by farming families alongside more universal income expectations. The income of the family as a whole, possibly derived from several different sources, may influence decisions about farming operations. Such factors help to explain why farming continues in some areas even when returns have dropped to levels which should appear unattractive in conventional economic terms.

The aim of the LFA measure is to make an effective contribution towards compensation for the handicaps faced by farmers in these regions, thereby raising incomes. This does not imply that full compensation is required or that there will be parity between farm incomes inside and outside the LFA which is sometimes misunderstood as the objective of the measure. However it does suggest that in the long run, farm incomes must be sufficiently attractive, in relation to other sources of income in the LFA, to keep resources in agricultural management.

To answer this question, data from the Farm Accountancy Data Network (FADN) is used. This enables a differentiated analysis of agricultural accountancy data for farms in Mountain LFAs (Article 18), 'Other' LFAs (Articles 16, 19 and 20) and non-LFAs of a country or region.

At the time of writing, this data was available only for the EU-15 and these Member States are the focus of this chapter. FADN provides different income indicators, as depicted in Figure 7.1:

- Farm Net Value Added (FNVA) covers remuneration for all agricultural production factors: labour, capital and land;
- In this case, labour includes both family labour and hired labour.

Given that the farming family is likely to be the main decision maker for the purposes of the continuity of agricultural management and of the holding itself, there are arguments for using an income indicator based on family labour such as Family Farm Income (FFI). This reflects the amount of income from agricultural activities earned

by farm family members. As the amount of family labour input will differ among farms depending on their size, FFI will be related here to labour input, expressed in Family Work Units (FWU). This allows a better comparison of income between different size farms.

Data considerations

Academic literature on EU wide farm incomes is scarce. FADN only provides data on income from agricultural activities. Therefore, FFI is likely to underestimate total farm household income. Monies from other sources are ignored (including wages from employment outside the agricultural sector, income from non-agricultural activities on the farm, social security benefits and other income transfers).

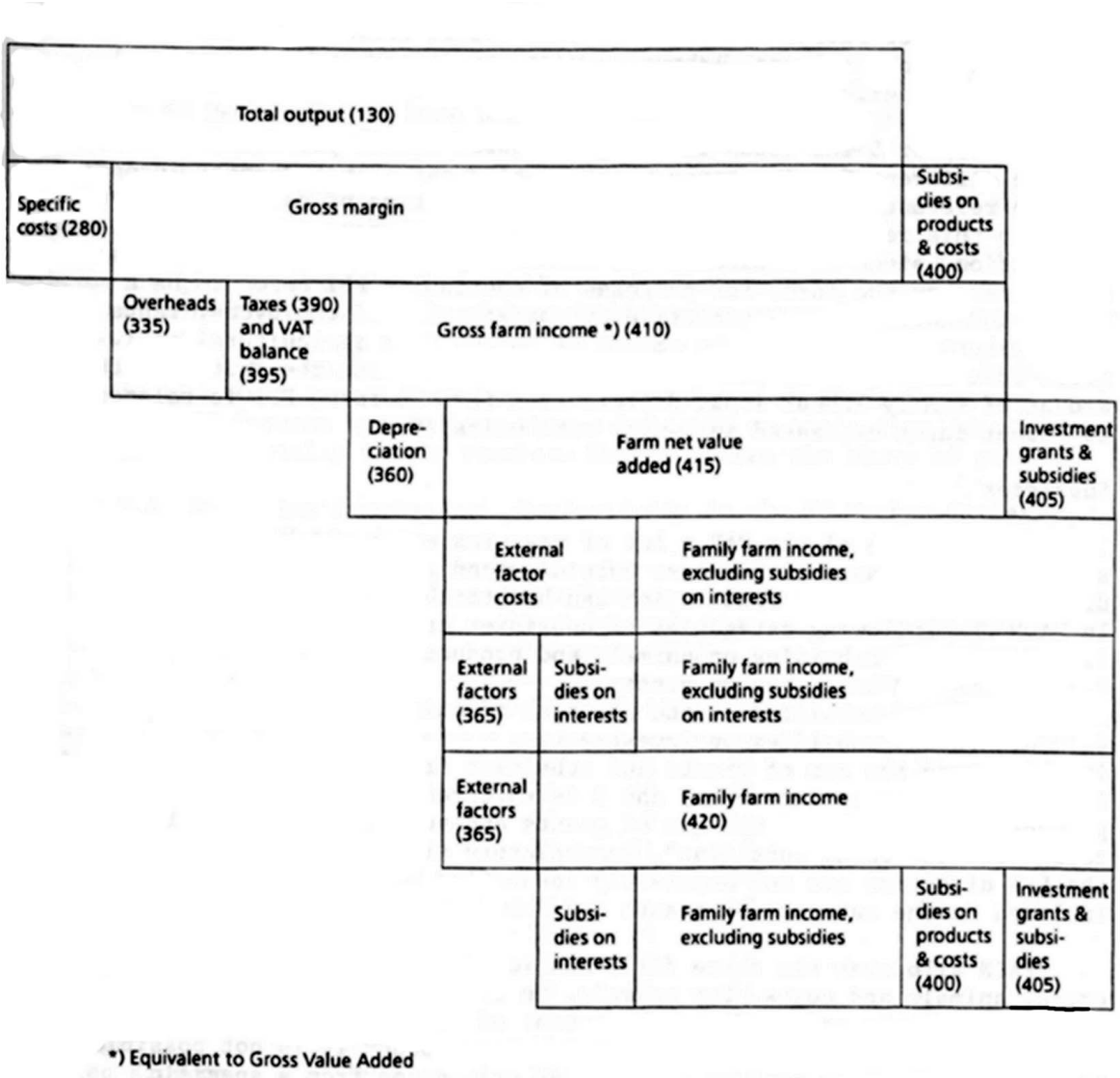
Outside income sources are quite substantial on some farms. At present, for example, according to the FSS, about 20 percent of farm holders in the BENELUX countries and over 60 percent of farm holders in Sweden have an income from such non-agricultural activities. In addition, in many cases, the other members of the farm family contribute to total farm household income.

As data on total farm household income in LFA and non-LFA areas in the EU are not available, we focus our analysis exclusively on farm income from agricultural activities. Consequently, a part of farm household income, which may be decisive for the continuity of the farm, is not taken into account.

Furthermore, FADN data does not cover all agricultural holdings in the EU: it only refers to commercial holdings over a certain economic size (European Commission, 2006). The representativeness of FADN varies between countries: ranging from about 35 percent of all farms in Italy to about 80 percent in Denmark, Ireland and the Netherlands in 2003. Additionally, the representativeness of FADN is not constant over time. The drawbacks of using FADN are therefore significant but there is no equivalent European database which is preferable.

In FADN, LFA payments have only been separately specified as 'LFA subsidies' since 2000. This implies that it is only possible to assess whether LFA payments have contributed to closing the farm income gap between LFA and non-LFA since 2000. Prior to 2000, LFA payments were included in the item 'total subsidies'. Due to changes in the CAP, the composition of the item 'total subsidies' has changed over time. Currently, it includes:

- Total subsidies on crops;
- Total subsidies on livestock;
- Agri-environment subsidies;
- LFA Compensatory Allowance;
- Other rural development payments;
- Subsidies on intermediate consumption;
- Subsidies on external factors and decoupled payments (EC, 2006).



NB. FADN codes in brackets

Source: Terluin *et al*. 1995.

Figure 7.1 Derivation of income indicators

Analysis

The first stage of the analysis is to examine trends in farm income in the LFA, as measured by the indicator selected – Family Farm Income per Family Work Unit. (FFI/FWU). This is done using FADN data for the EU for the time period since 1990, providing a picture of changes in income over time. Income data is available separately for Mountain LFAs (Article 18), 'Other' LFAs (Articles 19, 20 and 16) and non-LFAs in the EU-15 Member States. Since LFA payments have only been identified separately in FADN since 2000, the analysis of their contribution to farm income focuses on the subsequent years.

Table 7.2 provides data on the level of LFA payments on beneficiary farms per Member State and their contribution to the aggregate farm income in 2003 on the basis of FADN data. By this time the new area based payments were well established.

Table 7.2 Annual LFA payments per FWU by Member State, 2003

Member State[1)]	LFA payments per FWU		LFA payments / FWU as % FFI/FWU	
	Mountain LFA	Other LFA	Mountain LFA	Other LFA
	2003	2003	2003	2003
	(Euro)	(Euro)	(%)	(%)
Spain	232	243	1	1
Greece	475	294	5	3
Portugal	612	529	13	7
Italy	259	543	1	3
France	4284	834	28	5
Austria	2817	1057	21	7
Belgium		1284		4
Sweden	5986	1886	45	27
Germany		2276		21
Ireland		2571		19
United Kingdom		4896		25
Luxembourg		6683		26
Finland	5649	7588	33	50

[1)] Denmark and the Netherlands are omitted as FADN distinguishes no LFA farms due to the small and fragmented LFA in these countries.

Source: FADN-CCE-DG Agri; (adapted) LEI.

It can be seen that LFA payments per FWU differ considerably among countries. In 2003, they varied from just over €200 per FWU in Mountain LFAs (Article 18) in Spain to nearly €7600 per FWU in 'Other' LFAs (Article 19) in Finland (Table 7.2). In 2003, the aggregate LFA payments per FWU in Other LFAs (Article 19) broadly fell into four groups of countries:

1) €600 or less: Spain, Greece, Portugal and Italy;
2) Between €600 and €2000: France, Austria, Belgium and Sweden;
3) Between €2000 and €3000: Germany and Ireland;
4) Between €4900 and €7600: UK, Luxembourg and Finland.

In countries where Mountain LFAs (Article 18) are classified, it appears that the LFA payments per FWU are usually above that in 'Other' LFAs (except for Italy, Spain and Finland). Here again, aggregate LFA payments per FWU are lowest in Spain, Portugal, Italy and Greece: €600 or below in 2003. The highest LFA payments per FWU in Mountain LFAs are found in Finland and Sweden: between €5600 and €6000. Austria (€2800) and France (€4300) were in the mid range.

By comparison in 2000, the LFA payments per FWU in both 'Other' and Mountain LFAs were below those of 2003 in all Member States, although the country groupings were similar.

The contribution of LFA payments to farm income is diverse: ranging from 1 percent to 50 percent. There is a particularly striking differentiation between a group of North Western European countries at the top end of the range, and a group of Southern European Member States with generally lower payments at the other end. In every Member State, except Finland and Italy, the share of farm income derived from LFA compensatory allowances was higher in Mountain than in 'Other' LFAs, strikingly so in the case of France, Austria, Portugal and Sweden. Four groups of Member States can be distinguished:

- Spain, Greece, Italy and Belgium where the income contribution was around five percent or less.
- Portugal, where it was around 10 percent
- France, Germany, the UK, Ireland and Luxembourg where the contribution ranged from 19 to 28 percent.
- Finland and the Mountain LFA in Sweden where the contribution was between 33 percent and 50 percent.

If the data is further broken down to identify the main farming types within the LFA, differences between types can be observed but without a strong pattern. In many Member States the contribution of LFA payments to the income of 'beef and mixed cattle' producers is above the average for all sectors.

The variability of the contribution made to farm incomes, the differences between Southern and North West Europe and the greater dependence of Mountain than Other LFA farms on compensatory allowances in most Member States is broadly confirmed in other studies. In a group of eight Member States where the measure is applied relatively intensively, it appears to be contributing around 20-30 percent of agricultural income on the measure selected here. In France and Austria this contribution applies to the Mountain LFA; the proportion is much lower in the 'Other' LFAs.

Box 7.1. The contribution of the LFA payment to farm incomes in Bludenz Bregenzer Wald, Austria

In the Bludenz Bregenzer Wald in Austria, LFA payments make a significant contribution to farm incomes. As the level of handicap rises in the region, there is a corresponding increase in the level of reliance on direct payments and off-farm income often falls as well. Local experts commented that LFA payments constituted almost 20 per cent of net farm incomes in the area, whilst agri-environment payments made up nearer to 30 per cent. In the farms with most severe handicaps, LFA payments constituted about 30 per cent of net farm income and the contribution of agri-environment payments was smaller. Net farm incomes in the highest categories of handicap are lower than on farms with moderate handicaps as the greater LFA payments do not compensate fully for other factors, including larger direct payments.

Case studies undertaken for this evaluation generally support this view as do the results of another study of six Member States which involved an estimate of the contribution made by compensatory allowances to farm incomes in 2001-2002. This study suggested a share of around 1-15 percent in France in the "Simple" (non-Mountain) LFA, and 22-38 percent in Mountain areas, and a range of 22-82 percent in Finland. In Spain the contribution was around 11 percent, Bavaria, 12 percent and Austria, 19 percent (CJC Consulting 2003).

On the most dependent farms, the LFA contribution can reach a very high level. For example, on beef cattle and sheep farms in the LFA in England in 2000/2001 and 2001/2002, compensatory payments of around €7500 constituted 68-85 percent of net income on sample farms (ADAS 2003).

Farm incomes inside and outside the LFA

When considering income effects it is also possible to use FADN data to compare trends in farm income in the LFA and non-LFA in aggregate terms to see if there is a gap between the two, and whether it is closing. A gap in farm incomes is not surprising given differences in farm enterprises, in size, in intensity of production, and other factors – like for like comparisons are quite difficult to make. Nor is the gap a good proxy for the level of handicap. However, farms in the LFA have to compete with others, including holdings outside the LFA, and trends in the gap, and the proportion of it filled by the LFA payment provide a perspective on the long term viability of holdings.

Table 7.10 found at the end of this chapter shows aggregate LFA farm income as a percentage of non-LFA income in the EU-15 for selected years since 1990 including LFA subsidies. This table is based on FADN data, and thus refers to the sample of all farms in the LFA irrespective of whether they are beneficiaries of LFA payments or not.

The gap in farm incomes differs among countries and over time. Using the FFI/FWU indicator we can distinguish three groups of countries where, since 1990:

- FFI/FWU in the LFA was 40-60 percent of that in non-LFAs: Ireland and the UK.

- FFI/FWU in the LFA was 60-90 percent of that in non-LFAs: Germany, Italy, France, Austria and Belgium.

- FFI/FWU in the LFA was 90 percent or more of that in non-LFA: Greece, Spain, Portugal and Sweden. Indeed, in Portuguese 'Other' LFA and in both categories in Sweden since 2000, LFA incomes exceed the non-LFA baseline – prior to the payment of LFA allowances in some years.

There appears to be some relationship between the absolute level of FFI/FWU in non-LFA regions and the gap between farm income in LFA and non-LFA: the higher the

level of FFI/FWU in the non-LFA, the higher the gap tends to be between farm income in LFA and non-LFA. However, Ireland, Belgium and Spain deviate somewhat from this relationship. In the period 1990-2003, the farm income gap fluctuated in all countries. Such fluctuations relate to the nature of agricultural production and varying prices for key outputs such as milk and beef. On the whole, no tendency towards a widening of the gap in FFI/FWU in LFA and non-LFA is evident in the data. In addition, there seems to be no consistent difference between FFI / FWU in Mountain and 'Other' LFAs. In some cases the gap is higher in Mountain LFAs (Article 18); in others it is higher in 'Other' LFAs.

Highly aggregated comparisons of this kind are helpful in illuminating the differences between Member States, but need to be treated with an element of caution. The simple comparison between farming in the two main categories of LFA and the non-LFA can hide significant differences between these broad zones and between farming types. This is illustrated in Table 7.10 which also presents farm income data for the different Member States for four separate farm types as well as for the country as a whole. Four out of ten FADN farm types have been selected in order to contrast arable farming with the main livestock production systems. These are some of the most prevalent farm types in the LFA. The table shows:

- Considerable variations in income between different farming types and between them and the LFA average for the country;

- Considerable variations between Member States in the relative income ratios achieved by specific farming types within the LFA;

- Notable fluctuations over time in the relative performance of different farming types;

- The generally higher LFA/non-LFA farm income ratio achieved by the LFA livestock systems relative to the arable systems.

FADN data available for the years since 2000 shows that LFA allowances do reduce the difference between aggregate LFA and non-LFA agricultural incomes, as measured by FFI/FWU in those Member States where this can be compared. Table 7.3 presents this information for the EU-15 Member States, for the year 2003.

Whilst the difference between aggregate farm incomes inside and outside the LFA is only a crude indicator of the actual income gap between individual holdings with comparable farm businesses, it shows the role of the LFA payments from a different perspective. In some Member States there is quite a large difference in aggregate incomes, but this is not the case everywhere, for example, in Portugal, Spain and Sweden in 2003. The scale of the LFA payment relative to the income difference is also highly variable, being in the range of 1 to 104 percent. In 2003 it was around 10-15 percent in several Member States, less in Southern Europe. As a proportion of the income difference, it is greatest in those Member States with the larger payments or lowest non-LFA payments, for example Sweden. It is a higher proportion of the income difference in the Mountain than in the 'Other' LFAs, corresponding to the pattern of evidence on the significance of LFA payments for farm income.

Table 7.3 Family Farm Income (FFI) per family work unit (FWU) in LFA and non-LFA in the EU, 2003.

Member State	FFI/FWU (excluding LFA subsidies)					LFA subsidies per FWU		FFI/FWU				Contribution LFA subsidies per FWU to closing the gap FFI/FWU in LFA and non-LFA	
	Non-LFA	Mountain LFA	Other LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	Mountain LFA	Other LFA	Mountain LFA	Other LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA
	(Euro)	(Euro)	(Euro)	(%)	(%)	(Euro)	(Euro)	(Euro)	(Euro)	(%)	(%)	(% points)	(% points)
Belgium	33059		27956		85		1284		29240		88		4
Germany	18553		8555		46		2276		10831		58		12
Greece	10993	9995	8194	91	75	475	294	10470	8489	95	77	4	3
Spain	19457	19590	22070	101	113	232	243	19822	22313	102	115	1	1
France	21409	11104	16041	52	75	4284	834	15389	16875	72	79	20	4
Ireland	24602		11186		45		2571		13757		56		10
Italy	26749	19510	17786	73	66	259	543	19770	18330	74	69	1	2
Austria	18284	10690	14192	58	78	2817	1057	13507	15249	74	83	15	6
Portugal	5116	3933	7281	77	142	612	529	4545	7810	89	153	12	10
Sweden	5759	7248	5199	126	90		1886	13234	7085	230	123	104	33
United Kingdom	34440		15061		44		4896		19957		58		14
EU-12	**21623**	**14848**	**14612**	**69**	**68**		**1077**	**15654**	**15689**	**72**	**73**	**4**	**5**
EU 15	**21421**	**14326**	**14331**	**67**	**67**		**1227**	**15549**	**15557**	**73**	**73**	**6**	**6**

[1] Denmark, Luxembourg, the Netherlands and Finland are omitted.

Source: FADN-CCE-DG Agri; LEI (adapted).

Conclusions

The level of farm income required to maintain agricultural management in the LFA is uncertain. Data from farm incomes can be derived from FADN for the EU-15, although this does introduce some methodological problems, such as the under-representation of farms in some Member States, especially in the Mediterranean. Data from this source suggests that:

- LFA payments per FWU have exhibited large variations among Member States. In 2003, these payments ranged from less than €600 in Spain, Portugal, Italy and Greece in 'Other' LFAs to €4900-€7600 in the UK, Luxembourg and Finland.

- The contribution of LFA payments to farm incomes (measured by Family Farm Income per FWU) is diverse. At Member State level, there is a broad gradation from North West to Southern Europe. In 2003, the contribution was around 19 to 28 percent in a group of Member States which have implemented the measure quite widely – France, Germany, the UK, Ireland and Luxembourg. It was above this in Finland, and parts of Sweden, but around five percent or less in a group of Southern Member States. The farms in Mountain LFAs are more dependent upon LFA payments than those in the 'Other' category.

Question 6b. *Which other direct payments did farms receive and which was the proportion of total transfers in farm incomes?*

Direct payments analysis

The next question to be addressed is the level of direct payments received by farmers in the LFA and the proportion of total income from agricultural sources which these constituted. As in the previous analysis, FADN data is used and only income from agricultural sources is considered. The focus is on EU-15 Member States utilising data for the period up to 2003.

Farmers in the LFA and elsewhere receive subsidies and direct payments from different sources. These appear under the item of 'total subsidies' in FADN which includes:

- All subsidies and direct payments for crops, livestock and the super levy on milk (negative);

- Other subsidies (for activities related to tourism and forestry, environmental and afforestation programmes, structural aid);

- Agri-environmental payments;

- LFA payments and subsidies on intermediate consumption.

Data showing total payments and subsidies on this definition by Member State for the year 2003 is provided in Table 7.4. This is presented per FWU.

In 1990, the total amount of subsidies and direct payments per FWU in LFAs was above that in non-LFAs. The absolute amount of subsidies and direct payments varied from about €360 per FWU in Mountain LFAs (Article 18) in Portugal, to over €9200 per FWU in Other LFAs in the UK. This picture changed from 1995, due to the introduction of direct payments for arable products, cattle and sheep in the MacSharry reform (1992). The absolute amount of subsidies and direct payments per FWU increased considerably and the differences between non-LFAs and LFAs became smaller. In the LFAs in Ireland, Italy, Austria, Sweden and the UK, the amount of subsidies and direct payments per FWU has been less than that in non-LFAs in recent years.

Table 7.4 Total subsidies and direct payments per family work unit (FWU) in LFA and non-LFA in the EU, 2003.

Member State	Total Subsidies and Direct Payments per FWU					LFA Subsidies per FWU	LFA Subsidies as a Percentage of Total Subsidies	LFA Subsidies per FWU	LFA Subsidies as a Percentage of Total Subsidies
	Non-LFA	Mountain LFA	Other LFA	Mountain LFA/Non-LFA	Other LFA/Non-LFA	Mountain LFA		Other LFA	
	(Euro)	(Euro)	(Euro)	(%)	(%)	(Euro)	(%)	(Euro)	(%)
Belgium	6900		15071		218			1284	9
Denmark	28499								
Germany	17629		18798		107			2276	12
Greece	2942	4432	4055	151	138	475	11	294	7
Spain	4430	6675	6464	151	146	232	3	243	4
France	15322	16861	23026	110	150	4284	25	834	4
Ireland	14291		12493		87			2571	21
Italy	6376	5250	5707	82	90	259	5	543	10
Luxembourg	4943		28810		583			6683	23
Netherlands	6320								
Austria	14329	10798	10320	75	72	2817	26	1057	10
Portugal	1856	2617	5354	141	289	612	23	529	10
Finland		26638	31941			5649	21	7588	24
Sweden	27988	31061	21832	111	78	5986	19	1886	9
United Kingdom	30550		27986		92			4896	17
EU-12	**10134**	**6341**	**11436**	**63**	**113**	**806**	**13**	**1077**	**9**
EU 15	**10371**	**7822**	**12011**	**75**	**116**	**1224**	**16**	**1227**	**10**

Source: FADN-CCE-DG Agri; adapted LEI.

From 2000 onwards, it has been possible to distinguish the LFA payments from the total subsidies and direct payments within FADN. In 2003, the share of LFA payments in the total amount of subsidies and direct payments received by farmers in the LFA (in the FADN sample) varied among EU Member States. For 'Other' LFAs the share was:

- Less than seven percent in Greece, France, and Spain;
- Around 10 percent in Belgium, Denmark, Italy, Austria, Portugal and Sweden;
- Between 17 percent and 24 percent in Ireland, Luxembourg, Finland and the UK (Table 7.4).

In Mountain LFAs, the share of LFA payments has been a little higher than that in 'Other' LFAs. For Mountain LFAs the share in 2003 was:

- Around five percent or less in Spain and Italy;
- 11 percent in Greece;
- Between 19 and 26 percent in France, Austria, Portugal, Sweden and Finland.

On the whole, a similar pattern appears in 2000.

This highly aggregated information allows us to look at the proportion of income from agricultural sources that is made up of subsidies as a whole, including Compensatory Allowances, in the LFA (see Table 7.5).

It is clear from the data that farms in the FADN sample are reliant on the combined subsidies and payments to a considerable degree. From 1990 to 2003, the share of total subsidies in farm income as measured by FFI/FWU increased in both LFAs and non-LFAs induced by changes in the CAP. This trend reveals that farm income has, in most cases, become more dependent on subsidies and other direct payments. On the whole, the share of subsidies in FFI/FWU in LFAs is above that in non-LFAs. In countries with both Mountain LFAs and 'Other' LFAs, the share of subsidies in FFI/FWU is usually larger in the 'Other' LFAs. Nevertheless, there are large differences in the share of subsidies in farm incomes among Member States, both in LFAs and non-LFAs. Looking at the share of subsidies in FFI/FWU in 'Other' LFAs in 2003, we can distinguish three groups of countries:

- Those with a subsidy share of between 30 and 50 percent: Greece, Spain and Italy;
- Those with a 50 to 75 percent subsidy share: Belgium, Austria and Portugal;
- Those with a subsidy share of nearly 100 percent or more (up to 300 percent): Germany, France, Ireland, Luxembourg, Finland, Sweden and the UK.

In this last group, FFI/FWU would be negative without subsidies. Farms in Mountain LFAs, particularly in France, Austria, Finland and Sweden also showed a high share of subsidies in farm income, close to 100 percent or more in 2003. Given the proportion of LFA payments in total subsidies (less than 25 percent in the great majority of cases), it could be argued that other subsidies and direct payments are likely to be more important in sustaining farm incomes in LFAs than LFA payments.

Some types of livestock farming are more dependent on subsidies than the generality of producers. The FADN data suggests that in many cases, livestock producers within the LFA are more dependent on subsidies than those outside the LFA. For example, subsidies constituted between 145 percent and 469 percent of the FFI/FWU for sheep producers in the UK during the 1990 to 2003 period. By contrast, dairy farmers in several Member States were less dependent on direct subsidies than the aggregate of LFA farms, Germany was a case in point.

If subsidies are categorised by principal type of support provided (rather than by the type of recipient), the importance of livestock support mechanisms for farms in the LFA is equally clear.

FADN data for 2003 show that livestock support measures nearly always constitute a larger share of total support in the LFA than they do outside it. Within the LFA, crop and livestock subsidies constitute the largest proportion of total support, with the balance between the two varying considerably between countries. Livestock subsidies are more important in the LFA in Belgium, Ireland, Luxembourg, the UK and the mountains in France, Austria, Portugal and Finland – as well as the 'Other' in Italy.

Two factors lie behind this. First agriculture in the LFAs, in a majority of EU-15 countries, especially in North West Europe, is more oriented towards animal production than in non-LFAs. Second, crop producers in the LFA are most concentrated in Southern Europe, Finland and Sweden and include many small producers. The scale of cropping in the 'Other' LFA in some Member States is underlined by the fact that more than 40 percent of total subsidies in this category of LFA consists of crop subsidies in Germany, Greece, Spain, France, Portugal and Finland. A comparison of the share of grazing livestock farms (dairy, other cattle, sheep and goats) in the total number of farms reveals that this share is usually higher in LFAs than in non-LFAs (Table 7.6). Nevertheless, in quite a number of LFAs, farms with field or permanent cropping systems are more numerous than grazing livestock farms. Subsidies on "other cattle" such as premiums for suckler cows and young male cattle are relatively important in LFAs in Belgium, Spain, France, Ireland, Portugal and the UK; whereas subsidies on sheep and goats are relatively high in Greece, Spain, Italy, Portugal and the UK. In LFAs in Germany, France, Ireland, Italy, Luxembourg, Austria, Portugal, Finland and Sweden, the share of agri-environmental subsidies was over 10 percent in 2003.

Table 7.5 Share of total subsidies and direct payments in family farm income (FFI) per family work unit (FWU) in LFA and non-LFA in the EU, 1990 - 2003 (%).

Member State	Non-LFA				Mountain LFA				Other LFA			
	1990	1995	2000	2003	1990	1995	2000	2003	1990	1995	2000	2003
Belgium	2	15	14	21					12	45	45	52
Denmark	17	96	87	1633								
Germany	11	83	59	95	25				26	90	89	174
Greece	7	15	40	27	18	34	38	42	14	30	55	48
Spain	9	29	27	23	14	41	37	34	8	38	29	29
France	6	49	59	72	36	68	72	110	24	83	95	136
Ireland	22	39	52	58					47	56	83	91
Italy	3	17	35	24	6	19	35	27	9	33	41	31
Luxembourg			7	18							87	114
Netherlands	0	7	8	23								
Austria		78	58	78		58	56	80		68	59	68
Portugal	12	28	26	36	14	43	47	58	23	69	63	69
Finland		185				90	145	157			174	212
Sweden		301	472	486			252	235		259	218	308
United Kingdom	13	48	135	89					101	96	259	140
EU-12	6	38	46	47	14	35	42	41	24	63	64	73
EU-15		40	47	48		44	50	50		65	68	77

Source: FADN-CCE-DG Agri; LEI (adapted)
NB: In cases where the percent is greater than 100, the farm income prior to subsidy was negative.

Table 7.6 Share of grazing livestock farms in total number of farms in the EU-15, 2003 (%).

Member State	Mountain LFAs	Other LFAs	Non-LFA	Total share in whole country
Belgium		92	39	46
Denmark			19	19
Germany	93	50	27	41
Greece	12	6	3	7
Spain	23	12	7	14
France	65	36	28	36
Ireland		97	84	92
Italy	17	7	5	9
Luxembourg		58		58
Netherlands			50	50
Austria	81	34	24	55
Portugal	9	19	11	12
Finland	36	16		27
Sweden	46	53	22	40
United Kingdom		84	39	60

NB. Grazing livestock farms include dairy and beef cattle, sheep and goat farms.
Source: Authors' calculation based on EU Farm Structure Survey data.

Conclusions

Due to changes in the CAP, the share of total subsidies and direct payments in farm incomes (measured by FFI/FWU) increased in both LFAs and non-LFAs in the period 1990-2003. On the whole, the share of subsidies in the total income of farms within the LFA is greater in percentage terms than that of farms outside the LFA. In countries with both Mountain LFAs and 'Other' LFAs, the share of subsidies in farm income tends to be higher in 'Other' LFAs.

Livestock related payments were the largest component of total subsidies and payments within the LFA in some Member States in 2003, but crop related subsidies were more significant in others, especially in Southern Europe and the 'Other' LFA. Agri-environment payments were in the range of 10-20 percent of total subsidies in several Member States but only in a few cases, such as Austria, were they a larger proportion of the total than LFA payments.

In most countries, the current patterns have not changed since the mid-1990s. The share of LFA payments in total subsidies has been limited greatly in the years examined here, reaching a high point of around 25 percent in the 'Other' LFAs in Luxembourg and Finland, and in Mountain LFAs in France, Austria and Portugal in 2003. Given this relatively small share of LFA payments in total subsidies, it could be argued that other subsidies and direct payments are likely to have been more important in sustaining farm income in LFAs than LFA payments.

Impact of Payments on Land Purchase Prices and Rent Prices

Question 7 *To what extent did the move to payments per hectare have an impact on land purchase prices and rent prices?*

In principle, the level of farm profitability and the expectation of future profitability will have an impact on the agricultural land price and on rents. Profitability should be positively correlated with agricultural land price. Policies increasing profitability will tend to increase price whether they operate through market support, direct payments or other mechanisms.

There is limited reliable data on agricultural land prices in the EU, although average land price figures for selected Member States are illustrated in Table 7.7 for the year 2002. Eurostat data does not appear to be collected on a consistent basis and it is difficult to determine the difference between LFA and non-LFA land prices with any confidence.

Variations in agricultural land prices reflect land productivity, potential profitability and other factors, particularly non agricultural demand for land and perceived long term investment potential. The significance of agricultural as opposed to other factors in driving land prices will vary. Usually it will be less, for example, in densely populated peri-urban and coastal areas. Trends in agricultural land price in individual regions do not track agricultural policy change very precisely although there is a linkage in place. If non-agricultural factors are removed, more productive land attracts a higher price than lower-yielding land, so LFA values will be lower. This is the case in practice. However, alternative uses such as forestry or recreation or housing provide a floor in the market even where agricultural productivity is low.

Table 7.7 Average land price in selected EU countries, 2002.

Member State	Average price (€/ha)
The Netherlands	27,000
UK	10 - 11,000
Greece	7,500
Sweden	2,000
Germany	18 - 25,000
Denmark	10,600
Finland	4 - 5,000
Austria	17,000
France	5 - 9,000

Source: Ossko Andras, Sonnenberg Jan (2002) Rural Land Market in Central and Western Europe, FIG XXII International Congress on Understanding and Supporting Land Market Development, Washington DC USA, April 19-26 2002, except for French data.

LFA policy provides some compensation for the relatively low net value added per hectare on eligible land. However, as demonstrated in Chapter Six, it does not fully compensate for the disadvantage on most farms. Nonetheless, the LFA payment does contribute significantly to net farm incomes (20-50 percent) in some Member States in the 'Northern Group'. In these and other areas, the expectation of future support from the LFA system might be factored into the land price. However, actors on the ground generally considered the influence of the LFA on land prices to be weak in most areas.

In principle, the sustained provision of area payments, as in the LFA, will be a factor in raising agricultural land prices above the market level in their absence. However, there is insufficient empirical evidence to provide an objective view of the specific roles of the many diverse factors affecting agricultural land prices in different parts of Europe. Isolating the effect of LFA payments is difficult. Interviews with stakeholders at national level revealed little evidence of significant changes in land prices since the introduction of area payments, and in most regions a view that compensatory allowances were not a major driver of land prices.

In principle, the impact of LFA payments on farm land prices might be greatest where:

- Agricultural factors are most important in determining farm land prices and other factors play a lesser role;

- Levels of disadvantage are relatively high and so purely agricultural price factors will normally be relatively low; compensatory payments will be potentially most significant in these conditions;

- Actual compensation payments are relatively high.

The limited evidence from interviews with local actors tended to confirm this view. The only Member States where stakeholders viewed LFA payments as having a potentially observable impact on farmland prices were those on remoter land with lower productivity, as in Scotland. Non-agricultural factors were considered important in many regions. The conversion to area payments would not be expected to influence farmland prices per se, unless it resulted in a change in farm profitability or a significant redistribution of payments. The switch to a different policy instrument which happens to be linked to the land area does not alter the scale of the transfer payment or its overall impact on farm profitability and, by extension, land prices.

Due to the fact that the most recent FADN data available only runs to 2003, it is of limited value in assessing the impact of the switch from headage to area payments, which occurred from 2000. In some Member States, livestock headage payments were permitted for a further year. In general there is some link between the livestock numbers and the area of a farm. However, the switch to area payments could have been expected to bring about significant changes in the distribution of payments between farms. In practice, this has occurred on a more limited scale than anticipated (see analysis in Chapter 5 and the case studies for this report). Some smaller farms have fallen out of the LFA payments system since 2000 and the switch to area

payments may have contributed to this. However, other income distribution effects seem to have been dampened by a number of factors. These include:

- Changes in the eligibility rules, for example, favouring farms with grazing livestock;

- A variety of limitations on the number of hectares per farm eligible for the full or reduced level of payment;

- Other payment system rules which favour small farms or constrain the scale of payments to farms with large amounts of land;

- Transitional arrangements to dampen the impact of the change in the initial years in several Member States.

Some redistribution will have occurred and the profitability of certain farms will have been altered, for example, where livestock numbers were previously higher than otherwise rational in management terms because of the availability of a headage subsidy. The precise scale or location of changes in farm profitability is not clear however.

In considering where land price impacts might be greatest, it is worth noting the large variations in average LFA compensation payments per hectare in 2004 (Table 6.1 in Chapter Six). In the new Member States, LFA payments appear to represent a higher proportion of agricultural land prices than in the EU-15, suggesting that the price impact might be greater. In the EU-15, there are several Member States where LFA payments are above the EU average and the proportion of farmland receiving LFA payments is more than 25 percent of the UAA. Land price effects might be more apparent in these Member States, although the importance of non-agricultural factors in driving prices will vary greatly, potentially being high, for example, in areas of high recreational value in the Alps. A number of Member States, including Austria, Finland, Greece, Ireland and Luxembourg have above average LFA payments and more than 25 percent of agricultural land benefiting from LFA payments in 2004.

In considering the scale of impact, the level of payments, their relationship to prevalent land prices and the conditions attached to the payment, including the requirement to pursue a farming activity for at least five years, are all relevant. Not all farmland in the designated LFA area benefits from a payment because of the eligibility rules and payment systems, as explored at the beginning of this chapter. This factor and other conditions, such as the need to respect Good Farming Practice, and any livestock stocking density requirements that accompany it, will tend to reduce the scale of impact. Interviews with stakeholders at the national or local level corroborated this point.

Question 8. *To what extent did the level and modulation of LFA payments have an impact on farm structures in the areas concerned?*

Impact of LFA Payment Level and Modulation on Farm Structures

Introduction

This question is addressed in a series of steps. First, we analyse the development of farm structures in LFAs, taking non-LFAs as a comparator. In particular, we focus on changes in:

- The number of farms;
- Utilised Agricultural Area;
- The size of farms in hectares;
- The agricultural labour force; and
- Labour input per farm.

Given the fact that LFAs are characterised by natural or other handicaps that can be expected to affect production adversely, we examine whether the number of farms in LFAs has declined at a faster rate than in non-LFAs.

In the absence of any intervention, we might expect farm numbers to decline faster in the LFA than outside it because of the prevalence of low incomes (discussed above). Where LFA payments are made these are not sufficient to close the income gap. As such, even with payments taken into account we might expect farm numbers to decline faster in the LFA.

Similarly, considering the variations in the gap in farm incomes between the LFAs and non-LFAs among Member States (see Question 6a), we investigate whether the decrease in the number of LFA farms tends to be higher than that in non-LFAs in line with the income gap.

For this analysis, we use data from the Eurostat Farm Structure Survey (FSS), which is conducted periodically in order to collect data on the structure of farms. Full surveys are conducted once a decade and sample surveys three times a decade. The data from the full survey years, for example 1980, 1990 and 2000 is more reliable than that for other years and is preferable in reaching judgements on underlying trends, for example in UAA. In the analysis, we focus on developments in the period 1990-2003 as in Question 6.

A comparison of this kind between farms within and outside the LFA would lose validity if there have been major changes in the classification of LFAs over time. From Table 7.8, it appears that the share of LFAs in total Utilised Agricultural Area (UAA) between 1990 and 2003 is fairly stable in all EU-15 countries. Exceptions are found in Italy where there is an apparent small decrease but questions about the data, and France (apparent small increase). In these two countries, the comparative analysis could be affected by the change in the geographical extent of LFAs; otherwise the composition of the two groups of farms appears to have changed only to a small extent.

Table 7.8 Share of LFA in total Utilised Agricultural Area (UAA), of the EU-15 1980-2003 (%)

Member State	1980	1990	1995	2003
Belgium	20	20	20	20
Denmark	0	0	0	0
Germany	41	n.a.	n.a.	49
Greece		69	66	70
Spain		75	79	78
France	35	38	38	44
Ireland	48	53	66	52
Italy	51	58	57	49
Luxembourg	98	98	98	98
Netherlands	0	0	0	0
Austria			68	67
Portugal		85	85	88
Finland			84	100
Sweden			47	48
United Kingdom	42	47	43	46

Source: EU Farm Structure Survey.

Four EU Member States are excluded from this comparative analysis of farm structures. These are Finland and Luxembourg, due to the fact that the LFA designation applies to virtually the whole country in both cases, and Denmark and the Netherlands, as the FSS does not distinguish LFA farms in these countries due to their both having a very small area of LFA. In addition, Germany could not be covered in the analysis due to the time series data for this country being incomplete in FSS as a result of unification. Data for Finland, Sweden and Austria were only collected in the FSS from 1995 onwards, when these countries entered the EU.

A second step in answering this question is to explore whether trends in farm structures have been affected by the level and modulation of the LFA payments. To examine this relationship we divide the EU-15 Member States into two groups according to the aggregate levels of LFA payments in this period:

Group 1: Sweden, Germany, Ireland, the UK, Finland and Luxembourg

- Level of LFA payments per FWU close to or greater than €2000 (2003)
- Share of LFA payments in FFI/FWU of 20 percent or more.

Group 2: Spain, Greece, Portugal, Italy, France, Austria and Belgium

- LFA subsidies at a lower level, whether measured by FWU or by farm;
- The share of LFA subsidies in farm income measured by FFI/FWU is relatively low (Tables 7.3 and 7.5).

Changes in farm structures in the two groups of Member States can be compared, considering any differential between rates of change inside and outside the LFA boundary. Changes in the total number of farms in the LFA and non-LFA are taken as a proxy for a broader suite of structural changes.

In those Member States with a relatively high level of LFA payments, structural change might be expected to occur more slowly than in others where LFA payments made a larger contribution to farm incomes. This hypothesis can be tested with the data available at aggregate Member State level, with the exceptions noted above.

Finally, to address the relationship between the development of farm structure and the modulation of LFA payments, we divide the EU-15 Member States into two groups: one with and one without modulation of payments. From the analysis in Chapter Five it appears that Denmark, Estonia, the Netherlands and Malta are the only four countries that apply a flat rate payment, and that all the other Member States apply some form of modulation, although the form and extent vary considerably.

Unfortunately, we do not have information about the development of farm structures in LFAs in the countries with a flat rate payment. Furthermore, with new Member States joining the EU only in 2004, insufficient time has elapsed to assess any structural changes that might be associated with LFA payments. Without a reference group, therefore it is very difficult to assess the impact of modulated payments on the development of farm structures in LFAs from FSS data. Likewise, we are unable to make a clear comparison between Member States employing strong and weak forms of modulation due to a lack of a clear grouping of Member States in this regard. Variations in the approach adopted by Member States and in national settings make it difficult to classify them into groups (see Chapter Six).

In comparing the development of farm structures in LFAs and non-LFAs, there is an implicit assumption that the LFA status could affect the evolution of farm structures. However, many other factors play a role in this development, and distinguishing these is not easy at a European level.

Changes in farm numbers

Table 7.9 (drawing on FSS data) sets out changes in the number of farms in the EU-15, based on FSS data for the years 1990 to 2003. Only in a few Member States was the decline in the number of farms in LFAs greater than in the non-LFA.

There were about six million farms in the EU-14 (excluding Germany) in 2003, of which almost 30 percent were in Mountain LFAs and about 25 percent in 'Other' LFAs (Table 7.9). In the years 1990 to 2003, there were varying patterns between Member States in the pace at which farm numbers declined.

- Belgium, Spain, Ireland, UK - the number of farms in LFAs declined at a higher rate than in non-LFAs (data from 1990 to 2000);
- France and Portugal - the pattern was opposite to the first group, with farm numbers declining at a faster rate in non-LFAs;
- Italy - the data is difficult to interpret, but the impression arises that the number of farms in the LFA declined at a slower rate than those in the non-LFA;
- Greece - the trend is unclear. The number of farms in Mountain LFAs declined at a faster rate than those in non-LFAs, but the number of farms in 'Other' LFAs increased slightly;
- Austria - the number of farms in LFAs declined at a slower rate than those in non-LFAs since 1995;

Sweden - there is a similar pattern to Austria for 'Other' LFAs, however, there was a sharp decline in the number of farms in Mountain LFAs.

Table 7.9 Number of farms in LFA and non-LFA regions 1990, 1995, 2000 and 2003.

Member State	Year				Change (% per year)			
	1990	1995	2000	2003	1990 -1995	1995-2000	2000-2003	1990-2003
Belgium								
Mountain LFA								
Other LFA	12050	10090	8390	7150	-3.5	-3.6	-5.2	-3.9
Non-LFA	72990	60890	53320	47790	-3.6	-2.6	-3.6	-3.2
Total	85040	70980	61710	54940	-3.5	-2.8	-3.8	-3.3
Denmark								
Mountain LFA								
Other LFA								
Non-LFA	81270	68770	57830	48610	-3.3	-3.4	-5.6	-3.9
Total	81270	68770	57830	48610	-3.3	-3.4	-5.6	-3.9
Germany								
Mountain LFA			17940	15850			-4.0	
Other LFA			238820	205390			-4.9	
Non-LFA			215210	191070			-3.9	
Total			471960	412300			-4.4	
Greece								
Mountain LFA	305310	286500	279130	288100	-1.3	-0.5	1.1	-0.4
Other LFA	203650	189610	202450	207240	-1.4	1.3	0.8	0.1
Non-LFA	341190	326290	335480	329120	-0.9	0.6	-0.6	-0.3
Total	850140	802410	817060	824460	-1.1	0.4	0.3	-0.2
Spain								
Mountain LFA	506250	403980	391210	335590	-4.4	-0.6	-5.0	-3.1
Other LFA	567980	511720	539500	408680	-2.1	1.1	-8.8	-2.5
Non-LFA	519410	361900	356710	396460	-7.0	-0.3	3.6	-2.1
Total	1593640	1277600	1287420	1140730	-4.3	0.2	-4.0	-2.5
France								
Mountain LFA	130970	105660	103800	102250	-4.2	-0.4	-0.5	-1.9
Other LFA	202010	162550	175410	167880	-4.3	1.5	-1.5	-1.4
Non-LFA	590610	466590	384600	343870	-4.6	-3.8	-3.7	-4.1
Total	923590	734800	663810	614000	-4.5	-2.0	-2.6	-3.1
Ireland								
Mountain LFA								
Other LFA	109560	116160	87270	84030	1.2	-5.6	-1.3	-2.0
Non-LFA	61020	37250	54260	51220	-9.4	7.8	-1.9	-1.3
Total	170580	153420	141530	135250	-2.1	-1.6	-1.5	-1.8
Italy								
Mountain LFA	867510	848090	679610	610910	-0.5	-4.3	-3.5	-2.7
Other LFA	557800	520110	301460	282420	-1.4	-10.3	-2.2	-5.1
Non-LFA	1239250	1113900	1172660	1070490	-2.1	1.0	-3.0	-1.1
Total	2664550	2482100	2153720	1963820	-1.4	-2.8	-3.0	-2.3

Luxembourg								
Mountain LFA								
Other LFA	3950	3180	2810	2450	-4.2	-2.4	-4.5	-3.6
Non-LFA								
Total	3950	3180	2810	2450	-4.2	-2.4	-4.5	-3.6
Netherlands								
Mountain LFA								
Other LFA								
Non-LFA	124800	113200	101550	85500	-1.9	-2.1	-5.6	-2.9
Total	124800	113200	101550	85500	-1.9	-2.1	-5.6	-2.9
Austria								
Mountain LFA	0	107900	99450	90280		-1.6	-3.2	
Other LFA	0	42230	38380	32370		-1.9	-5.5	
Non-LFA	0	71630	61640	51110		-3.0	-6.1	
Total	0	221750	199470	173770		-2.1	-4.5	
Portugal								
Mountain LFA	286030	219420	207050	182360	-5.2	-1.2	-4.1	-3.4
Other LFA	120500	93380	90330	77520	-5.0	-0.7	-5.0	-3.3
Non-LFA	192210	137840	118580	99400	-6.4	-3.0	-5.7	-4.9
Total	598740	450640	415970	359280	-5.5	-1.6	-4.8	-3.9
Finland								
Mountain LFA		58310	46540	42980		-4.4	-2.6	
Other LFA		30590	16260	31970		-11.9	25.3	
Non-LFA		12050	18390	0		8.8	-100.0	
Total		100950	81190	74950		-4.3	-2.6	
Sweden								
Mountain LFA		17310	16090	11110		-1.5	-11.6	
Other LFA		38220	35160	31350		-1.7	-3.8	
Non-LFA		33300	30160	25430		-2.0	-5.5	
Total		88830	81410	67890		-1.7	-5.9	
United Kingdom								
Mountain LFA								
Other LFA	84530	78110	78140	86130	-1.6	0.0	3.3	0.1
Non-LFA	158530	156390	155110	194490	-0.3	-0.2	7.8	1.6
Total	243060	234500	233250	280630	-0.7	-0.1	6.4	1.1
EU11 (excl Germany)								
Mountain LFA	2096070	1863650	1660800	1519210		-2.3	-2.9	-2.9
Non-LFA	3381280	2843020	2790100	2666950	-3.4	-0.4	-1.5	-1.8
Total	7339360	6391600	5936660	5509670	-2.7	-1.5	-2.5	-2.2
EU14 (excl Germany)								
Mountain LFA		2047170	1822880	1663580		-2.3	-3.0	
Other LFA		1795950	1575560	1419190		-2.6	-3.4	
Non-LFA		2960000	2900290	2743490		-0.4	-1.8	
Total		6803130	6298730	5826280		-1.5	-2.6	

Looking at the absolute rate of change in farm numbers, it thus appears that the rate of decline in LFAs and non-LFAs within countries does not differ greatly; differences are more pronounced among countries. This gives rise to the impression that the rate of decline in the number of farms in LFAs and non-LFAs is, to a significant degree, country specific. There is no clear relationship to the level of LFA payments.

A more in depth analysis could confirm whether these decreases reflect issues such as the viability of part time farms and alternative employment opportunities. Factors such as the profitability of the farm, patterns of succession, and local culture are also likely to play a role.

We might expect that in those Member States where the income gap between LFAs and non-LFAs is higher, the fall in the number of LFA farms might be greater. The UK and Ireland have been the countries with the largest farm income gap between LFAs and non-LFAs (Table 7.10), and these countries show a faster decrease in numbers of farms in LFAs relative to non-LFAs. However, the absolute rate of decline in LFA farms is not extraordinarily high compared to that in other countries in the period 1990-2003 (Table 7.9).

Mountain LFAs in Greece, Spain and Sweden and 'Other' LFAs in Portugal are at the other end of the spectrum, with farm incomes in LFAs close to or above that in non-LFAs.

In this group, we might expect a faster decline in the number of farms in non-LFAs. This is only confirmed in 'Other' LFAs in Sweden and Portugal. In the remaining group of countries Italy, France, Austria and Belgium, farm incomes in LFAs are about one third to one fifth below those in non-LFAs. From this group, only LFA farms in Belgium declined at a faster rate than those in non-LFAs. In some cases, the farm income gap between LFAs and non-LFAs confirms the expectation that the decline in farm numbers in LFAs exceeds that in non-LFAs but in the majority of cases it does not.

Changes in Utilised Agricultural Area

According to FSS data[12], nearly 20 percent of the total Utilised Agricultural Area (UAA) in the EU-14 (excluding Germany) was situated in Mountain LFAs and about 35 percent in 'Other' LFAs in 2003 (Table 8.2 in Chapter Eight). On the whole, the total UAA in most countries was rather stable throughout the period 1990-2003, with the exception of Italy. Data difficulties make it unwise to place too much weight on small fluctuations in the apparent UAA.

In the years 1990-2003, the UAA in LFAs in some countries increased, whereas in non-LFAs the UAA either declined or increased to a lesser degree (Greece, Spain, France and Portugal). In Belgium, Ireland, Italy and the UK on the other hand, the

[12] Some uncertainty in establishing trends exists due to data comparability issues amongst various UAA data sources (particularly those relating to Ireland and Italy).

UAA in LFAs declined at a higher rate than that in non-LFAs. Changes in UAA might be due to various factors, such as:

- Alternative land uses (residential building, infrastructure or forestry);
- Land abandonment;
- Changes in the definition of UAAs (inclusion or exclusion of common land);
- Land reclaimed for agricultural use.

Without further information, it is often difficult to identify factors behind apparent changes in UAA in FSS data. Given the objectives of LFA policy, the minor changes in UAA in LFAs can be interpreted as a sign that agricultural land use is by and large continued and that land abandonment does not occur to a high degree, although it is present in patches (see Chapter Eight).

In most countries, the average farm size in hectares in LFAs exceeds that in non-LFAs, except for Germany and Sweden, for Mountain LFAs in France and Ireland, and 'Other' LFAs in Austria. There are also some significant differences in farm size between Mountain LFAs and 'Other' LFAs. In Germany and Austria, where farm size in Mountain LFAs is about double that in 'Other' LFAs, this is especially true. Additionally, Portugal's farms in 'Other' LFAs are much larger than those in Mountain LFAs. These differences seem to be related to a much greater prevalence of grazing livestock farms (dairy, other cattle, sheep and goats) in the LFAs concerned.

Usually, Mountain LFAs have a higher share of grazing livestock farms than 'Other' LFAs; again Portugal is an exception. In 'Other' LFAs in Belgium, Ireland and the UK, and in Mountain LFAs in Germany and Austria, the share of grazing livestock farms is over 80 percent. In contrast, there are LFAs with a relatively high share of field cropping farms (Sweden and Finland) or permanent cropping farms (Greece, Spain, Italy and Portugal).

In all countries, farm size in hectares increased in the years 1990-2003. The increase in LFAs tended to exceed that in non-LFAs, except in France.

Agricultural labour

Of the total agricultural labour force in 2003 in the EU-14 (excluding Germany), about 26 percent was employed in Mountain LFAs and 23 percent in 'Other' LFAs leaving about 50 percent of the agricultural labour force to non-LFAs. In Belgium, Spain and Ireland the agricultural labour force in LFAs decreased at a faster rate than that in non-LFA in the years 1990-2003; while the opposite is true for Greece, France, Portugal, the UK, Austria and Sweden. Due to changes in the apparent area of LFAs in Italy, it is difficult to assess trends relative to the rest of the country.

In countries with both Mountain LFAs and 'Other' LFAs, the decline of the agricultural labour force in the former usually exceeded that in the latter, although the differences are small. At a national level, Denmark, Ireland, Luxembourg and Portugal faced a considerably higher rate of decline (over three percent per year) than

the other countries (about two percent per year). The general pattern is that the rate of decline in the agricultural labour force is similar in the LFA to other parts of the country in most Member States. Belgium, Spain, and France are notable exceptions.

Conclusions

Given the presence of natural and other handicaps in LFAs, one might expect that the number of farms and the total agricultural labour force would decline at a higher rate than in non-LFAs. An analysis of the development of farm structures in LFAs and non-LFAs in the period 1990-2003, however, does not confirm this expectation, other than for Belgium, Spain and Ireland. In the other EU-15 countries covered here, either the number of farms and the total agricultural labour force in the LFAs declined less than in non-LFAs, or there were mixed results for the two different factors. On the other hand, no evidence of a large decline of the Utilised Agricultural Area in LFAs was found. On the basis of FSS evidence, one can conclude that the evolution of farm structures in LFAs and non-LFAs within countries did not diverge to a large extent in the period 1990 - 2003.

This puts into question whether the small differentials that can be observed were due to LFA payments. Although we do not have data regarding the counterfactual situation of structural change on farms without LFA payments, it appeared that differentials were small and this applied irrespective of the overall level of LFA payments. Thus, factors other than LFA payments are likely to be giving rise to the small differentials in LFAs and non-LFAs between the development of farm structures.

Finally, it should be noted that the above analysis is confined to the national level. There may be differentials at a regional level which have been averaged out. Further examination of the development of farm structures of regional data could reveal whether the small differentials in the trends in farm structures in and outside the LFA also occur at a regional level.

Overall Conclusions

The way in which Member States implement the policy measure results in less than complete access to payments within the classified area of LFA. In summary;

- In most EU countries, only a portion of the farms in the designated LFAs actually receive LFA payments. Over the 2000 – 2003 period, this ranged from about six percent in Italy to 75 percent in Germany and Luxembourg. However, almost all farms in the LFA in Ireland, Austria and Finland are beneficiaries.

- Similarly, only a proportion of the UAA within the LFA actually benefits from Compensatory Allowances. Coverage is greater in North West than in Southern Europe, because of factors including farm size, land use and eligibility conditions. In Greece and Portugal, less than 30 percent in, France

35 percent, Spain 42 percent, Germany 61 percent and more than 90 percent in Finland, Ireland and Luxembourg (2000-2003).

With regard to farm incomes, LFA payments per FWU represented less than 10 percent of Family Farm Income (FFI) per FWU in Spain, Greece, Italy and Belgium in 2003, drawing on FADN data. This was also true of the 'Other' LFAs in Portugal, France and Austria. By contrast, it was 20-30 percent of FFI/FWU in the Mountain areas of Austria, France and Finland and 45 percent in the Swedish Mountain LFAs. In Germany, the UK, Ireland, Luxembourg and Sweden it was 20-30 percent of FFI/FWU in the 'Other' LFA, rising to 50 percent in Finland. Other methods of estimating the income contribution of LFA payments reveal similar variations and a North/South divide, although precise figures differ. If payments are expressed as a percentage of mean farm income from agricultural sources net of costs, the proportion can rise well above 40 percent in some cases. Contributions to agricultural income are far more significant for livestock than crop farms in most Member States.

Farms in the LFA are more dependent on subsidies than those outside it in most Member States. However, LFA payments make up a relatively small proportion of total subsidies in 2003 generally – below 25 percent in the EU-15. When figures are aggregated at the Member State level, it is clear that LFA farms depend on other direct payments and subsidies, including agri-environment payments to a considerable degree.

Differences in the evolution of farm structures in LFAs and non-LFAs appear to be small in the years 1990-2003. There is no clear evidence in the EU-15 of LFA policy driving structural change. In addition, no evidence of a large decline of the Utilised Agricultural Area in LFAs was found and thus one of the main objectives of LFA policy appears to have been met (see Chapter Eight).

The small differentials in the development of farm structures in LFAs and non-LFAs in the period 1990-2003 could be interpreted as a success of the LFA policy: it helped to prevent a huge decline in farm holdings and agricultural labour in the LFA. However, given the fact that the convergence in the development of farm structures in LFAs and non-LFAs occurred both in countries with high and low levels of LFA payments, it seems likely that LFA policy was only one among a range of factors contributing to this convergence.

Table 7.10 Family farm income (FFI) per family work unit (FWU) including subsidies, direct payments and LFA allowances in LFA and non-LFA in the EU, 1990 – 2003.

Member State	1990			1995			2000			2003		
	FFI/FWU			FFI/FWU			FFI/FWU			FFI/FWU		
	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA
	Euro	%	%	Euro	%	%	Euro	%	%	Euro	%	%
United Kingdom	18923		48	45074		41	20242		43	34486		58
Arable	23906			67294			21487		48	35250		
Dairy cattle	20113		84	35561		70	19961		78	33190		59
Beef and Mixed Cattle	4279		80	12093		77	1457		362	8482		179
Sheep	2123		322	14999		121	4931		136	18557		129
Ireland	11002		63	16576		59	18788		55	24602		56
Arable	18725			25727			25006			38119		
Dairy cattle	17243		60	22246		69	26417		67	31231		82
Beef and Mixed Cattle	4405		89	8220		90	10469		73	13705		69
Sheep	6640		101	8130		104	8915		111	12686		89
Germany	12428	68	81	16637		81	21261		71	18553		58
Arable	12327		59	19441		104	21563		41	24900		33
Dairy cattle	11790	72	85	14836		81	23285		69	18055		75
Beef and Mixed Cattle	13575		63	10922		106	13603		62	12046		79
Sheep				11880		108						

Member State	1990			1995			2000			2003		
	FFI/FWU			FFI/FWU			FFI/FWU			FFI/FWU		
	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA
Italy	10831	66	75	14185	67	82	17091	68	82	26749	74	69
Arable	8237	58	87	11319	65	97	14417	55	87	20253	68	
Dairy cattle	21144	43	56	31939	43	82	31115	39	83	56140	26	
Beef and Mixed Cattle	21456	36	44	18004	49	62	17978	54	95	48047	34	
Sheep	15679	84	70	11761	94	108	18031	81	82	17260	183	106
France	17173	61	60	23201	58	74	22500	66	78	21409	72	79
Arable	16885	85	52	25649	59	75	21459	69	82	23109	46	65
Dairy cattle	12824	83	91	18698	74	90	19196	76	88	15052	103	106
Beef and Mixed Cattle	9042	91	120	17514	80	97	16653	75	110	18352	94	111
Sheep	8421	121	124	11009	104	111	15857	83	72	10819	117	130
Austria				17071	79	90	17456	76	78	18284	74	83
Arable				21862		80	19706	90	88	23093	85	127
Dairy cattle				10373	129	99	12150	109	106	9500	138	117
Beef and Mixed Cattle				13584	100	89	11635	113	108	13828	100	83
Sheep												
Belgium	25573		71	26589		65	33056		70	33059		88
Arable	27009			31596			31419			42590		
Dairy cattle	22479		90	19950		102	25853		95	25398		106
Beef and Mixed Cattle	18844		84	19851		78	22760		97	30663		100
Sheep												

Member State	1990			1995			2000			2003		
	FFI/FWU			FFI/FWU			FFI/FWU			FFI/FWU		
	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA
Greece	5387	79	95	6667	96	87	9563	94	85	10993	95	77
Arable	5223	82	84	6305	100	82	8619	107	90	10440	106	68
Dairy cattle												
Beef and Mixed Cattle												
Sheep	6579	88	96	5846	151	151	7160	159	139	10049	132	98
Spain	7049	102	91	15218	98	84	24404	64	73	19457	102	115
Arable	7373	166	89	16866	83	88	26460	74	71	21343	84	105
Dairy cattle	6356	76	94	10747	94	87	12830	106	117	20468	77	109
Beef and Mixed Cattle	8209	43	41	5126	208	186	9577	118	87	10684	149	180
Sheep	10745	78	78	19010	127	90	19762	92	124	25312	97	130
Sweden				4223		85	4481	255	164	5759	230	123
Arable				10535			943		-550	9124		1
Dairy cattle				1249		516	12122	94	120	8098	163	141
Beef and Mixed Cattle							9505		5			
Sheep												
Portugal	2410	109	107	2299	101	136	3408	86	165	5116	89	153
Arable	2018	129	134	1633	118	185	4147	52	177	3567	87	156
Dairy cattle	5940	68	73	5442	50	141	6515	70	177	8531	133	125
Beef and Mixed Cattle	4849	65	71	420	456	1170	2294	112	372	6972	90	288
Sheep	11	16492	21334	3657	84	65						

Member State	1990			1995			2000			2003		
	FFI/FWU			FFI/FWU			FFI/FWU			FFI/FWU		
	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA	non-LFA	Mountain LFA/non-LFA	Other LFA/non-LFA
Denmark	5986			16535						1759414		
Arable	-3759			8966						4993		
Dairy cattle	13519			17209						13545		
Beef and Mixed Cattle												
Sheep												
Luxembourg							45083		50	26762		95
Arable												
Dairy cattle												
Beef and Mixed Cattle												
Sheep												
Netherlands	27136			25850			29438			27281		
Arable	29568			38610			12270			27000		
Dairy cattle	24187			21825			32213			26355		
Beef and Mixed Cattle	21735			-2160			7970			23512		
Sheep				3158			-504			5087		
Finland				12048	101							
Arable				13757	108							
Dairy cattle				12434	96							
Beef and Mixed Cattle												
Sheep												

Source: FADN-CCE-DG Agri; LEI (adapted).

8

THEME 4: IMPACTS ON LAND USE

Introduction

Theme Four deals with the impacts of the LFA measure on land use. This theme relates to one of the measure's key objectives namely to ensure the continued use of agricultural land. It seeks to understand the extent to which the LFA measure, and compensatory payments in particular, have helped to foster continued land use and prevent land abandonment, thereby helping to maintain the countryside and the viability of rural communities in these areas. The efficiency of the LFA measure in achieving continued land use compared to other existing EU, national or regional measures is explored, as is the extent to which the LFA measure has worked in synergy with other CAP measures or been in conflict with them.

The starting point is an assessment of the continuity of agricultural land use in the LFA and the extent to which there have been changes in land use over the period the measure has been in operation. Change in the extent of Utilised Agricultural Area (UAA) is a key indicator here, although it is difficult to derive accurate data on the actual area under agricultural land use in LFAs. Understanding the movements of land in and out of production and the alternative uses to which land has been put, such as forestry, is also critical. The total area of agricultural land in use tells us little, however, about the nature of that land use and whether there have been significant changes in the type of agricultural production, including for example, interchanges between crop and pasture land or the intensification/extensification of land use. This is important for providing answers under Theme Five given the relationship between the intensity of farming systems and environmental effects. The analysis therefore seeks to understand what structural changes have taken place on farms within the LFA, including the number, size and type of farms.

The extent to which LFA payments have helped to foster continued land use (Question 9) requires firstly, an understanding of the number of hectares of agricultural land receiving a compensatory allowance, and secondly, an understanding of the significance of these payments in terms of farm incomes (compared to other income sources) and whether they have contributed to securing the economic viability of farms. If beneficiaries of the LFA compensatory allowance are not economically viable, we would expect farm structural change to occur that will have implications for the use and management of the land. The income position of LFA farms compared to non-LFA farms is relevant here and data from the FADN have been drawn upon.

The next two questions are related. Question 10 examines the efficiency of the LFA measure in achieving continued land use compared to other existing EU and

national/regional measures. Efficiency relates to whether the measure achieved the intended effects – in this case ensuring continued land use – by making best use of financial, administrative and human resources. In particular, the question seeks to understand whether the LFA measure is a more efficient use of resources to achieve continued land use compared to other measures that might be employed to this end. Question 11 builds on Question 10 and seeks to understand whether the alternative measures identified have worked in synergy with the LFA measure or been in conflict with it through a comparison of their objectives and mode of operation.

Question 12 explores the extent to which the implementation of the LFA measure has contributed to matching the main needs of the EU rural territory in terms of land use management. The main needs, which are articulated in a wide range of agricultural, rural development and environmental policies, include contributing to the continued and sustainable use of agricultural land, and improvement of the environment and the countryside. The extent to which the LFA measure, and its implementation, has been specifically targeted at addressing these needs directly, or does so indirectly, is considered as is the extent to which alternative measures might be able to address these needs. There is considerable overlap between this question and Question 16 in Theme Five which considers the implementation of the LFA measure in relation to environmental sensitivity. Given the relationship between land use and the environment, Question 12 and Question 16 are considered together under Theme Five.

There are considerable limitations to the data required to answer the questions under this Evaluation Theme. Questions 9 and 11 ask for overviews since the beginning of the application of the measure but information is lacking for the early years of LFA implementation. Most consistent data are available from 1990 onwards and in relation to other EU or CAP measures, from 2000 onwards under the current rural development programming period (2000 – 2006). Identifying impacts specific to the different categories of LFA such as Mountain and 'Other' LFAs is also difficult due to a lack of disaggregated data. Separating the effects of the LFA measure on land use from other policy measures such as Pillar One support, agri-environment and other rural development measures, or external factors including market prices is also complicated. Many farmers receive a 'bundle' of payments that affect the viability of the farm business and some are reliant on other, non-farming sources of income. Where possible, the contribution of the LFA measure to continued land use compared to other policies and factors is identified but not necessarily quantified. In answering the questions under this Evaluation Theme, considerable use has been made of material collected by national consultants and through the case studies as well as EU data from the FADN and FSS.

Effect of LFA Measure on Continued Land Use

Question 9. *To what extent have LFA payments helped to foster continued land use?*

Introduction

Answering this question requires an understanding of what has happened in relation to land use within the LFA over the period of application of the measure and an examination of the extent to which LFA payments have or have not had an influence on the land use changes that have occurred. Relevant indicators for understanding land use changes are:

1) Changes in UAA within areas classified as LFA;
2) Changes in the number of farms, farm size and production patterns over time within areas classified as LFA;
3) Changes in the number of hectares of UAA receiving the LFA compensatory allowance;
4) The contribution of the LFA compensatory allowance to FFI/FWU.

This analysis is approached in two ways: firstly, by examining data from the FSS revealing a broad picture of the extent of agricultural land use for each Member State and therefore allowing a comparison between countries. Secondly, by drawing on material collected at the national level and through the case studies to reveal a more detailed picture of land use change at a regional or local level. Indeed, data on the extent of the UAA do not capture the progressive withdrawal or intensification of management and thus, national reports and case studies may also afford an insight into issues such as changes in production patterns, including livestock versus cropping or grassland management.

Once trends in UAA within areas classified as LFA have been established, relevant indicators for understanding the contribution of LFA payments to continued land use include 1) the number of hectares of UAA in the LFA receiving a compensatory allowance and 2) the contribution of LFA payments to farm income (compared to other subsidies and direct payments) and hence to farm viability. The assumption is that for the most part, a viable farm business is a prerequisite for the continuation of agricultural land use.

This question requires an overview from the beginning of applying the measure however, the most consistent EU level data set covers the period from 1990 to 2003. National reports and case studies provide some data and information for specific years or periods of time. It is not possible, therefore, to cover in a comprehensive way from the year 1975, to the present day.

Analysis

To consider the extent to which LFA payments have helped to foster continued agricultural land use, it is important to understand the drivers of land use change and of the discontinuation of land use. Continued agricultural land use is a function of its economic viability compared to other land uses but other factors are also influential, such as the existence of social structures that enable continued land use to take place, including, for example, the availability of labour to manage land. In some circumstances, agricultural land use becomes progressively marginal and may eventually cease (see, for example, Baldock *et al* (1996) and Pinto Correia (2005). Agricultural marginalisation is a progressive process, driven by a combination of social, economic, political and environmental factors, through which certain areas of farmland cease to be viable under an existing land use and socio-economic structure. Taken to its extreme, marginalisation can result in the complete abandonment of agricultural land, which takes place 'when the neglect of the main productive elements is allowed to decline beyond a point at which recuperation is practical, or economically viable'(Baldock *et al* 1996).

Marginalisation can occur at different scales, ranging from the individual patch of land to sizeable regions. The literature identifies marginalisation and abandonment as being particularly concentrated in, but not confined to, the less fertile and drier zones of the Mediterranean. Land abandonment also appears to be an issue in some Central and Eastern European countries (Ministry of Agriculture of the Republic of Latvia, *et al* 2005).

Marginalisation is described as a change in agricultural land use from a profitable to a less profitable one (Bethe and Bolsius, 1995). This can involve a transition from arable cultivation to permanent grassland or from grassland to forest. Farmers' responses under marginal situations can vary; some may attempt to improve viability and combat marginalisation, whereas others may withdraw from agriculture altogether. Attempts to improve viability are often linked to the intensification of production and a goal of increased output per hectare. Where farmers run down agricultural operations, they are likely to seek to reduce costs and make a range of management decisions including reducing labour intensive tasks such as hay-making or the maintenance of walls and hedges. Baldock *et al* (1996) identifies a number of possible farmer responses to operating in marginal situations:

- A change from one agricultural land use to another, for example from crops to permanent grassland, typically involving the simplification of a mixed farming system into livestock production;

- Changes to farming systems which do not significantly alter the existing agricultural land use, for example, reduced input use and/or stocking densities, reduced maintenance of infrastructure;

- A 'contraction' of the farming system, usually involving an intensification of production on the better land and the running down or abandonment of poorer, inaccessible parcels of land;

- Restructuring of holdings as some farmers leave the land and others take it over in order to increase their farm size;

- Complete farm abandonment, typically leading to natural succession and to the development of scrub and woodland, sometimes referred to as wilderness;

- A change of land use out of agriculture, for example to forestry or urban building.

The starting point for considering agricultural land use in the LFA is an assessment of the extent to which total Utilisable Agricultural Area in the LFA has changed over time**.**

The FSS data presented in Table 8.1 reveals that the total UAA in the LFAs in most countries was relatively stable, with only minor increases or decreases throughout the period 1990-2003[13]. There were some differences, however, in changes in UAA in LFA and non-LFA areas. In some countries, such as Greece, Spain, France and Portugal, UAA in the LFA increased, whereas in the non-LFA there was a smaller increase or decline. Some of this increase can be accounted for by extensions to the area classified as LFA in these countries during the time period examined. In Belgium, Ireland, Italy and the UK, UAA in the LFA declined at a higher rate than in the non-LFA. Overall, agricultural land use has, by and large, been maintained at an EU level and land abandonment does not appear to occur to any significant degree although marginalisation of land use appear to occur on a regional scale. As noted in the introduction to this question, EU level data such as FSS is unable to afford a detailed picture of land use change at regional and local level and may mask evidence of marginalisation. For this reason, the analysis is extended to evidence farm structural change and from national studies.

[13] In Italy, UAA within the LFA appears to decline at a faster rate, although these figures should be treated with caution as the data are not considered to be reliable.

Table 8.1 Utilised Agricultural Area (UAA) in LFA and non-LFA regions 1990, 1995, 2000 and 2003 (in hectares).

Member State	Year				Change (% per year)			
	1990	1995	2000	2003	1990-1995	1995-2000	2000-2003	1990-2003
Belgium								
Mountain LFA								
Other LFA	269500	265850	274790	277700	-0.3	0.7	0.4	0.2
Non-LFA	1075000	1088570	1118990	1116700	0.3	0.6	-0.1	0.3
Total	1344500	1354410	1393780	1394400	0.1	0.6	0.0	0.3
Denmark								
Mountain LFA								
Other LFA								
Non-LFA	2779020	2726610	2644580	2658210	-0.4	-0.6	0.2	-0.3
Total	2779020	2726610	2644580	2658210	-0.4	-0.6	0.2	-0.3
Germany								
Mountain LFA			329710	324570			-0.5	
Other LFA			8238660	8075520			-0.7	
Non-LFA			8583190	8581670			0.0	
Total			17151560	16981750			-0.3	
Greece								
Mountain LFA	1426010	1329790	1305610	1547090	-1.4	-0.4	5.8	0.6
Other LFA	1114260	1022060	1149830	1229630	-1.7	2.4	2.3	0.8
Non-LFA	1120940	1226360	1127750	1191050	1.8	-1.7	1.8	0.5
Total	3661210	3578210	3583190	3967770	-0.5	0.0	3.5	0.6

Member State	Year				Change (% per year)			
	1990	1995	2000	2003	1990-1995	1995-2000	2000-2003	1990-2003
Spain								
Mountain LFA	7432200	7361710	8296890	7406810	-0.2	2.4	-3.7	0.0
Other LFA	10926210	12610930	12875740	12204210	2.9	0.4	-1.8	0.9
Non-LFA	6172650	5257700	4985780	5564240	-3.2	-1.1	3.7	-0.8
Total	24531060	25230340	26158410	25175260	0.6	0.7	-1.3	0.2
France								
Mountain LFA	3727850	3756210	4019530	4054690	0.2	1.4	0.3	0.6
Other LFA	7022560	7028270	8242920	8233180	0.0	3.2	0.0	1.2
Non-LFA	17435810	17482720	15593860	15507370	0.1	-2.3	-0.2	-0.9
Total	28186220	28267200	27856310	27795240	0.1	-0.3	-0.1	-0.1
Ireland								
Mountain LFA								
Other LFA	2373120	2847770	2330550	2261030	3.7	-3.9	-1.0	-0.4
Non-LFA	2068640	1476750	2113420	2110680	-6.5	7.4	0.0	0.2
Total	4441760	4324520	4443970	4371710	-0.5	0.5	-0.5	-0.1
Italy								
Mountain LFA	5114310	4867800	4306790	4198290	-1.0	-2.4	-0.8	-1.5
Other LFA	3607360	3551500	2170000	2275670	-0.3	-9.4	1.6	-3.5
Non-LFA	6225050	6266150	6585460	6641860	0.1	1.0	0.3	0.5
Total	14946720	14685450	13062260	13115810	-0.4	-2.3	0.1	-1.0
Luxembourg								
Mountain LFA								
Other LFA	126500	126860	127510	128160	0.1	0.1	0.2	0.1
Non-LFA								
Total	126500	126860	127510	128160	0.1	0.1	0.2	0.1

Member State	Year				Change (% per year)			
	1990	1995	2000	2003	1990-1995	1995-2000	2000-2003	1990-2003
The Netherlands								
Mountain LFA								
Other LFA								
Non-LFA	2011360	1998880	2027800	2007250	-0.1	0.3	-0.3	0.0
Total	2011360	1998880	2027800	2007250	-0.1	0.3	-0.3	0.0
Austria								
Mountain LFA		1956910	1922540	1825720		-0.4	-1.7	
Other LFA		366040	378640	368940		0.7	-0.9	
Non-LFA		1102190	1087050	1062560		-0.3	-0.8	
Total		3425130	3388230	3257220		-0.2	-1.3	
Portugal								
Mountain LFA	1204250	1149720	1019900	1042880	-0.9	-2.4	0.7	-1.1
Other LFA	2203440	2180870	2320060	2219690	-0.2	1.2	-1.5	0.1
Non-LFA	597890	594030	523130	462630	-0.1	-2.5	-4.0	-2.0
Total	4005570	3924620	3863090	3725190	-0.4	-0.3	-1.2	-0.6
Finland								
Mountain LFA		1129810	1151760	1177950		0.4	0.8	
Other LFA		703470	458760	1066750		-8.2	32.5	
Non-LFA		358410	607900	0		11.1	-100.0	
Total		2191700	2218410	2244700		0.2	0.4	
Sweden								
Mountain LFA		340670	345030	330120		0.3	-1.5	
Other LFA		1098390	1101710	1170020		0.1	2.0	
Non-LFA		1620670	1626450	1626770		0.1	0.0	
Total		3059730	3073200	3126910		0.1	0.6	

Member State	Year				Change (% per year)			
	1990	1995	2000	2003	1990-1995	1995-2000	2000-2003	1990-2003
United Kingdom								
Mountain LFA								
Other LFA	7750600	7142940	7076710	7394470	-1.6	-0.2	1.5	-0.4
Non-LFA	8747930	9303670	8721800	8711340	1.2	-1.3	0.0	0.0
Total	16498530	16446620	15798510	16105810	-0.1	-0.8	0.6	-0.2
EU-11 (excl Germany)								
Mountain LFA	18904620	18465230	18948720	18249760		0.5	-1.2	
Other LFA	35393550	36777050	36568110	36223740	0.8	-0.1	-0.3	0.2
Non-LFA	48234290	47421440	45442570	45971330	-0.3	-0.8	0.4	-0.4
Total	102532450	102663720	100959410	100444810	0.0	-0.3	-0.2	-0.2
EU-14 (excl Germany)								
Mountain LFA		21892620	22368050	21583550		0.4	-1.2	
Other LFA		38944950	38507220	38829450		-0.2	0.3	
Non-LFA		50502710	48763970	48660660		-0.7	-0.1	
Total		111340280	109639250	109073640		-0.3	-0.2	

Source: Eurostat Farm Structure Survey; (adapted LEI)

Key structural change indicators include the number of farms; farm size; the type of farms (production); and the labour force in the LFA compared to non-LFA areas. These factors can underpin the processes of marginalisation and abandonment identified earlier. Drawing on FSS data, several themes emerge:

Number of Farms

- The overall trend in both LFAs and non-LFAs was one of a declining number of farms for the period 1990-2003 (Table 7.9).

- In Ireland, UK, Belgium, Spain and Greece (Article 18 areas) the number of farms in the LFA decreased at a higher rate than those in non-LFAs.

- There has been a decline in the number of farms in Belgium, Ireland, Italy (Article 19 areas), and in Italy, Greece, Spain and Sweden in Article 18 areas.

- There has been an increase in the number of farms in Greece, France, Portugal, Sweden, Italy and Austria (Article 19 areas) and in France and Portugal (Article 18 areas).

- In Portugal, Italy, France, Austria, Greece and Sweden the number of farms in 'Other' LFAs (Article 19) decreased at a lower rate than those in non-LFAs.

Farm Size in Hectares

- In all countries, farm size in hectares increased in the years 1990-2003, with a greater increase in LFAs than in non-LFAs, except for France, Italy and Portugal (Mountain LFAs).
- In countries with both Mountain and 'Other' LFAs, the increase in farm size in 'Other' LFAs usually exceeded that in Mountain LFAs.

Production System

- LFAs are characterised by a relatively higher share of grazing livestock farms in the total number of farms compared with the non-LFA (Table 7.4).

Agricultural Labour Force

- In Belgium, Spain, Ireland and Italy, the agricultural labour force decreased at a higher rate in LFAs than non-LFAs in the years 1990-2003.

- In Greece, France, Portugal, UK, Sweden and Austria, the agricultural labour force decreased at a lower rate in the LFA than non-LFA.

- In countries with both Mountain and 'Other' LFAs, the decline in the agricultural labour force in Mountain LFAs usually exceeded that in 'Other' LFAs, although differences were small.

- Within countries, the rate of decline of agricultural labour force between the LFA and non-LFA does not differ greatly in most cases, with the exception of Belgium, Spain and France within areas classified as LFA.

- In most countries, except Greece, Ireland, Portugal and the UK, the number of Annual Work Units (AWU) employed per farm increased in the period 1990-2003 (related to an increase in farm size) in both LFA and non-LFA.

These trends are illustrative of farm rationalisation and re-structuring occurring over the period 1990-2003 with the net result at EU and national level being one of fewer, larger farms managed by a declining workforce. There are some differences between the rates and magnitude of structural changes within and outside of the LFA but no strongly discernable patterns. We can conclude, therefore, that the total area of land utilised by agriculture within the LFA has remained broadly stable over the period from 1990-2003 against a backdrop of structural change in both LFAs and non-LFAs. The data do not suggest that land use or restructuring trends in LFAs are distinctively different from trends within agriculture more generally. Such similarity between the LFA and non-LFA suggests that farmers generally have adopted equivalent strategies in order to maintain farm viability irrespective of their location.

This analysis has been based on European data which may hide significant regional or farm level land use trends. It is also the case that the indicators of UAA and farm structural change do not afford an insight into issues such as changes in production patterns and the extent to which there has been progressive marginalisation of land use. Other key trends of note are as follows:

- In the EU-14, (excluding Germany), and drawing on FSS data for 2000, the largest number of farms were engaged in specialist permanent crop production, followed by specialist grazing livestock production, although this does not equate to a larger surface area under specialist permanent crops.

- There have been reductions in livestock numbers and lower stocking densities (particularly since the shift to area payments in 2000) noted in Austria, Belgium, Denmark, Germany, Greece, Italy, Spain and the UK.

- Elderly farmers without a successor tend to rent out or sell land to other farmers (Austria) or in some cases land is gradually abandoned (Italy, Portugal). There is also evidence of abandonment in parts of the LFA in Germany, especially in wet areas and where there are steep slopes.

- In those countries where demand for land, both from agriculture and other uses, is high (Belgium and the United Kingdom) there exists no threat of abandonment.

- On better land, the intensification option has been pursued by some farmers.

- Part-time farming in the LFA is prevalent in some countries, for example, Austria and Denmark with farmers engaged in off-farm employment.

- Changes have been observed in farming systems and types, including a move to organic farming in Austria, changes in cropping patterns in Denmark along with a shift to less labour intensive arable farming, the abandonment of arable land in Spain, and the conversion to permanent pasture for extensive livestock grazing.

- The Irish case studies provide evidence of overgrazing in the 1980s and early 1990s and that intensification has occurred more recently in France as revealed in the Marais-Poitevin case study.

The strongest evidence for progressive marginalisation and ultimately land abandonment is available from Portugal and Italy. In Portugal, land abandonment is more closely linked to the agrarian structure and farm succession, especially in the extremely parcelised minifundia, than to handicaps or natural disadvantages in the LFA. Family farming adaptation strategies to labour force shortage begins with the extensification of the areas located far from the holding. This extensification eventually leads to land abandonment when the farmer becomes too old to work the land. The sons and daughters of ageing farmers are not willing to continue farming in such adverse conditions but usually do not give up land ownership. In the Peligna region of Italy, land abandonment has also been observed over large areas. This is related mainly to ageing farmers, a lack of competitiveness and natural handicaps. Overall, therefore, there appears to be some evidence at regional level that the processes of progressive marginalisation and land abandonment are occurring in some parts of the LFA. The extent of such marginalisation and abandonment, however, remains unclear and the impact of decoupling on land use has yet to be investigated.

Having established that agricultural land use has largely been maintained in the LFA over the period 1990-2003, the extent to which the LFA compensatory allowance, specifically, has contributed to this trend is approached through two indicators. First, we examine the number of hectares receiving a compensatory allowance in comparison with the total area of land within the LFA under agricultural use, using data from 2000 and 2004 (see Table 8.2). This affords an insight into the area of agricultural land being supported by the LFA payment, and the extent to which agricultural land within the LFA is being maintained by farmers not receiving an LFA payment.

The data reveal some interesting trends.

- In Italy and the Netherlands, less than 20% of the total area of agricultural land in the LFA is farmed by beneficiaries of the LFA compensatory allowance;

- In France and Portugal, less than 25% of the total area of agricultural land in 'Other' LFAs is farmed by beneficiaries of the LFA compensatory allowance, although the proportion is 60% and 50% respectively in Mountain LFAs;

- In Germany and Finland (Mountain LFAs), Ireland, Luxembourg and Finland ('Other' LFAs), more than 85% of the total area of agricultural land in the LFA is farmed by beneficiaries of the LFA compensatory allowance.

The extent to which LFA payments have helped to foster continued agricultural land use in the LFA is also a function of the contribution of these payments to the economic viability of the farm business of beneficiaries. Data presented in Chapter Seven reveal that many LFA farms are highly dependent on subsidies with subsidy representing from one third to over 100% of FFI/FWU. Of these subsidies, LFA payments represent, at highest, 25% of the total subsidy. In absolute terms and at an aggregate level, the contribution of the LFA payment to farm income is quite small in many Member States, however, in those areas, particularly under livestock production, where the profit margin is narrow, even a minor contribution is significant. Further analysis of the impacts of LFA payments on farm incomes in Theme Three leads to two key conclusions: first, that in many countries, LFA support fails to fully compensate for the disadvantages faced by farmers in the LFA when the FNVA per hectare (excluding subsidies) of LFA and non-LFA farms of similar farm type is compared alongside the average LFA payment rate; and second, that, with variations, beneficiaries of the LFA compensatory allowance have consistently lower farm incomes compared to non-LFA farms. Despite this lack of income parity, agricultural land use in the LFA continues in the main and the strategies LFA farmers adopt to maintain farm viability do not appear to be substantively different from those adopted in other areas. Progressive marginalisation and abandonment, where they occur, do not seem to relate entirely to income levels but also to other factors such as a lack of a farm successor.

Given that farming in the LFA continues at lower income levels than in the non-LFA, the supposition that LFA farmers have, in the past at least, been prepared to accept low farm incomes seems to hold some weight. Whether farmers will continue to accept low incomes in the future, or if this situation is sustainable in the longer term, is questionable. If, in future, farmers are less willing to accept low income levels, agricultural land use may change and the processes of marginalisation and abandonment may become more prevalent.

Data on non-farm income for LFA farm households are lacking. Family Farm Income data only includes income from agricultural activities and not alternative income sources. However, data from all farms in the FSS sample in 2000 reveals that approximately 20% of farm holders in the Benelux countries and 60% of all farm holders in Sweden, for example, have income from non-agricultural activities which could contribute to farm household income and hence farm viability. There is also evidence from national reports for Austria and Denmark of farmers in the LFA being part-time farmers with off-farm income sources. These off-farm income sources will make a positive contribution to the viability of such farms. It is also possible that some LFA farm households receive income from family members including spouse or children, generated by off-farm employment which contributes to the viability of the farm. This may be one explanation for the continuation of farming in these areas.

Table 8.2 Hectares of UAA in LFA receiving a compensatory allowance (CA), 2000 and 2004 data.

Member State	LFA type	UAA within the LFA ('000 ha) in 2000	Area receiving a CA, 2004 ('000 ha)	Area receiving a CA as % of UAA within the LFA
Belgium	Mountain			
	Other	275	212.4	77
	Total LFAs	**275**	**212.4**	**77**
Denmark	Mountain			
	Other	30	24	80
	Total LFAs	**30**	**24**	80
Germany	Mountain	330	325	98
	Other	8239	4804	58
	Total LFAs	**8568**	**5129**	**60**
Greece	Mountain	1306		
	Other	1150		
	Total LFAs	**2455**	**1893**	**77**
Spain	Mountain	8297		
	Other	12876	8190	64
	Total LFAs	**21173**	**8190**	**39**
France	Mountain	4020	2409	60
	Other	8243	1920	23
	Total LFAs	**12262**	**4329**	**35**
Ireland	Mountain			
	Other	2331	2614	112
	Total LFAs[1]	**2331**	**2614**	**112**
Italy	Mountain	4307		
	Other	2170		
	Total LFAs	**6477**	**1227**	**19**
Luxembourg	Mountain			
	Other	128	117	91
	Total LFAs	**128**	**117**	**91**
Netherlands	Mountain			
	Other		14	
	Total LFAs	**111**[2]	**14**	**13**

Member State	LFA type	UAA within the LFA ('000 ha) in 2000	Area receiving a CA, 2004 ('000 ha)	Area receiving a CA as % of UAA within the LFA
Austria	Mountain	1923	1234	64
	Other	379	315	83
	Total LFAs	**2301**	**1549**	**67**
Portugal	Mountain	1020	512	50
	Other	2320	412	18
	Total LFAs	**3340**	**924**	28
Finland	Mountain			
	Other			
	Total LFAs[14]	**2231**	**2187**	**97**
Sweden	Mountain	345		
	Other	1102	544	49
	Total LFAs	**1447**	**544**	**38**
United Kingdom	Mountain			
	Other	7077		
	Total LFAs	**7077**	**4420**	**62**

[1] In Ireland the figures appear to show that the area of UAA receiving a compensatory allowance exceeds the total UAA within the LFA. This is obviously incorrect but a search of alternative reliable data sources has not yet yielded any satisfactory results.

[2] Data of UAA within the LFA are derived from the Farm Structure Survey, and data for 2000 are used because this is a full survey year and they are therefore considered to be more accurate. Data on the number of hectares receiving a compensatory allowance are drawn from Tables 3 and 4, Annex 4 (IEEP, 2006) and cross-checked with data provided in "Rural Development in the EU" (European Union Directorate General for Agriculture and Rural Development, 2006) for 2004.

[3] It is legitimate to calculate the area of agricultural land receiving a compensatory allowance (using 2004 data) as a proportion of the total UAA within the LFA (using 2000 data) because the total UAA has remained fairly stable over this period.

Source: Implementation of Articles 18, 19, 20 and 16 under Council Regulation (EC) no. 1257/99 in the 25 Member States (IEEP, 2006).

[14] Disaggregated data for areas under the different Articles are not available.

The Efficiency of the LFA Measure in Ensuring Continued Agricultural Land Use

Question 10. *What is the relative efficiency of the current LFA measure in ensuring continued agricultural land use as compared to other existing EU or national/regional measures?*

Introduction

Having considered the effectiveness of the LFA measure in maintaining agricultural land use, this question seeks to understand whether the current LFA measure deploys resources in a more efficient way to achieve continued land use compared to other measures.

Efficiency can be defined as the best relationship between resources employed and results achieved in pursuing a given objective. In the case of the LFA compensatory allowance, the primary resources employed consist of:

- The budgetary costs of the allowance, provided by a combination of EAGGF and Member State sources;
- Administrative costs in implementing the measure including the processing of applications, controls at farm level, financial administration;
- Transaction costs borne by farms, whether successful or unsuccessful applicants of the compensatory allowance.

In practice, the budgetary costs are more easily measured and are the focus of the analysis presented here, but it is acknowledged that they represent only a portion of the full costs arising from implementing the measure.

Clarity about objectives is important in assessing efficiency. Continued agricultural land use is a key objective of the current LFA measure and this is true of earlier variants of the policy too (see Chapter One). As noted above, the objective of maintaining this land use has been met in broad terms but this is not due solely to the implementation of the LFA measure. Other policies contributing to the viability and continued management of farms in the LFAs have played a part in determining the land use, although it is difficult to precisely apportion this effect to individual measures. Consequently, while it is desirable to be concrete about the results achieved when assessing the efficiency of a policy measure, this is not possible in the case of the LFA compensatory allowance.

Analysis

Cost of the measure

The resources expended on the LFA compensatory allowance have increased over time, reaching €3.106 million in 2004, of which, €2.534 million was in the EU-15 and €572 million in the new Member States. These payments were made with respect to 41.4 million hectares, 31.9 million of which were in the EU-15 (see Table 6.1). This gives an average payment per hectare to beneficiaries of the LFA compensatory allowance of €78 in the EU-15 and €60 in the EU-10. As noted in Chapter 6, there are major variations in payment levels between Member States, not surprisingly given the diversity of conditions.

Data on administrative and transaction costs were not collected in the course of the study. The design of the measure is such that a single payment is made annually in most circumstances without variation. Since the change from payments based on livestock headage to an area based system, a source of administrative complexity has been removed. The measure is now relatively simple to administer for public authorities and is compatible with the area based approach now deployed under the Single Payment Scheme. The deployment of the measure in all Member States on a consistent basis over time supports the impression from interviews that it is one of the simplest rural development measures to implement.

Farmers applying for the compensatory allowance need to make certain commitments. They must farm a minimum area of land for five years, comply with Good Farming Practice, and meet other requirements specified by Member State authorities. These include the keeping of livestock within certain stocking density limits for example. The conditions imposed on farmers generally support the objective of maintaining agricultural land use. Transaction costs arise from meeting these requirements and completing the application procedures. These are difficult to measure but there is no evidence from the literature or from interviews that they are particularly large.

Potential mechanisms for meeting the objective

The continuation of agricultural land use depends on the willingness of farmers or other managers to undertake this work. A mandatory approach would not be consistent with political, economic or social values in the EU. Consequently a means of motivating land managers is required. A direct financial incentive in return for a commitment to continue the required management is logical and consistent with the general principles of the CAP and the EU Treaty. A payment per hectare under management is potentially an efficient mechanism since it addresses the objective directly. This is the approach adopted in the LFA measure.

Under the Single Payment Scheme, a decoupled payment per hectare is the primary form of support within Pillar One of the CAP available to farmers who meet the relatively simple conditions. The majority of farms in the LFA qualify for such payments, which contribute a greater proportion to farm incomes compared to LFA payments. These payments do not require the continuation of agricultural production or the pursuit of agricultural land use per se. They are intended to compensate for the

loss of previous forms of support under the Common Market Organisations and not to support particular forms of agriculture. Nonetheless, the payments have a bearing on land use because of the system of cross compliance that has been introduced alongside the Single Payment.

The introduction of compulsory cross compliance (from January 2005) following the 2003 Mid Term Review of the CAP brought into force a policy that has objectives clearly related to land use. Council Regulation 1782/2003[15] is the legal basis for cross compliance and defines the purpose, objectives and requirements of this policy. Statements derived from the preamble indicate that cross compliance shares a similar agricultural land use objective to the LFA measure.

- 'The full payment of direct aid should be linked to compliance with rules relating to agricultural land, agricultural production and activity. Those rules should serve to incorporate in the common market organisations basic standards for the environment, food safety, animal health and welfare and good agricultural and environmental condition'.

- 'In order to avoid the abandonment of agricultural land and ensure that it is maintained in good agricultural and environmental condition, standards should be established which may or may not have a basis in provisions of the Member States'.

- 'Since permanent pasture has a positive environmental effect, it is appropriate to adopt measures to encourage the maintenance of existing permanent pasture to avoid a massive conversion into arable land'.

Cross compliance conditions attached to the Single Payment stipulate, inter alia, that the entire farmed area should be maintained in 'Good Agricultural and Environmental Condition' (GAEC). If fully respected this should, in principle, eliminate severe shrub encroachment and abandonment in future on farms claiming the Single Payment. These are the great majority of holdings in the EU-15 at present, and in due course, will cover most holdings in the enlarged Union.

It is too early to evaluate the effects of cross compliance in practice but in principle, it should contribute to the control of abandonment and severe scrub invasion on farms receiving direct payments. It does not, however, duplicate the role of the LFA compensatory allowance for two principal reasons:

- Cross compliance is a system of penalties for failure to abide by certain conditions related to sustainable agriculture on farms receiving support. It is not a free standing land use policy in its own right.

[15] Commission Regulation (EC) No 1782/2003 of 29 September 2003 establishing common rules for direct support schemes under the common agricultural policy and establishing certain support schemes for farmers and amending Regulations (EEC) No 219/93, (EC) No 1452/2001, (EC) No 1453/2001, (EC) No 1454/2001, (EC) 1868/94, (EC) No 1251/1999, (EC) No 1254/1999, (EC) No 1673/2000, (EEC) No 2358/71 and (EC) No 2529/2001. OJ 21.10.2003 L270/1.

- Cross compliance does not offer incentives for the continuation of agricultural land use in areas where this is under threat, typically because of abandonment. Abandonment generally is associated with inadequate financial returns from farming. Returns in such areas are not increased by the operation of cross compliance. Indeed, the obligation to maintain land in Good Agricultural and Environmental Condition is likely to be relatively more onerous on more marginal land with low returns per hectare. Scrub invasion is likely to occur at low grazing densities, for example, with relatively high costs for control per unit of output. Farms need to be sufficiently viable in economic terms to bear these costs over time. The kind of support offered by LFA payments contributes to viability in this situation, which cross compliance does not.

Targeting of incentives

If it is efficient to use an incentive payment to maintain agricultural land use, it should be targeted as closely as possible at the areas where the danger of discontinuation is greatest. This is predictable in broad terms, as it will consist of land which offers poor economic returns, some of it difficult to farm. The LFA measure focuses on land affected by a range of handicaps, most of them physical, but also on institutional constraints such as those operating in Natura 2000 sites classified as less favoured under Article 16. The presence of these handicaps is only a crude indicator of potentially poor returns and hence vulnerability to abandonment. In this sense, the measure is not sharply targeted and the question arises whether all areas or farms within the LFA are in danger of a change in use. This seems inherently unlikely, particularly given the large area of land classified as LFA. Greater precision in identifying these risk factors and concentrating payments in the most vulnerable areas offers a means of improving efficiency. The fact that handicaps exist does not, in itself, mean that there is a danger of a change in land use; there may be considerable scope for changes in farm management and structure. More detailed analysis will be required, however, to identify such areas more precisely and there is a trade-off between high investment in targeting against reliance on administratively simple measures that can be applied at a broader regional level.

Implementation issues

The targeting of the measure on farms with a broad range of handicaps is achieved both by the criteria for classifying LFAs and the eligibility criteria for farms within these areas. Answers to evaluation questions under Theme 1 suggest that Member States broadly follow the requirements of the measure in setting conditions, even if they are not targeted purely at areas of greatest risk of land use change.

In efficiency terms, it is important to recognise that although a large area of land is classified as LFA, payments are made only on a proportion of the farms within the LFA and only on a proportion of its UAA.

In 2003, approximately 965,000 farms received a compensatory allowance in the EU-14, excluding Belgium. This compares with a total of about 3.3 million farms in the LFA (FSS data for 2003, see Table 7.9).

- Although the number of beneficiaries has been higher in some years, approaching around 1.2 million holdings in 1996 for example, this is not more than a third of the number of holdings in the LFA at the time.

- Since enlargement, the number of beneficiaries has increased to about 1.78 million in 24 Member States (excluding Hungary). However this is still less than half of all holdings in the LFA.

- While many of the holdings that do not receive payments are small, a substantial proportion of the UAA does not receive a payment. This is either because the holdings are not farmed by beneficiaries or because the number of eligible hectares per farm is limited under the eligibility rules.

- In the EU-15 in 2000 to 2003, there were several Member States where the proportion of eligible UAA which actually benefited from a payment was less than 50% for example, in France, Spain, Italy, Portugal and Sweden. Only in Luxemburg and Finland was the proportion over 90%.

Since land has not been transferred out of agricultural use on a significant scale in the Member States where the proportion of UAA in receipt of payments is low (although marginalisation may be occurring over time), the measure appears quite efficient in this respect.

Payment levels vary greatly between areas and Member States. The extent to which they can be explained in relation to the level of handicaps and the income level for other occupations in the LFA is considered in Theme Two (Chapter Six). The relationship between payment level and the severity of the handicap is less strong than might be expected in the correlation analysis undertaken. Furthermore, the relationship between reference income levels in the Member States and the level of the compensatory allowance is much weaker than might be expected in an efficient system, especially if the new Member States are included in the analysis. Consequently, there is evidence from FADN that payment levels could be more finely tuned to handicap intensity and background incomes giving potential for improved efficiency.

Efficiency in relation to farm incomes

The LFA compensatory allowance is intended to contribute towards the farm income deficit created by the existence of handicaps, rather than to provide complete compensation. This question was examined in Theme Two (Chapter Six). Using Farm Net Value Added per hectare (excluding subsidies) as a measure of the impacts of handicaps, it was concluded that a considerable gap between LFA and non-LFA farm incomes remains in most areas – although there are some exceptions. Evidence from this source suggests that the measure is efficient at a European scale in respect to avoiding excessive compensation although at a national or regional scale there is evidence for zero or negligible compensation in some localities and unnecessarily high payments in others.

Relative efficiency compared to other measures

There is a range of other rural development measures under Council Regulation 1257/99 which do not have the maintenance of agricultural land use as a direct objective but have some bearing on it.

Investment in agricultural holdings

This measure provides support for investment in agricultural holdings in order to contribute to the improvement of agricultural incomes and of living, working and production conditions. Ensuring continued land use is not an explicit objective therefore but like Pillar One payments, some consequences of this measure on farm incomes and viability are likely to have knock-on impacts on agricultural land use.

Setting up of young farmers

This measure provides aid to facilitate the establishment of young farmers. Among other conditions of the aid, economic viability must be demonstrated. Given that lack of succession and land abandonment in case study areas in Spain and Portugal are pronounced in the LFA, this measure could have positive impacts on continued agricultural land use.

Training

This measure is aimed at supporting vocational training to contribute to the improvement of the occupational skill and competence of farmers and other persons involved in agricultural and forestry activities, and their conversion. It has no specific relationship therefore with ensuring continued land use but could contribute to improved management and farm viability.

Early retirement

This measure aims to assist elderly farmers to retire, encourage the replacement of elderly farmers by those who can improve economic viability, and supports the reassignment of agricultural land to non-agricultural uses where it cannot be farmed viably. This measure can be seen, in some respects, as having conflicting objectives to that of ensuring continued agricultural land use mainly in circumstances where it supports the reassignment of land to non-agricultural uses. However, given that the main emphasis of the scheme is to ensure that elderly farmers retire and new farmers take over the land, it potentially contributes to the continuation of agricultural land use.

Agri-environment

This measure supports agricultural production methods designed to protect the environment and maintain the countryside in various ways, including an environmentally-favourable extensification of farming and management of low intensity pasture systems. The continuation of agricultural land use, albeit not a specific objective of the agri-environment measure, will be one effect of its application in nearly all cases. However, this measure is purely compensatory,

intended to reimburse producers for the costs of their environmental commitments and thus agri-environment payments do not contribute to the compensation of handicaps.

Improving processing and marketing of agricultural products

This measure supports investment to facilitate the improvement and rationalisation of processing and marketing of agricultural products and thereby contribute to increasing competitiveness and added value of such products. While this measure may have some indirect impacts on land use, ensuring continued land use is not its objective.

Afforestation of farm land

A group of measures provides support for forestry in order to contribute to the maintenance and development of the economic, ecological and social functions of forests in rural areas. One of these, aid for afforestation of farmland, has the objective of extending woodland areas. It can be seen to conflict with the objective of ensuring continued agricultural land use since it will facilitate the transfer of some land out of agricultural production. Afforestation takes a variety of forms and needs to be on the right scale, with the planting of appropriate species and management, and to be well sited, for example avoiding areas of HNV farmland. This does not always occur and environmentally detrimental afforestation has been documented in some Member States. Nonetheless, there is a place for appropriate afforestation in many LFA areas and the scale of planting under the current rural development Regulation is not large.

Promoting the adaptation and development of rural areas

This measure gives support relating to farming activities and to diversification away from agriculture as well as a range of other rural development initiatives, such as village renewal. Continued agricultural land use is not an objective of the measure and indeed, support for diversification from agricultural activities could be seen as being in conflict with maintaining agricultural land use. Again this probably occurs on rather a small area and does not appear to create major land use tensions.

Although none of the measures identified have an explicit objective of ensuring the continuation of agricultural land use, the setting up of young farmers, early retirement and agri-environment measures are likely to have inputs in this regard.

Given the range of their objectives, none of these measures is a real alternative to the LFA compensatory allowance as a means of maintaining agricultural land use. Other national or regional measures concerned with rural development are also in place, often on a small scale – for example within the LEADER programme. Case studies and national interviews did not suggest that these constituted a clear alternative to LFA allowances.

In principle, entirely different mechanisms are also available. Member States could, for example, institute a system of land use consents inhibiting the transfer of land to alternative uses or a land taxation regime with a similar purpose. Land use planning clearly does have a role and it can be effective in preventing inappropriate uses such as unsuitable afforestation or urbanisation. It will not prevent land marginalisation or

abandonment, however, which is the primary justification for an incentive based approach which characterises the LFA compensatory allowance.

Conclusions

Efficiency is difficult to judge where the precise impact of the LFA measure on the ground is not readily distinguished from other factors. In so far as the major threat to the continuation of agricultural land use is the marginalisation or abandonment of land, an incentive based measure targeted at improving the viability of vulnerable farms is potentially an efficient investment.

The LFA compensatory allowance does not operate in isolation from other measures affecting farm viability and land use. The market related measures under Pillar One and the new cross compliance regime in operation since January 2005 are of particular significance. However, these payments do not have an explicit land use objective. Cross compliance is not a substitute for an incentive based measure, although it is supportive of it. Other measures within Pillar Two have different objectives and are not sufficiently focused on agricultural land use to offer an efficient alternative to the LFA compensatory measure.

The aim of providing partial compensation for the impacts of specific handicaps is a sound foundation for an efficient measure, although this is only a proxy for the actual risk of abandonment and the wide scope of the measure could be narrowed to focus more on areas at greatest risk and where the benefits of continued agricultural land use are most evident. Only a limited number of farms actually received compensatory payments and in several EU-15 countries, less than half the UAA in the LFA benefits from a compensatory allowance. In this respect, costs are contained and payments fall far short of full compensation for handicaps (as measured by Farm Net Value Added per hectare). These attributes of the measure contribute significantly to its efficiency. However, a lack of clarity about the relationship between the intensity of handicaps and the level of payments in a number of Member States raises questions which could be addressed by more transparent formulae to calculate payments.

Synergy of the LFA Measure with other CAP Measures in Relation to Continued Land Use

Question 11. *To what extent has the LFA measure worked in synergy with other CAP measures or been in competition with them, in relation to continued land use?*

Introduction

This question continues from Question 10 in further considering the relationship between the LFA measure and other CAP measures with respect to the objective of achieving the continuation of agricultural land use. The analysis of the objectives of different CAP measures (Question 10) has identified several rural development

measures within Pillar Two of the CAP which can be seen to be complementary, while the forestry measure is in conflict with the LFA measure's core objective.

The analysis is developed further here by first considering expenditure on Pillar Two measures at EU and Member State level in order to gain a sense of the relative priority of different measures and the extent to which budgetary competition occurs. Material collected by national consultants and the case studies have been reviewed to determine if different measures have been used in synergistic or conflicting ways.

Analysis

Analysis of the objectives of the measures within Regulation 1257/99 highlights the following synergies and conflicts with the LFA measure:

Table 8.3 Synergies and conflicts in the objectives of rural development measures, Council Regulation 1257/99.

Measures complementary to LFA objectives	**Measures potentially complementary to LFA objectives**	**Measures potentially in competition with LFA objectives**
Setting up of young farmers	Investment in agricultural holdings	Afforestation of agricultural land
Early retirement	Improving the processing and marketing of agricultural products	
Agri-environment	Adaptation and development of rural areas	

Only the measure for training has no apparent synergies or conflicts with LFA policy and hence is neutral in relation to land use. The measure for the adaptation and development of rural areas could be both complementary to, or in conflict with, LFA measure's core objective depending on its exact use.

Table 8.4 Rural Development Expenditure in the EU-15, 2000 – 2005.

EAGGF Guarantee - Rural Development Expenditure in the EU-15, 2000-2005 (1000 EUR)		
Measures	2000-2005	% of Total
Investment in agriculture holdings	991,934	3.63
Setting-up of young farmers	580,165	2.12
Training	104,678	0.38
Investment, setting-up, training	1,676,777	6.14
Early retirement (Obj 1/outside Obj/1)	258,907	0.95
Early retirement (Old regime, R.2079/92)	993,490	3.64
Early retirement total	1,252,397	4.58
Less-favoured areas	5,685,585	20.80
Agri-environmental measures (new regime - Obj. 1/ Outside: Obj.1)	7,478,977	27.37
Agri-environmental measures (old regime 2078/92)	4,726,885	17.30
Agri-environmental measures total	12,205,862	44.66
Improving processing and marketing of agricultural products	825,175	3.02
Forestry - Afforestation of agricultural land (Obj 1/outside Obj/1)	593,561	2.17
Forestry - Other forestry measures (Obj 1/outside Obj/1)	711,663	2.60
Afforestation (old regime - 2080/92)	1,282,280	4.69
Forestry measures total	2,587,504	9.47
Financial measures bounded to agricultural sector	1,472,688	5.39
Other measures	1,188,439	4.35
Encouragement of adaptation/development of rural areas	2,661,127	9.74
Old regime before 1992	20,441	0.07
Evaluation	12,644	0.05
Transition measures (R.2503/99)	478,385	1.75
Amounts recovered, penalties, interests and etc	77,688	-0.28
Other	433,782	1.59
TOTAL	**27.328.209**	**100**

Source: Rural Development in the EU (European Union Directorate General for Agriculture and Rural Development, 2006)

This indicates that 51.36% of the rural development budget has been spent on measures that are complementary to LFA objectives (72.16%, including LFA). The picture at individual Member State level is somewhat different from the EU-15 average. Some Member States allocate a greater proportion of funding to measures that can be seen as complementary to the LFA measure. Furthermore, the priority given to the LFA measure varies greatly between Member States. Figure 8.1 shows the break down of planned expenditure for rural development measures for 2000 - 2006 showing the four accompanying measures (early retirement, LFA, agri-environment and forestry) and grouping the remaining measures into 'other'. This shows that several Member States, notably Austria, Ireland, Finland, Sweden and the UK planned to give greatest budgetary priority (> than 50% of total expenditure) to the complementary measures of LFA and agri-environment.

By contrast expenditure on agri-environment measures is notably low in Greece, Spain, the Netherlands and Portugal and these Member States also planned lower than average expenditure on the LFA measure. Some nine Member States planned to give

greatest budgetary priority (> than 50% of total expenditure) to 'other' measures. Some of this expenditure is potentially supportive indirectly of continued agricultural land use while some could conflict with it. Planned expenditure on forestry measures is most significant in Ireland, Spain and Portugal.

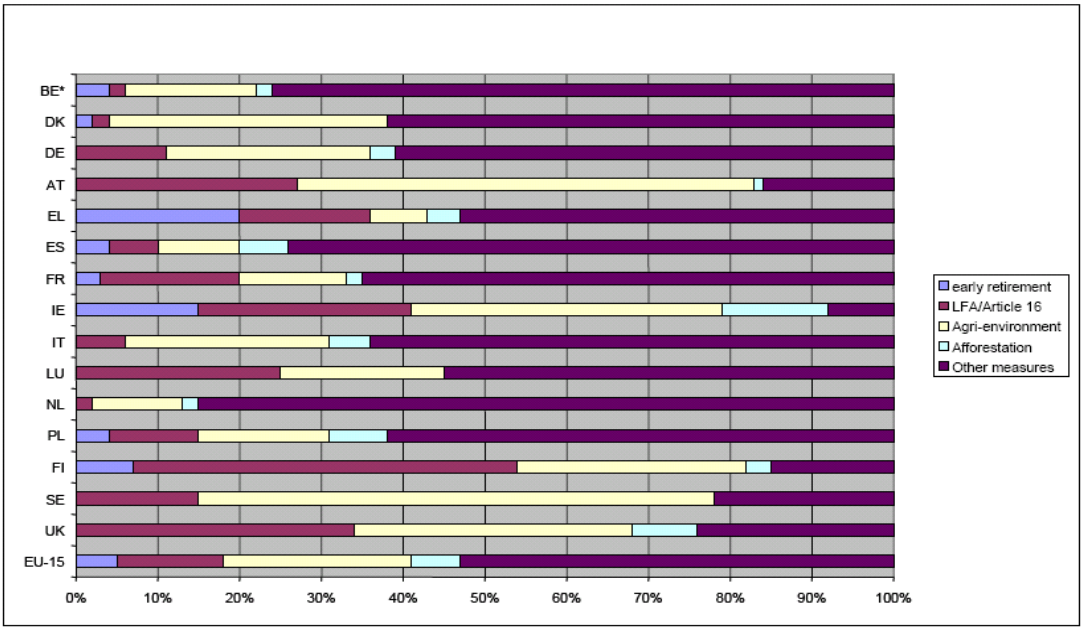


Figure 8.1. Planned allocation of RDR spending in Member States 2000-2006.

Source: European Commission (2005) Agri-environment measures: overview on general principles, types of measures and application. DG Agriculture and Rural Development. Unit G-4 Evaluation of measures applied to agriculture.

National reports and case studies afford some insight into how Member States have used rural development measures and the extent to which different measures are seen to support or conflict with the LFA measure in relation to ensuring continued agricultural land use. Several key themes emerge:

- The importance of a 'bundle' of subsidies – related to both Pillar One and Pillar Two measures – in supporting farm incomes and the viability of farming in the LFA and hence land use;

- The widespread use of the agri-environment measure and its complementarily with the LFA measure; together these measures are seen as helping to support extensive grassland/livestock systems especially in mountain LFAs and the more disadvantaged parts of the LFA;

- In general, LFA farmers have access to all other EU rural development measures operating in their country and, in some cases, preferential criteria are applied to beneficiaries of the LFA compensatory

allowance wanting to participate in certain other measures in some Member States (Italy and Austria);

- Investment in agricultural holdings and setting up of young farmers are identified as being complementary to the LFA measure in Spain, Belgium and Italy.

Complementarily depends partly on how measures are applied in the regional context in Ireland, for example, some concerns have been raised about the possible adverse relationship between the LFA scheme and the Afforestation scheme. In the Department of Agriculture and Food's Expenditure Review of the LFA Scheme (2005) it was recognised that direct payments to farmers may have been an impediment to farmer's participation in the CAP Afforestation Scheme, contributing to the 30% shortfall in Ireland's annual forestry targets in terms of area planted between 1996 and 2003. The introduction of the Single Payment Scheme in 2005, however, is seen as a way of overcoming this impediment and enabling the targets for afforestation to be achieved.

Forestry is also referred to in the Portuguese national data report. The afforestation measure, first established under Council Regulation 2080/92, was seen by some farmers without a successor as a means of exiting the industry while retaining an income. Between 1994-1998, the afforestation rate was around 26,000 hectares per year, mainly with cork oak (*Quercus suber*), followed by the umbrella pine (*Pinus pinea*) and holm oak (*Quercus rotundifolia*). This pace diminished substantially during the 2000-2006 programming period under Regulation 1257/99 declining to around 16,400 hectares per year approved until 2003. The Mid Term Evaluation recommended changes in the structure of the aid in order to stimulate forestry. As such, afforestation on a relatively modest scale is seen as a priority relative to agricultural land use in both Ireland and Portugal.

Conclusions

The LFA compensatory allowance does not operate in isolation from other measures affecting farm viability and agricultural land use. The support measures under Pillar One of the CAP introduced in January 2005 are of particular significance. However, these support measures do not have an explicit land use objective. Other measures within Pillar Two have different objectives and are not sufficiently focused on agricultural land use to offer an efficient alternative to an LFA compensatory measure, although agri-environment schemes, early retirement schemes, investment in agricultural holdings and improving the processing of agricultural products all have objectives which are complementary to those of the LFA measure. As such, it is likely that a mix of instruments is required in order to maintain an appropriate level of agricultural land use in the LFA. Whilst the objective of the afforestation of agricultural land measure is in potential conflict with the LFA measure, since it promotes the cessation of agricultural activity, in environmental and social terms, there is no need for an exclusively agricultural landscape in LFA.

Planned expenditure on measures that are complementary to the LFA measure was significant in five Member States - Austria, Ireland, Finland, Sweden and the UK.

Planned expenditure in other Member States varied across a range of measures that are both complementary to the LFA measure and in competition with it. It is clear that many farmers receive a 'bundle' of payments from both Pillar One and Pillar Two that are likely to contribute to continued land use. The agri-environment measure appears to be particularly important in supporting extensive grassland/livestock systems in mountainous and more disadvantaged parts of the LFA.

Overall Conclusions

Determining the impacts of a single policy measure, such as the LFA measure, on land use is complex. Rural land use is influenced by a wide range of different factors including, among others, public policy, market forces and the dominant culture in rural areas. Analysis of many of these factors is beyond the scope of this evaluation. The analysis here has focused only on the impacts of public policy and, more specifically, on agricultural support measures within the framework of the CAP. LFA compensatory allowances are only one of a number of CAP payments received by farmers. Theme Three has illustrated that the income of many LFA farmers is highly dependent on subsidies but that LFA payments represent only a proportion of those subsidies (ranging up to 25 percent in 2003). For certain recipients whose profit margins are narrow, however, the compensatory allowance is significant in contributing to farm viability.

There has been a broad trend of continued agricultural land use within the LFA, with patches of expansion aswell as retreat as illustrated in the case studies. However, other changes are apparent. Indicators of structural change, which can be expected to lead to land use change such as the number of farms, farm size and the farm labour force, reveal that the overall trend both within the LFA and more broadly, has been one of a shift to fewer, larger farms managed by a smaller labour force. EU level data appears to mask some more significant regional and local trends unfurling within the LFA of progressive marginalisation and, in some instances, a running down of agricultural activity that could eventually lead to abandonment.

Efficiency is difficult to judge where the precise impact of the LFA measure on the ground is not readily distinguished from other factors. In so far as the major threat to the continuation of agricultural land use is the marginalisation or abandonment of land, an incentive based measure targeted at improving the viability of vulnerable farms is potentially an efficient investment.

The LFA compensatory allowance does not operate in isolation from other measures affecting farm viability and land use. The support measures under Pillar One and the new cross compliance regime in operation since January 2005 are of particular significance. However, these payments do not have an explicit land use objective. Cross compliance is not a substitute for an incentive based measure, although it is supportive of it. Other measures within Pillar Two have different objectives and are not sufficiently focused on agricultural land use to offer an efficient alternative to the LFA compensatory measure.

The aim of providing partial compensation for the impacts of specific handicaps is a sound foundation for an efficient measure, although this is only a proxy for the actual

risk of abandonment and the wide scope of the measure could be narrowed to focus more on areas at greatest risk and where the benefits of continued agricultural land use are most evident. Costs are lower than might be anticipated because only a limited number of farms actually received compensatory payments and in several EU-15 countries less than half the UAA in the LFA benefits from a compensatory allowance. A lack of clarity about the relationship between the intensity of handicaps and the level of payments in a number of Member States may serve to undermine the measure's efficiency. This could be addressed through the development of more transparent formulae to calculate payments.

9

THEME 5: IMPACTS OF THE LFA MEASURE ON THE ENVIRONMENT

Introduction

Agriculture's impact on the environment – on soil, air, water, biodiversity, habitats and landscape – is a result of farming systems and practices. Environmental impacts can be both positive and negative depending on the intensity of the farming system and the type of farm management practices adopted. Factors such as grazing regimes, type of grazing livestock, grassland management, type of cropping, crop varieties, crop rotations and the use of pesticides and fertilisers, are all important in determining whether agriculture has positive or negative environmental impacts. In general terms, low intensity farming systems (low input, low output) are associated with sympathetic environmental management, while more intensive and specialised farming systems (high input, high output) employing high yielding farming practices with a scarcity of more natural features are often associated with negative environmental impacts (Baldock *et al.*, 1994) In reality, high-input intensive agriculture and the least intensive types of farming can be associated with a wide range of systems and practices which have varying environmental impacts. Whereas intensity does not necessarily imply environmental damage, a higher intensity of farming practice is normally associated with greater environmental risk. Therefore, it appears justifiable to use intensity as a proxy for the environmental performance of farming.

The intensity of farming systems is often a reflection of natural conditions such as soil, climate, the angle of slopes and accessibility. Most low intensity farming systems can be found in areas where there are severe physical constraints on intensification, particularly in upland and mountain areas, drier zones and the relatively small area of wet soils that have yet to be drained. In some regions, the constraints are less physical and more socio-economic. This may be because the land is inaccessible, remote from the market or in such fragmented ownership that intensification is impractical. The location of low intensity farming systems correspond to many of the areas classified as LFA according to the analysis presented in this chapter. This is not surprising given that the LFA measure was introduced in recognition of the physical and socio-economic constraints on agricultural production facing farmers in some parts of Europe.

Question 13 requires consideration of the extent to which LFA payments have contributed to environmental protection or degradation, particularly in relation to biodiversity and landscapes. The extent to which the requirement to respect Good Farming Practice (GFP) in order to receive the LFA payment has contributed to

protecting or enhancing the environment is considered in Question 14. Question 15 seeks to understand the extent to which the LFA measure has worked in synergy with other CAP measures or been in competition with them in relation to environmental impacts. Question 16 incorporates Question 12 and considers the extent to which the implementation of the LFA measure has contributed, in an efficient way, to matching the main needs identified in terms of land use management and environmental sensitivity in rural areas of the EU.

As with Theme Four, there are considerable difficulties in developing the analysis relating to this Evaluation Theme. One of these is the challenge of clearly establishing the causal link between the LFA measure as implemented in practice, its impacts on farming systems and practices, and the subsequent environmental impacts. This is further complicated by the difficulty of separating the effects of the LFA measure on the environment from other policy measures, including, for example, Pillar One support, agri-environment and other rural development measures, or external factors, for example, market prices or social change within rural areas. Many farmers receive several different payments that affect decisions regarding farming systems and practices, and hence the environmental impacts that result from these. Where possible, the impact of the LFA measure on the environment compared to other policies and factors is identified but not necessarily quantified. Questions 13 and 15 ask for overviews for the period since the measure was first applied, but information is lacking for the early years of LFA implementation. Most evidence of the historical environmental impacts of the LFA measure is derived from the literature and case study reports, and consistent data on other CAP measures is only available from 2000 onwards under the current rural development programming period. Ascribing impacts to measures applied in the different categories of LFA is also difficult under this Theme due to the lack of disaggregated data.

Contribution of LFA Payments to Environmental Protection and/or Degradation

Question 13. *To what extent have LFA payments contributed to environmental protection (including landscape protection) and / or environmental degradation?*

Introduction

This section begins by reviewing evidence for the relationship between farming and the environment and examining the main threats to the farmed environment. This is the background for considering the environmental characteristics of areas classified as LFAs and farms receiving LFA payments. The relationship between the implementation of the LFA measure and the environmental outcome is then explored, looking at different aspects of implementation such as the classification of areas and use of farm eligibility criteria, and seeking to establish any causality over the period the measure has been applied.

Analysis

To contribute to environmental protection farming systems have to be sensitive to specific local conditions and be based on appropriate practices. Evidence of agricultural and environmental trends in the LFA and/or low intensity farming systems and farmland in Europe cannot be taken from any consistent database. A variety of sources offer appraisal of developments, often more qualitative than quantitative. These include case studies and expert interviews for this evaluation and a range of literature that is both national and multi-country in scope (for example CJC Consulting, 2003). Changes during 1990-2000 were assessed by the EEA in its work on agri-environment indicators. The IRENA (Indicator Reporting on the Integration of Environmental Concerns into Agriculture Policy) operation was a joint exercise between several Commission Directorates-Generals and the European Environment Agency (EEA) to develop 35 agri-environmental indicators for monitoring the integration of environmental concerns into the CAP in the European Union (albeit, limited to the EU-15).

Within the very extensive area of land classified as LFA there is a range of farming types stretching from high mountain pasture to intensively managed crops and irrigated areas. In France in 2000, for example, maize fodder crops accounted for about 1% of the area of mountain LFA farms, 8% of “simple” LFA farms and 24% of the less disadvantaged “Piedmont” LFA farms (CJC Consulting, 2003).

In the less intensively managed areas that comprise the majority of the LFA, farming has been undergoing a series of changes since the mid 1970s when the LFA Council Directive (75/268/EEC) was introduced. These reflect developments in agriculture as a whole – the introduction of new technologies and reduced labour input, growing scale of production and tendency to specialise, and adaptations to new market conditions. There was a growing use of agrochemical and inorganic fertiliser inputs, peaking in the mid 1980s in some Member States, later in others. Where there was investment in infrastructure it has focused more on enhancing productivity through drainage, irrigation, new roads, consolidation of parcels and greater field size than on more traditional landscape elements such as stone terraces, hedges, and vernacular buildings.

Some of these changes have occurred later and to a more limited extent in less intensively managed areas where yields and returns on investment are often lower. More traditional forms of management have persisted longer in some areas, for example in more remote locations and those where older or part time farmers play a prominent role. In the Mediterranean LFA regions, where small and mountainous farms are widespread, changes have occurred more slowly than in North West Europe (Caraveli, 2000).

Box 9.1 HNV Farmland.

Most farmland and farming systems of High Nature Value (HNV) are found in areas with low input agriculture (Andersen *et al.,* 2004). Biodiversity generally decreases when the intensity of farming increases, in terms of nutrient and pesticide inputs, use of machinery and overall productivity. The most intensive arable and grassland systems have low levels of species diversity. The majority of HNV farmland consists of semi-natural grasslands and is managed under farming systems characterised by low stocking densities, low levels of agro-chemical inputs and often labour intensive management practices such as shepherding. Typical examples of HNV farmland are extensive grazed uplands in the UK, alpine meadows and pasture, steppic areas in eastern and southern Europe and *dehesas* and *montados* in Spain and Portugal. These low intensity farming systems are associated with a high species and habitat diversity or the presence of species of European conservation concern.

The European Environment Agency has made some progress in defining HNV farmland (EEA, 2004) and developed an indicator through the IRENA project that provides preliminary data on the distribution of high nature value farmland. Figure 9.1 shows the estimate of the distribution of HNV farmland in the EU-15 based on a land cover approach. This is taken from CORINE land cover data which is acknowledged to have drawbacks as an indicator of HNV farmland but is considered to be a reasonable prediction of the most likely location of HNV land. Figure 9.2 shows those areas of the EU currently designated as LFA (EU-15 only). Comparison of the two figures highlights a strong overlap between the distribution of HNV farmland and those areas of Europe classified as LFA. This reflects the predominantly low intensity farming systems in the LFA.

Four broad trends in farming with particular environmental significance are referred to frequently in the literature which may unfurl in concert or in isolation. They are characteristic of change in the LFA although have occurred on varying timescales in different places.

1) *Intensification* is characterised by higher stocking densities, the increased use of inputs such as pesticides, fertiliser and compound feeds, grassland improvement and greater use of mechanisation. This was marked in many areas where there was scope for increasing output in the 1970s and 1980s but has been less widespread since the mid 1990s. There were significant increases in sheep numbers in the 1980s in several Member States including the UK, Ireland, Spain and parts of Greece. This was followed by an overall decline in sheep and cattle numbers in the EU between 1990 and 2000, although livestock stocking densities grew by more than 10% in some regions during this decade. These included increases in sheep stocking densities in Southern Greece and Central Spain and increases in cattle stocking density in Southern France, Southern Italy and Western Spain. There are sizeable areas of LFA farmland in these regions.

In Greece, average stocking densities rose from 0.6 to 0.7 livestock units per hectare between 1985 and 1993, while the share of irrigated land in the LFA rose from 10 to 16%. In Italy irrigated land rose from 6 to 8% of the agricultural land in the LFA, contrasting with Spain and Portugal where the share of irrigated land fell slightly (Caraveli, 2000). Maize has been subject to increasing irrigation in France, Germany and Spain in the 1990s (EEA, 2005). On grassland there was a tendency to raise productivity by reseeding on better ground, changing species composition, increasing nutrient inputs and changing management practices. Haymaking once widespread in the uplands and mountains has been in continuous decline, giving way to silage production since the 1980s.

Reports of intensification in the LFA are now much less widespread, although the search for higher productivity goes on and many expect a higher level in Central and Eastern Europe as economic recovery takes place, new markets emerge and funding under the CAP increases (EEA, 2004). The move to decoupled rather than livestock headage payments within Pillar One of the CAP and to area payments under the LFA is a significant factor in stabilising or lowering stocking densities in several Member States (see case studies and CJC, 2003).

2) *Specialisation* is a decline in mixed farming systems, the concentration of production on one or few enterprises and less diversity of crop types, varieties and livestock breeds.

3) *Abandonment.* Data on outright abandonment is not readily available but insofar as it occurs, it is concentrated predominantly in the LFA where economic returns are low. It seems to have occurred more in the 1970s and early 1980s than recently and to have been most prevalent in drier areas of the Mediterranean (Spanish report, case studies, Caravelli, 2000). The social and economic transformation of farming gave rise to abandonment in parts of Central and Eastern Europe in the 1990s. In Spain, abandonment was most prevalent in the 1960s up to the mid 1980s but has been vastly reduced by the operation of the CAP. Smaller scale abandonment can be found in several countries at different periods, usually concentrated in more marginal farming areas with physical or socio-economic obstacles to modern agriculture, typically characterised by steep slopes, small terraces, wet areas without drainage and often located in remote mountain regions. Both arable land and mixed systems have been abandoned, often to be replaced by specialised livestock systems, plantation forestry or natural succession.

4) *Reduced Management.* In many of those areas which have remained under more extensive forms of management, farming practices have been adjusted to changing conditions/circumstances. In particular this has involved a lower use of labour resources, often leading to a simplification of traditional systems, such as the tendency to ‘ranch’ permanent pasture. In the least favoured areas, progressive marginalisation can occur, with the early stages of abandonment on the least productive parts of the farm. Examples drawn from the EEA 2005 report include:

- A decline in the diversity of livestock types and greater emphasis on productive breeds throughout the 1980s and 1990s.

- A decline of 25% in the total area of non-specialised livestock farms in the EU-12 between 1990 and 2000.

- A decline in transhumance and a move towards more sedentary livestock systems in many Mediterranean pastoral areas during the 1980s and early 1990s.

- Increases in invasive species. In Wales, for example, the area of bracken was thought to be advancing by 1 to 3% per annum in the early 1990s (Midmore *et al.*, 1998).

- A risk of marginalisation, due to economic and demographic conditions, was identified in the 1990 to 2000 period in Ireland, Northern Ireland, the south of Portugal and a large part of Italy, leading to the possible further abandonment of farmland.

The environmental impacts of these changes in farming systems and practices are diverse and less well researched and documented. However, the implications of these changes can be illustrated from the literature as follows:

- Little evidence exists on the precise effect of changing management practices on habitats and species. However, some attempts to assess the situation in the UK uplands have been made. Increased stocking rates and a decline in the traditional management of grazing land, for example heather burning, have led to a reduction in the extent of valuable heather moorland and heathland habitat at the expense of species-poor acidic grassland.

- The shift from hay making to silage is known to be damaging to the conservation of grassland as it leads to reduced species diversity, but the outcome of the change from hay-making to low intensity grazing in some regions as systems are ‘run down’ may cause less concern.

- Changes in stocking density can lead to both over and under grazing. Overgrazing results in loss of species diversity in severe cases and can be linked to problems such as soil erosion. Undergrazing can be problematic where it leads to scrub encroachment and tree growth on habitats of conservation importance.

- The simplification of livestock systems and their concentration on one type of animal (for example sheep in some areas) implies a reduction in the diversity of grazing and browsing patterns and hence in the vegetation structure.

- Changes in the type and breed of livestock can alter the management of semi-natural habitats significantly. Due to their hardiness and ability to exploit rough forage such as Atlantic heather moor or Mediterranean scrub, traditional livestock breeds are better adapted to the management of semi-natural

grassland. Modern improved breeds generally cannot graze less nutritious vegetation effectively or require supplementary feed to ensure adequate rates of growth.

- The decline in transhumance has implications for both lowland and upland areas, although little monitoring of these effects has been carried out.

- Abandonment has led to the loss of certain types of grassland and associated birds and mammals, but at the same time natural succession and reduced pressure from stock and shepherds in some places may have benefited some large mammals, for example, bear, wolf, boar and some raptors.

- The majority of farmland birds have suffered a strong decline in numbers from 1980 to 2002. This decline levelled off in the 1990s but species diversity remains at a very low level in intensively farmed areas. Data for important bird areas and Prime Butterfly Areas show that a significant share of these sites is negatively affected by agricultural intensification and/or abandonment (EEA, 2005).

In the UK, there is a considerable amount of research showing the environmental importance of the farmed uplands and mountains which form the most disadvantaged section of the LFA. The land farmed with the lowest intensity comprises mainly semi-natural habitats of conservation interest, including large areas of heather moorland for example. It has been estimated that 42% of the 90 vegetation communities found in the farmed uplands are of international importance and 12 per cent are listed in the annexes of the Habitats Directive (Thompson *et al.* 1995). Over one hundred bird species breed and feed in these habitats and there are large areas of landscape value (Midmore *et al*., 1998). Low intensity agricultural management is strongly preferred as the form of management to maintain the conservation interest of these habitats (Ratcliffe and Thompson, 1988). A similar picture emerges at the European level for semi-natural vegetation subject to low intensity agricultural management. Although the data are much more limited, it has been estimated that more than half of Europe's most highly valued biotopes occur on low intensity farmland (Bignal and McCracken, 1996).

Environmental change in these areas is not entirely due to the dynamics of agricultural management. In several Member States, including Spain, Portugal, Ireland and the UK, there have been significant afforestation programmes at different periods causing a loss of established habitats at a local scale. Urbanisation is a factor is some areas, recreational pressure, such as skiing, in others.

Nonetheless, changes in agricultural management are of primary importance in altering vegetation communities, wider ecological values and landscape interest, as illustrated in the UK (see Box 9.2).

Box 9.2 Ecological impacts of management changes in grazed habitats.

Scientific research in the UK has revealed of some of the impacts of management, particularly intensification in the 1970s and 1980s. For example in England and Wales, examination of farm census data suggested that nearly half of moorland rough grazing had a stocking density of less than one sheep per hectare in 1977. This had fallen to about 7 per cent by 1989. The more heavily stocked moorland tripled in area over the same period (Thompson *et al*., 1995). Enhanced grazing pressure results in changes in species composition and plant community structures, in many cases leading to the reduced prevalence of species of conservation concern. Semi-natural habitats become more uniform with subsequent impacts on the fauna – that for birds being best documented. Several species of conservation concern have experienced population decline especially moorland species for example hen harrier, golden plover and small ground nesting birds (Midmore *et al*., 1998).

While the impacts of grazing pressure are complex and there are uncertainties about the degree to which different species can tolerate changes in grazing pressure, both intensification and the withdrawal of management can have significant effects throughout the ecology of farmed systems (Bignal and McCracken, 1996). This is perhaps the single most important environmental management issue in areas with semi-natural vegetation. In drier Mediterranean areas, soil erosion is more prevalent as a consequence of overgrazing, while the abandonment of farming can lead to enhanced risk of forest fires because of the growth of combustible vegetation.

Work undertaken at national level for this evaluation and the case studies provide evidence of significant variation in farm management and natural processes at different scales within the LFA. There is evidence, for example, of overgrazing in Ireland, intensification in Austria and agricultural abandonment in Italy and Spain at certain periods. The environmental impacts of these agricultural processes can be seen to have both positive and negative impacts on the environment. For example, extensification and, even to an extent, land abandonment in certain areas can give rise to positive environmental impacts by reducing pressure on soil, air and water resources and allowing certain habitat types and species to dominate. Conversely, large reductions in grazing pressure or the complete cessation of grazing can give rise to changes in vegetation that result in reduced habitat and species diversity. The scale, intensity and distribution of impacts will always be variable and these variations relate to differing physical, economic and social circumstances, the decisions made by individual farmers and the complexity of linkages between agricultural actions and environmental outcomes.

The influence of LFA payments

A combination of CAP and national measures influence agricultural management in the LFA. They are one strand in a web of factors affecting farm decision making and often it is difficult to distinguish their precise impact.

The LFA compensatory allowance has been offered alongside market support measures since 1975. These market measures have had a significant influence on the level of support offered for a range of livestock and crop products through price support, headage payments and other mechanisms. The analysis in Chapter Seven suggests that support for farms in the LFA is provided more from direct payments and market support mechanisms than from the compensatory allowance, but even if LFA payments constitute a small proportion of farm income, they may exert a distinctive influence on management decisions.

This potential influence is considered in relation to a number of sub-questions:

a) How far have Member States classified farmed areas of potential environmental sensitivity within the LFA?
b) Does the LFA include areas where the continuation of agricultural management is of environmental benefit?
c) In so far as the LFA measure has contributed to the viability of farming, has this encompassed specific types of farm where continued management is of importance environmentally?
d) Has the combination of eligibility rules, payment structures and levels been targeted at environmental priorities?

The related issue of the influence of Good Farming Practice rules is considered under Question 14.

a) *Classification of LFAs in relation to the environment*

Member States can classify up to ten per cent of their LFA under Articles 16 and 20 – areas with environmental restrictions and areas with specific handicaps respectively – of Council Regulation 1257/99. Of the total area of UAA classified as LFA, only 0.8% was classified under Article 16 by 2004 which includes that classified by Flanders in Belgium and six of the German federal states. Austria has established criteria for Article 16 but they are not yet used it in practice. This indicates that very few Member States have taken the opportunity to target LFA payments at areas of recognised environmental need and its principal utilisation to date has been in Germany.

Some Member States have used Article 20 to classify areas on the basis of environmental sensitivity or landscape factors. This is the case in Flanders, Germany, Spain, France, Italy, Austria, Finland, and Sweden. In 2004, only 5% of the total LFA was classified under Article 20 (which includes classifications under criteria other than environmental ones) compared to some 94% under Articles 18 and 19. The analysis in Theme One reveals that the criteria used by Member States to justify these classifications under Articles 18 and 19 are not explicitly environmental, although a number of farm level eligibility criteria introduced since 2000 have a potential environmental impact, including the proportion of land in permanent pasture, changes in the minimum and maximum stocking densities and the addition of environmental enhancements. This indicates that relatively few Member States have revised LFA classifications since 2000 or targeted classification to meet environmental objectives. The fact, therefore, that many areas classified under Articles 18 and 19 coincide

strongly with areas of environmental importance is a reflection of the coincidence between mountain areas, the types of farming targeted and environmental value.

A re-examination of LFA boundaries on the basis of environmental value would likely result in slightly different LFA maps being drawn. While it might be envisaged that many parts of the LFA, as currently classified, would continue to be LFA including large areas of HNV farmland, some inter-change between non-LFA and current LFA would also be expected. Significantly, some of the more agriculturally intensive – and lower nature value – parts of the LFA would be anticipated to fall outside of an environmentally re-focused LFA measure.

b) *Does the LFA include areas where the continuation of agricultural management is of environmental benefit?*

Since the principal objective of the LFA measure is to bring about the continuation of agricultural management this is an important question. There is no definitive scientific answer. The literature supports the view that continued agricultural management is the best means of maintaining vegetation communities and broader ecological processes on a range of semi-natural habitats, predominantly those subject to low intensity farming. These habitat types are concentrated in areas where the intensification of farming has not occurred, usually because of physical constraints. Hence there is a substantial overlap with areas subject to agricultural handicaps. This is demonstrated in the highly provisional map of HNV farmland (Figure 9.1), seen in relation to the current map of LFAs (Figure 9.2).

There is no comparable dataset for agricultural landscapes but it is clear from maps of protected areas in Europe that many of these are located in the LFA.

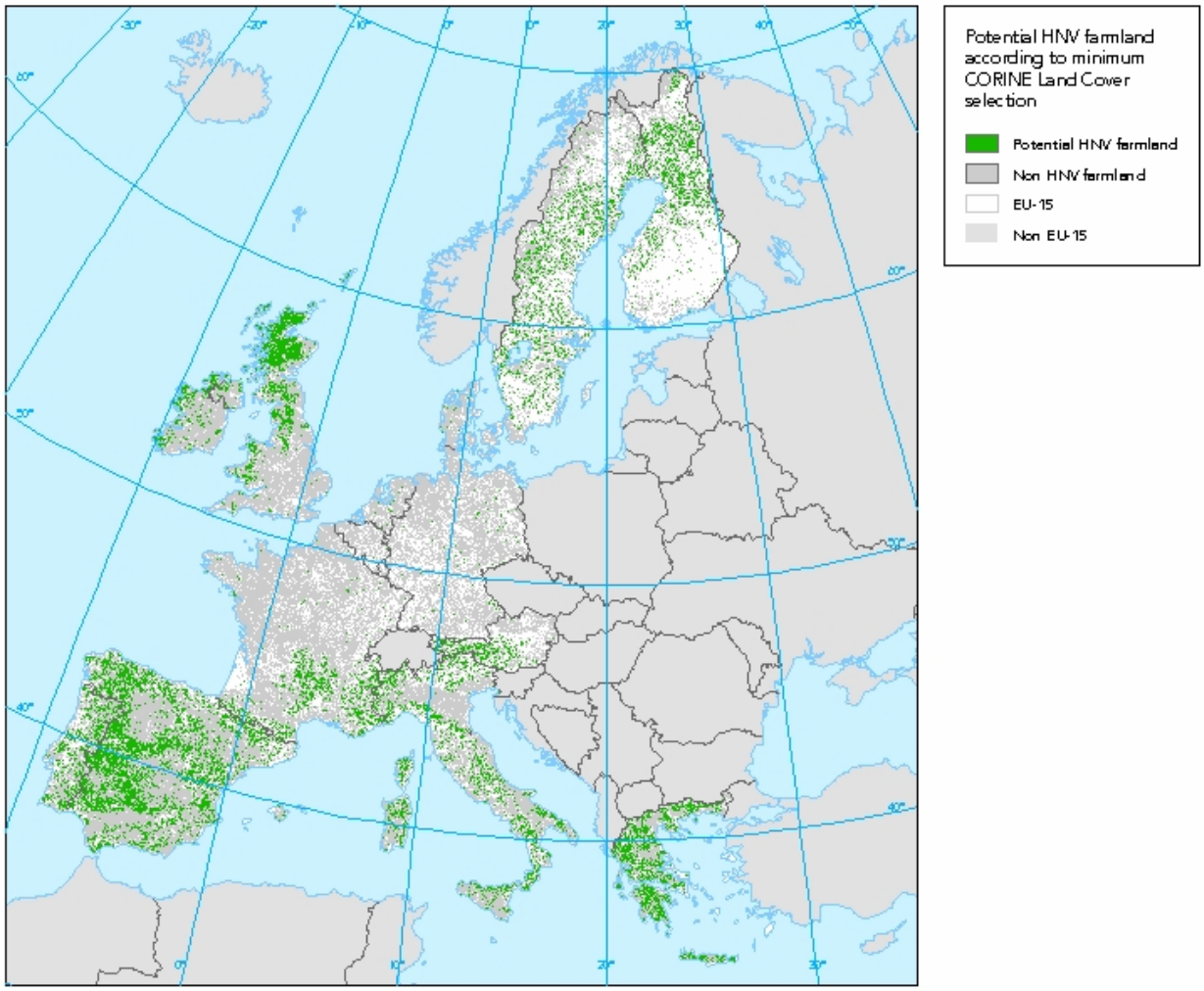


Figure 9.1 Initial estimate of distribution of HNV farmland in Europe (EU-15).

Source: IRENA Indicator Fact Sheet (EEA, 2005)

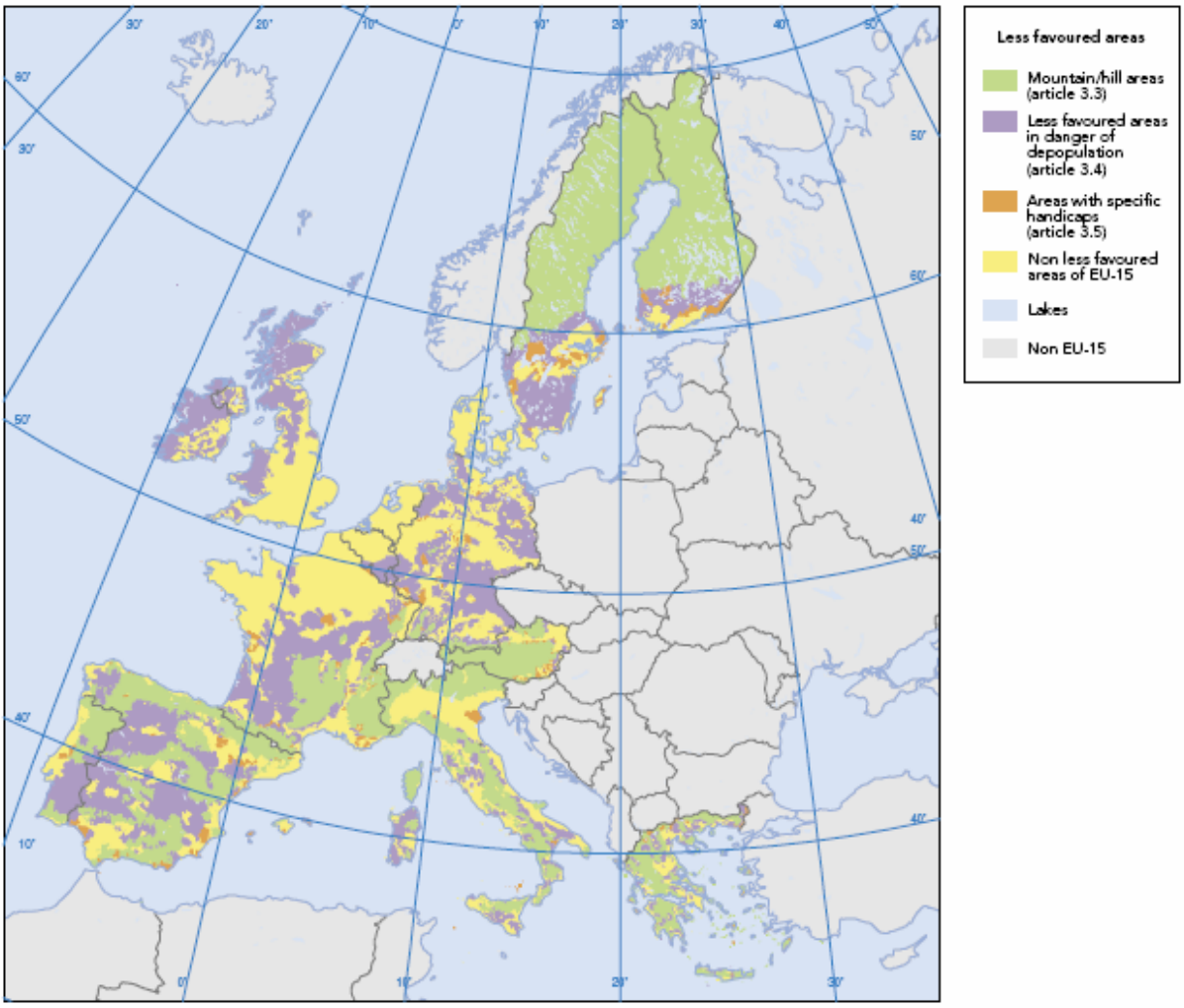


Figure 9.2 Less Favoured Areas in the EU-15, late 1990s.

Source: EEA, 2004.

The LFA covers both large areas of environmental sensitivity and others where management is generally too intensive to support conservation interest, for example where substantial irrigation or heavy stocking rates occur. The exact proportion of land where continued agricultural management is desirable in nature conservation terms is difficult to estimate but it is likely to include a large proportion of land classified under Article 18 and less of the areas classified under Article 19 – although many of these are of value, as illustrated above for the UK where upland farming is classified under this measure. Two caveats apply to this generalisation:

- Continued agricultural management supports environmental objectives in these areas if it is at an appropriate level of intensity.

- Variations in the structure and composition of habitats and their juxtaposition often contribute to conservation value. There are many areas where patches of woodland, scrub or abandoned land in a predominantly agricultural landscape

might enhance rather than detract from conservation value. Uniform agricultural management is not necessary or desirable in all locations.

In landscape terms it is more difficult to generalise at a European level. Many protected landscapes subject to agricultural management do occur in more mountainous or upland areas partly because farming is less intensive as well as the aesthetic appeal of the topography. Some landscape factors such as terraces and stone walls are particularly widespread in the LFA because of their association with traditional farming. There are areas where agriculture contributes to landscape values by contrasting with urban or recreational development. In others, the contrast is with predominantly forested landscapes. In Finland, for example, a high value is placed on the protection of open landscapes in a relatively flat terrain where forestry dominates land use. Agriculture is the primary means of maintaining these open landscapes.

As for nature conservation, agricultural management is not essential in every location to secure landscape value and there are areas in the LFA where landscape interests argue for greater tree cover, for example in parts of Scotland. In considerable areas classified under all four Articles, however, agricultural management does support landscape values.

For other environmental values, such as the protection of water quality, prevention of erosion and mudslides, control of vegetation creating fire risks, a pan-European appraisal is limited by the absence of data. Clearly agriculture of an appropriate kind can and does contribute to these environmental values in a range of areas in different Member States.

Inappropriate farm management on the other hand can contribute to some of the environmental degradation in the LFA, for example, where nutrients contaminate groundwater or excessive grazing pressure creates soil erosion. Forestry may offer an alternative form of management to supply ecosystem services such as clean water in certain areas. In others, agriculture is likely to be preferred, for example where vegetation management is required to control fire risks.

In conclusion, there are substantial areas of the LFA where the continuation of agricultural management contributes directly to environmental objectives – provided farm management is appropriate.

c) *Continued management of different farm types*

The analysis in Chapter Seven suggests that the LFA compensatory allowance has made a contribution to the maintenance of agriculture although it makes up a relatively small proportion of farm income in large areas of the LFA. Until the advent of area payments under Agenda 2000, compensatory payments were paid predominantly in the form of headage payments and participation by farmers had been greater in livestock production than in other sectors. This orientation towards livestock farming support has been reinforced by the more concentrated use of the LFA measure in North West Europe (for example in Ireland, France, Germany and the UK) than in the Mediterranean countries along with the application of eligibility rules which excluded non-livestock farms from receiving an LFA payment.

This livestock orientation has resulted in the measure contributing more to the continuation of grazing and, to a lesser degree, hay making and other forms of fodder production than it has to arable cropping, permanent crops and more mixed forms of agriculture. Small scale mosaic landscapes found in parts of Italy, for example, are less well represented within the LFA than open grazed landscapes. Given the significance of continued appropriate grazing for maintaining nature conservation and landscape values, the LFA measure has been a highly relevant policy tool for addressing a key issue. The need, however, is for appropriate grazing patterns, not just the continuation of farming. This can be addressed by fine tuning the compensatory payments or by other measures. It has proved more difficult to achieve than maintaining farming, as is clear from the evidence reviewed earlier.

In environmental terms it would not be appropriate to focus LFA support on cropping systems and mixed farming enterprises unless these were generally low input given the pressures created by mechanised high yielding systems. Nonetheless, the limited representation of low input mixed systems in some regions of the Mediterranean may have contributed to the decline of these landscapes and greater uniformity in the farmed LFA.

The impact of the compensatory allowance on farm viability appears to have been greater not only in livestock areas but in some specific regions such as Finland where the maintenance of formal landscapes is a central issue. In some Member States, the compensatory allowance contributes a bigger share of farm income in mountainous regions than in the rest of the LFA. This is true in France for example, as shown in the case studies and other sources (see CJC Consulting, 2003 for example). Given the environmental significance of these areas, targeting of this kind, whether undertaken for environmental or for other reasons, supports a range of environmental objectives.

d) *The influence of eligibility rules and payment conditions*

These rules are determined partly at the EU and partly at the Member State level. Some are of direct environmental significance. For example, prior to 2000 the system of headage payments was subject to a limit of 1.4 LU per hectare under the relevant Community Regulations. Under the current Regulations Member States are permitted to set their own stocking density limits and several have no ceiling at all or have a combination of minimum and maximum levels.

Eligibility conditions

Member States use a wide range of eligibility conditions, within the rules of Council Regulation 1257/99, to determine which farmers/farms should benefit from LFA support within classified areas. Annex 5 of the accompanying report to this evaluation (IEEP, 2006) lists the eligibility criteria currently applied by Member States while Theme One provides an analysis of these criteria. Several criteria, commonly applied by Member States, are likely to have little direct bearing on the environmental impacts of payments, including those which relate to place of residency, age, proportion of income from farming and economic size of farm.

The criteria which relate to farm size, stocking densities, production type or cropping restrictions are more significant from an environmental perspective because they are likely to have a more direct bearing on land management and the resultant environmental impacts. Stocking densities are more closely linked to environmental impacts although the actual impacts of livestock grazing at farm level will also depend on factors such as the timing of grazing, stock management and the type of livestock grazed. Many Member States apply minimum and/or maximum stocking densities with values ranging from a minimum of 0.15 LU/ha, as in Ireland and England, to a maximum of 2 LU/ha in the Simple LFA in France and where rainfall is greater than 800mm in Spain. In many countries, no maximum stocking density is applied thereby providing no constraint on the intensity of livestock production. It is likely that the specified stocking densities (or lack of them) will be too high or too low to maintain the environmental value of some habitats and species. This may contribute to environmental degradation through processes such as undergrazing and overgrazing. In other cases, however, it is likely that the imposition of such stocking densities will maintain the environmental value of habitats and species and hence such eligibility criteria will have contributed to environmental protection. Given the complex relationship between grazing pressure and the environment, the ideal situation would be to establish appropriate stocking densities at farm level according to the environmental conditions found there and the objectives to be achieved.

Finally, some Member States specify the type of production that is eligible for payments. Natura 2000 sites are subject to specific rules in several Member States – as would be expected. Manure spreading is banned on vulnerable nature zones in Wallonia. There are also examples of targeting under Articles 18, 19 and 20. For example, some German regions specify that only grasslands and pastures are eligible, and some Italian regions link support to continued livestock and forage production. In this way, LFA support can be targeted at types of production with environmental potential. Under Article 20 designations, the Netherlands specifies that applicants must:

- Not pursue activities that will have a negative effect on existing values of nature and landscape. This includes changes in parcelling, micro relief, soil structure and soil profile;

- Not pursue activities leading to a lowering of the groundwater level or a change in landscape elements.

Over 20 different active management measures are also specified, with very detailed criteria, depending on the objectives. Examples include the presence of certain species, land use, minimum and maximum area and soil cover.

This level of environmental specificity in eligibility criteria is not widely applied by Member States and represents a missed opportunity to strengthen the link between the objectives of the policy and its application.

Payments and payment conditions

A wide range of payment conditions is applied by Member States. Annex Five of the accompanying report to this evaluation (IEEP, 2006) lists the payment conditions currently applied by Member States while Theme Two provides an analysis of these conditions. Payment conditions frequently take into account variables such as the degree of disadvantage, different types of LFA, production types and farm size. Denmark, the Netherlands and Estonia offer standard payments across all LFA types. Many Member States offer higher payments for an initial number of eligible hectares and many apply limits to the number of eligible hectares. This excludes significant areas of valuable habitat from support but there is little evidence that it is having a detrimental effect in terms of abandonment.

Many Member States, including Ireland, UK, Austria, Finland, Italy and Sweden, calculate payments according to levels of agricultural or production disadvantage with payments increasing according to the degree of that disadvantage. Some Member States, such as Greece, Germany and Sweden give higher payments for permanent pasture. A number of Member States apply specific environmental criteria to payment calculations. Conditions which are noteworthy from an environmental perspective include:

- Belgium (Flanders) – under Article 20 flat rate payments specifically set to compensate for the manure restrictions applied.

- Germany – some regions offer higher payments for the conversion of arable land to permanent pasture and for permanent set-aside on environmentally sensitive sites.

- Greece – offers higher payments for young farmers with a Green Certificate who have undergone technical training.

- Spain – limits the area of irrigated land on which payments can be made but pays a relatively high rate on this land.

- France – increases payments by 10% if at least 50% of the livestock mix is made up of sheep and goats and summer grazing is practised.

- Italy – offers an increase in payments for organic farming and land in natural parks.

- UK – Scotland increases payments if a greater proportion of cattle are in the enterprise mix. Wales and England both offer environmental enhancements, for example favouring suckler cattle.

The switch to payments per hectare from 2000 removed the incentive to keep higher numbers of stock than otherwise would be justified. This change corresponded to environmental requirements given the overgrazing pressures in some Member States, such as the UK and Ireland in the 1980s. However, the impact was weakened by the continuation of headage payments in the beef, sheep and goat regimes. These

payments were at a higher level than the LFA compensatory allowance. The switch to decoupled payments or partially decoupled payments in these sectors will remove this dichotomy.

In switching from headage to area payments, many Member States sought to ensure that there were few farms on which total receipts from compensatory allowances fell significantly. Consequently, several increased expenditure overall or adjusted payment regimes to cushion the impact of losses. In principle the shift in the basis of payments should have favoured farms with larger areas of land with low stocking densities at the expense of more heavily stocked farms. This is compatible with a greater focus on low input and HNV systems.

In practice, evidence gathered for this report, including the case studies, suggests that the impact was limited on the ground. Some decline in stock densities is anticipated, benefiting certain areas but potentially contributing to undergrazing in others. Some national experts suggest the overall effect is positive for the environment, in line with a similar view from another recent survey (CJC Consulting, 2003).

The extent to which payment conditions contribute to environmental protection and/or environmental degradation at farm level is likely to be variable. There has been some progress towards tuning payments to environmental conditions but it has been patchy and other objectives are prominent in the majority of Member States. Increasing the use of payment conditions geared to environmental goals may be one way to potentially enhance the contribution of LFA payments to environmental protection.

Conclusions

There is a sizeable overlap between areas of high environmental value, especially those dominated by low intensity livestock production and areas currently classified as less favoured. Few areas have been classified specifically for their environmental value, however, and Member States have made limited use of Articles 16 and 20. Opportunities for more explicit targeting exist. In areas currently classified as LFA, the processes of agricultural intensification, specialisation, progressive marginalisation and land abandonment represent key threats to environmental value.

Several important environmental concerns are addressed by the continuation of agriculture per se but in most cases, the type of management pursued is also essential to meeting environmental requirements. The LFA measure has been part of a set of policies which have proved successful in maintaining farming but with variable results at the more specific land management level. The focus on livestock farms has helped to address the key issue of continued grazing on farms where profitability tends to be low and this is a major contribution to meeting nature conservation and landscape goals over a significant area. Other habitat types have benefited less from the LFA measure.

As the measure has developed over time, additional objectives concerned with sustainability and the environment have been added. Some Member States have responded by classifying new areas or altering eligibility rules and payment conditions. The majority, however have made relatively few, if any, steps in this

direction and sought continuity rather than a new focus, as confirmed by the response to the switch to area payments. Whilst it is unrealistic for the relatively simple LFA compensation payment to address the fluctuating dynamics of farming over a large area there is scope for greater tuning to the most widespread issues of intensification, specialisation and marginalisation. LFA payments could be more focused on enabling the survival of sustainable farming systems rather than agricultural management per se.

Contribution of GFP to environmental protection or enhancement

Question 14. *To what extent has the requirement to respect Good Farming Practice contributed to protecting or enhancing the environment?*

Introduction

The requirement for farmers to meet Good Farming Practice (GFP) standards was introduced under Council Regulation 1257/99. The Regulation states that farmers receiving a compensatory allowance must 'apply usual good farming practice compatible with the need to safeguard the environment and maintain the countryside, in particular by sustainable farming' (Article 14). The aim of GFP is to apply a baseline of environmental standards to be met by farmers in receipt of LFA and agri-environment payments. They are drawn up by Member States and should include verifiable standards. In principle, 5% of farmers are inspected each year to determine compliance with these standards and other requirements under the Regulation. GFP is meant to serve as a basic layer of standards aiming to protecting the environment or preventing environmental damage. The GFP standards established by Member States are reviewed here and evidence is sought on the effectiveness of these standards in protecting the environment.

Analysis

In assessing whether these requirements are contributing to environmental protection on the ground, it is helpful to establish:

- Whether GFP standards have been put in place.
- Whether they are relevant to the environmental needs addressed by the LFA measure.
- Whether farmers are aware of the standards and they are enforced by the relevant authorities.
- Whether there is any evidence that farmers have changed their practices in line with GFP standards and of impacts on the ground.

Application of GFP standards

Information has been collected in the course of this evaluation by means of research at Member State level. There is no formal report published by the Commission on the application of GFP in the Member States. The results of this research are summarised in Table 5.1 of Annex Five of the accompanying report on Member State implementation (IEEP, 2006).

This research and that of others (EEA, 2005; CJC Consulting, 2003) confirms that all 25 Member States have established GFP standards, although rather late in some cases.

The standards are diverse in ambition and focus, and are generally selected from the existing body of environmental legislation with which farmers have to comply. As such, they almost invariably include mandatory obligations for farmers based on EU, national or regional legislation. In addition, some countries have included additional requirements, some of which are treated as advisory, some as mandatory. The standards are deemed to be verifiable at farm level and an inspection can establish whether the farm complies with GFP or if an infraction has occurred.

In most Member States, national binding legislation covers only some elements of what is considered GFP. For example, there is widespread legislation about inorganic fertiliser use, manure storage and the spreading of wastes on farmland. Soil management, over grazing, landscape management and crop rotation are rarely the topic of legislative measures.

Confining GFP standards to binding measures derived from national legislation, as many Member States have done, avoids potential confusion for farmers but reduces the scope of the measures, potentially adding less value. Work by the EEA suggests that the GFP standards of most Member States that have their whole territory designated as nitrate vulnerable zones (i.e. the Netherlands, Luxembourg, Austria, Denmark and Finland) are largely statutory (EEA, 2005). Greece and Portugal have followed a more advice-oriented approach in drafting their standards, half of which are not statutory. Although they include relevant national statutory standards, the standards of the two countries make a considerable number of recommendations on different spheres of agricultural activity, so the range of coverage is broad (see Table 9.1 below).

The Italian region of Emilia-Romagna, Spain, France, Ireland and Germany have chosen a mixed regulatory/advisory approach and their codes include both statutory and non-legislative standards in the form of pieces of advice or compulsory verifiable standards. In Germany, the standards are mainly based on national law on the use of fertilisers and pesticides, although there are recommendations concerning plant and soil protection which are for the most part non-statutory. The UK, where there are variations between the countries, combines relevant legal and complementary verifiable standards that go beyond legislation, for example in relation to the standards for grazing and hedge cutting. In effect, GFP incorporates an extension of statutory measures in some Member States, not in others.

Thematic coverage of GFP standards

The broad thematic coverage of GFP standards is summarised in Table 5.1 of the accompanying implementation report (IEEP, 2006). Key headings to emerge from this survey are:

- Nutrient management.
- Use of pesticides.
- Irrigation.
- Soil management.
- Animal husbandry.
- Biodiversity and landscape.

More detailed examination of GFP standards by the EEA concludes with a similar set of themes and an estimate of the priority afforded to different categories of farming practices by GFP standards in different Member States – summarised in Table 9.1.

Table 9.1 The degree of coverage of different categories of farming practices by national codes of GFP (2005).

Farming Practices	BE Fl	BE Wa	DK	DE	GR	ES	FR	IE	IT ER	LU	NL	AT	PT	FI	SE	UK
Soil management	✓	⚑	✓	✓	⚑	✓	✓	✓	✓	x	x	✓	⚑	✓	x	✓
Water use – irrigation	x	x	x	x	⚑	⚑	⚑	x	x	x	x	x	⚑	x	x	x
Fertilisation management	⚑	⚑	⚑	⚑	✓	✓	⚑	⚑	⚑	⚑	⚑	⚑	⚑	⚑	⚑	⚑
Pesticides management	⚑	⚑	⚑	⚑	✓	⚑	✓	✓	⚑	⚑	⚑	⚑	✓	⚑	⚑	⚑
Waste management	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x	✓
Pasture management	x	✓	x	x	✓	✓	⚑	⚑	x	⚑	x	x	✓	x	x	⚑
Biodiversity & Landscape	✓	✓	✓	x	⚑	✓	✓	⚑	x	✓	x	✓	✓	✓	✓	⚑

Key: ⚑ = Priority issue; ✓ = issue covered; x = issue not covered
Source: Based on assessment of national/regional standards of Good Farming Practices included in Rural Development Programmes (RDPs) (period 2000-2006), IRENA Indicator 2 (EEA, 2005)

Most Member States have standards relating to the headings identified above with the exception of irrigation which is only a priority in all the Mediterranean Member States. While standards relating to nutrient management are established everywhere, the composition and force of the standards are particularly variable. Many Member States simply request farmers to abide by action programme measures arising from the implementation of the Nitrates Directive, or a set of guidelines or rules, while

others list in detail all the requirements related to closed dates, storage requirements and application guidelines, among others.

The relevance of the standards to the main environmental needs in the LFAs is a critical factor in the effectiveness of GFP. The overarching environmental need within the LFA is to the continued maintenance of an appropriate type of agricultural management to counter the main threats of abandonment, marginalisation and intensification which often lead to a loss of biodiversity and landscape value. There are two categories of GFP standards which can be seen to be tailored to this need: standards relating to input use and nutrient management which will curb the intensification of land management, and those relating to pasture management, a central land use in large parts of the LFA. Whilst standards relating to input use and nutrient management are widespread, pasture management is not treated as a priority in a majority of Member States with the exception of France, Italy, Luxembourg and the UK. Furthermore standards relevant to preventing the negative environmental impacts arising from reductions in agricultural activity, such as those associated with undergrazing and land abandonment, which are significant problems in some parts of the LFA are much less common. At the Member State level, there is some degree of targeting of standards to specific national and regional environmental issues, as is the case with Spain and Greece applying standards relating to irrigation and the importance afforded to soil management in Portugal and Greece where erosion is widespread. GFP standards address a rather generic suite of environmental issues with the purpose of maintaining a baseline of environmental condition.

Enforcement of standards

The enforcement of standards is a critical factor in determining their effectiveness. The number of verifiable standards defined by Member States and regions for monitoring compliance varies widely. However, enforcement of standards is rather heavily reliant on a few, selective verifiable standards subject to regular on-the-spot inspections and that can be verified by the EU audit services as well as Member State authorities. In some cases, enforcement may be assisted by the availability of data from specialised control agencies visiting farms which participate in voluntary agri-environment schemes where GFP standards also apply. Administrative controls are also used in some cases, for example to check stocking density. Some standards have the merit of being relatively easy to control even if not always closely related to the environmental outcome illustrating that ease of control is not the only measure of effectiveness. In most Member States, the ‘non-verifiable standards’ are not subject to on-the-spot inspections, although the farmer is still obliged to observe the rules and is subject to possible sanctions by the appropriate authorities.

Some national officials and more independent stakeholders interviewed in the course of this evaluation felt that awareness of GFP standards by farmers was relatively high**.** Others were more sceptical and there is insufficient evidence to arrive at a balanced view.

Relatively limited data was available to national consultants on compliance with GFP at national level and there appears to be no EU level analysis of GFP compliance. Advisory standards are not generally subject to control and often are nor expressed in

terms that allow implementation to be readily verified. Some information has been collected for Ireland, England and Northern Ireland, summarised as follows:

- In Ireland, the level of farmer compliance with GFP is apparently high; only 2.3 per cent of farmers inspected under the LFA scheme were found to be non-compliant.

- In England, the Rural Development Service identified 151 cases of over-grazing, 68 cases of unsuitable supplementary feeding and 48 cases of both between 1996 and 2006, mainly in the LFA.

- In Northern Ireland, there have been very few breaches of environmental conditions including Good Farming Practice by farmers within the LFA. According to the Mid-Term Evaluation report (2003) there were no breaches in 2000 or 2001. In 2002 there were nine breaches, all of which were first offence warnings, and in 2003 there were ten breaches, with penalties applied in two cases.

Interviews with stakeholders suggested that the GFP provisions had been helpful in improving awareness of and compliance with the standards in broad terms. The measures focus more on protecting the environment than enhancing it, as might be expected from the original objectives.

Conclusions

Member States have defined a wide range of GFP standards that farmers in receipt of LFA payments must adhere to. Variation is not surprising given the differences in conditions and the lack of an EU legal framework. There is a mixture of standards derived from existing legislation and others that are often advisory in nature. If properly applied and enforced, GFP standards have the potential to raise awareness of environmental legislation among farmers and provide an incentive to comply with the relevant obligations or face sanctions and/or withdrawal of LFA payments. The emphasis is on meeting baseline standards. Awareness of GFP among farmers is difficult to judge but some of those interviewed regarded it as fairly satisfactory. The small amount of evidence available on compliance with standards makes generalisations difficult.

Overall, although comprehensive data on compliance levels are lacking, GFP appears to contribute to the protection of the environment in the LFA. The relevance and effectiveness of the GFP standards could be improved if they were more closely aligned with the specific environmental needs in the LFA, including grazing management, landscape and biodiversity. Some Member States rely too much on advisory standards not subject to farm level verification. It should be noted that, from 2007, GFP no longer applies and instead, LFA beneficiaries will be required to comply with cross compliance conditions (Article 51.1 of Council Regulation 1698/2005) or face a reduction or cancellation of payments. As with GFP, the standards need to be relevant to environmental needs and be adequately enforced if they are to be effective.

Synergy of LFA Measure with other CAP Measures

Question 15. *To what extent has the LFA measure worked in synergy with other CAP measures, or been in competition with them, in relation to environmental impacts?*

Introduction

This question takes the same form as Question 11 in Theme 4, but examines synergies and competition in relation to the environment rather than land use. A range of CAP Pillar One and Pillar Two policies are relevant to this analysis and these were described in response to Questions 10 and 11. This material will not be repeated here, rather the focus will be on the extent to which the LFA measure and other CAP measures are synergistic or in conflict in relation to their overall rationale, objectives, targeting and application. Budget issues are considered briefly as well. There is limited environmental data or scientific work on the varying impacts of different measures but evidence is sought from the literature, national studies and case studies.

Analysis

In relation to support measures under Pillar One, there have been both synergies and conflicts with respect to environmental impacts. Synergies can be summarised as:

- Pillar One support for agricultural production, albeit taking different forms since 1975, has contributed to farm incomes in the LFA and hence to farm viability. Pillar One payments constitute a larger share of farm income than LFA payments on the great majority of farms according to FADN data (see Chapter Seven, Theme Three). Such support will have contributed to the continuation of agricultural management in the LFA and thereby to environmental outcomes that depend on such management (as discussed in Question 13 above). Examples include valued open landscapes, grazed semi-natural habitats and a range of landscape features such as terraces and stone walls. Since Pillar One payments are also received by a larger number of farms in the classified LFA than are compensatory allowances, the two measures have been complementary in relation to maintaining environmental benefits stemming from continued agricultural management.

- Prior to the introduction of decoupling for most Pillar One market regimes in the 2003 Mid Term Review of the CAP, there was production related support for a number of commodities. Some coupled support remains in many EU-15 Member States. The support has provided a direct incentive to continue certain forms of production, some of which is conducive to good environmental management in the LFA. Support for livestock production is the clearest example of synergies. Support for sheep, goats, and beef cattle was provided in the form of headage payments under Pillar One after 1992 as it was in the LFA until 2000. These headage payments were larger per livestock unit than

the LFA compensatory allowances in a headage form. The two types of headage payment worked together providing a greater level of support per animal in the LFA than in other areas. In combination, they led to livestock numbers being higher in the LFA than otherwise might have occurred. This contributed, on the one hand, to beneficial effects of ensuring the maintenance of grazing over large areas of relatively marginal farmland, whereas it resulted, on the other hand, in some areas in problems of over-grazing. Whilst stock keeping and grazing is not invariably the preferred form of land management in environmental terms it is often closely associated with the maintenance of valued landscapes and semi-natural habitats (OECD, 1996). Many of the areas of High Nature Value farmland identified provisionally by the EEA consist of predominantly grazed areas and the farming systems associated with them are largely beef cattle and sheep, although dairy cattle, goats and other stock also play a role (EEA, 2004).

- The introduction of cross compliance as a voluntary measure for Member States in the sheep and goat and beef and veal sectors in 1992 provided a policy instrument to pursue specific environmental goals. In the UK, one of a few Member States to adopt this measure, it was used mainly to control overgrazing on selected sites. Overgrazing had become a problem in significant areas of the LFA in some Member States and this is apparent in the case studies for Ireland for example. If more Member States had taken up the use of cross compliance in the 1990s it could have complemented the incentives offered under the livestock CMOs and the LFA.

- The mandatory form of cross compliance introduced under the Mid Term Review, including the GAEC provisions, as described in Question 10, complements the aims of the LFA measure regarding sustainable agriculture and preventing land abandonment. As noted in relation to Question 10, complying with GAEC can be expected to be associated with lower returns on more marginal land in the LFA**.** This disadvantage is linked to the handicaps of poor soils and adverse production conditions. Compensating for these through the LFA provides a way of assisting farmers with the challenge of maintaining holdings viable enough to continue management compatible with GAEC.

Conflicts have also arisen between the LFA measure and the Pillar One regimes with respect to the environment.

- Historically, the support system under Pillar One has been production linked, so channelling resources towards farms with high yields and greater livestock numbers per hectare. LFA farmers are less likely to be competitive and consequently more reliant on LFA payments to stay in business.

- There has been over grazing and damage to vegetation and soil in several Member States, predominantly during the 1980s. This was noted in several Member States both in North West Europe (UK and Ireland) and parts of the Mediterranean (Greece and Spain). It was particularly associated with a rise in sheep numbers in the EU, driven by the sheep and goat regime as well as market conditions. The combination of Sheep Annual Premium and LFA

compensatory allowances constituted an incentive to increase stocks on some farms well above historic levels. This pattern was far from even across Europe, however. Whilst in Ireland, sheep numbers rose from 2.36 million in 1980 to 6.10 million in 1993, and from 16.4 million to 24.5 million in Spain, over the same period the sheep population fell from 12.2 to 9.95 million in France (Baldock *et al*., 1994). In the UK, sheep numbers rose by 79% between 1985 and 1993 with a corresponding decline in the area of 'rough grazing' of up to 150,000 hectares between 1978 and 1993 (Potter, 1998). This expansion occurred both outside and within the LFA. Expansion appears to have been driven more by the headage premia under the sheep and goat regime than LFA allowances, but the latter will have played a part. Data on the number of livestock units receiving LFA payments prior to 1988 is difficult to obtain. Between 1988 and 2000 when LFA headage payments ceased to be paid (except in transitional cases) there was no strong trend at EU level although there was an upward movement in total claims in some of the countries where overgrazing was reported, for example in Spain, Ireland and the UK. This increase took place between 1988 and 1992 and subsequently levelled off (STAR Committee, 1998). Some areas remain overgrazed, others undergrazed but the incentive to increase stock numbers has been removed with decoupling. This puts the focus on undergrazing as a potentially more important issue in the coming years.

- The combination of Pillar One and LFA payments has channelled resources into agriculture, making it more competitive with other land uses. In some cases, this has inhibited alternative land uses, such as nature reserves and forestry that might be more appropriate from an environmental perspective. Agriculture management is not required everywhere to achieve environmental goals.

In summary, the LFA measure has worked in synergy with Pillar One measures with regard to maintaining agriculture and supporting livestock systems in particular – in some cases to the extent of encouraging overgrazing. There have also been conflicts particularly where Pillar One payments were driving more intensive forms of production.

Since 2000, the underlying rationale and intervention logic for both Pillar One and LFA policy can be seen to have changed along complementary paths. Greater emphasis can be found in both policies now on the goals of sustainable agriculture and environmental protection.

Within Pillar Two, there is also some evidence (drawn partly from Questions 10, 11 and 13) of synergies and more limited conflicts between the LFA and other measures.

The objectives of the eight measures contained within Council Regulation 1257/99 are highly variable. The only measures which explicitly include environmental objectives are the LFA and agri-environment measures.

It is notable that the agri-environment measure is more ambitious in its objectives, referring to environmental enhancement and a much wider range of environmental attributes. In so far as LFA eligibility rules specify environmental conditions, which

are not very widespread, they are set out in general terms, usually applying to a whole region or country. Typically, they cover stocking densities, for example. By contrast, agri-environment prescriptions are more numerous, often more specific and generally tailored to local conditions.

In applying the LFA measure, some Member States have recognised possible links with agri-environment measures. For example, some adjust such stocking density requirements if the farm is in an agri-environment agreement. Both Ireland and England specify a minimum stocking density for the LFA of 0.15 LU/ha, but accept lower stocking densities under agri-environment agreements. This is a clear example of measures working in synergy in order to meet environmental objectives.

There is scope for both synergy and conflict between the LFA measure and that for Investment in Agricultural Holdings. In practice, investments may either be positive or detrimental to environmental objectives. In a positive case, an LFA farmer might access investment aid to improve manure handling facilities or erect buildings which enabled animals to be housed and grazing pressure reduced at critical times of the year, such as in winter.

Member States receive a fixed allocation of EAGGF funds for a programming period and there can be competition between measures, including the LFA, for a share of the funds. There is scope for synergies between measures as discussed in relation to Question 11 and environmental objectives can be assisted by appropriate combination of LFA and other measures, including for example, training, improved marketing and agri-environment. In other cases, the LFA measure could absorb resources which otherwise could be directed at a more environmentally sensitive measure. Criticism has been made of the LFA measure in Scotland, for example, on these grounds in the current programming period, (Dwyer *et al*., 2002). More often in this programming period there has been an association between lower than average spending both on the LFA measure and the agri-environment measure. Greece, Spain, the Netherlands and Portugal fell into this category. Planned expenditure in 2000 – 2006 on forestry measures, where there is scope for environmental conflict, was most significant in Ireland, Spain and Portugal.

Conclusions

Most of the synergies and conflicts relating to the environment are similar to those arising with regard to land use (Question 11 in Theme Four). Relatively few CAP measures have explicit environmental objectives and where they do these are compatible with the LFA. The agri-environment measure is synergistic in that it requires more demanding and usually more specific commitments from farmers which build on the baseline of LFA requirements. These are orientated towards continued management rather than fine tuning of farm operations. Many farms are enrolled in both LFA and agri-environment schemes which appear complimentary rather than overlapping.

Afforestation of farmland represents a clear alternative to continued land use. There is potential for conflict with LFA aims and this has occurred but it should be avoidable with appropriate targeting of afforestation incentives.

Contribution of the LFA Measure to Land Use Management and Environmental Sensitivity

Questions 12 and 16. *To what extent has the implementation of the LFA measure contributed - in an efficient way - to match the main needs identified in terms of land use management and environmental sensitivity of the EU rural territory?*

Introduction

Land use management and environmental needs are expressed by a range of actors stretching from the land managers and owners of individual farms to the EU institutions where priorities are set through legislation, strategies and other mechanisms. The interplay between public needs and those of private owners is continuous but shifts over time. There is no definitive statement of these needs or of how they have evolved over the lifetime of the LFA measure. However, changes in European policy do reflect the evolution of needs and will be taken as a benchmark for the purposes of this evaluation.

In an agricultural context, there has been a shift in emphasis from commodity production under early formulations of the CAP to a recognition of the multifunctional nature of agriculture from the Agenda 2000 CAP reform onwards. At the same time, growing awareness of the negative environmental impacts of some aspects of production, on soil, air, water, biodiversity, habitats and landscapes, has led to efforts to integrate environmental concerns into EU agriculture and rural development policy.

The analysis begins by reviewing European agricultural land use and environmental needs. The extent to which the LFA measure could contribute to meeting these needs – in an efficient way – is then considered, taking account of the wider analysis of the efficiency of the LFA measure presented in Question 10. Efficiency can be defined as the best relationship between resources employed and results achieved in pursuing a given objective through an intervention. The extent to which LFA objectives are aligned with land use and environmental needs is assessed followed by consideration of the effects of implementation of the measure.

Analysis

The broad policy objectives of sustainable development and environmental integration have been significant drivers of successive policy reforms within agriculture and other sectors in recent years and set a general framework for the publicly expressed environmental needs of rural areas in the EU. Within this framework, a number of

strategies, policy documents and legislative measures express public requirements more specifically.

Environmental needs have received more prominent recognition since the late 1990s. The European Council in Helsinki (December 1999) adopted the Strategy for integrating the environmental dimension into the CAP. The integration strategy sets specific objectives as: quality and balanced use of water, agrochemicals risk reduction, reduction of degradation of soil, climate change, air quality and landscape and biodiversity preservation.

The objectives of the LFA measure evolved following implementation of Council Regulation 1257/1999. The analysis below focuses on the period since 1999.

The present day LFA measure has a number of relevant objectives. These include maintaining and promoting sustainable farming which takes account of environmental protection requirements (Article 13 a) and safeguards farming in areas with environmental restrictions (Article 13 b). Article 16 is specifically concerned with compensating farmers for environmental restrictions most notably those arising in Natura 2000 areas.

These objectives give the LFA measure the potential to contribute to a considerable range of land management and environmental needs, notably where these relate to agriculture, agricultural landscapes and Natura 2000 sites. The objective of promoting sustainable farming is expressed in very broad terms and the LFA allowance is not conceived as a tightly targeted measure. It has the potential to support broadly appropriate forms of agriculture for example by setting eligibility conditions based on environmental requirements (such as stocking rates for grazing livestock). A well tuned specification of Good Farming Practice can potentially amplify the impact of the compensatory allowance. The objectives of Article 16 are clearly related to a very specific need in Natura 2000 sites where farmers are likely to face restrictions on their management which may cause either direct income losses, through restrictions on fertiliser use, for example, or less directly, on opportunity costs such as restrictions on future drainage of land. Compensation payments are consequently required to prevent farms from being disadvantaged in the short or longer term by designation within Natura 2000.

At the same time, there are limitations on the contribution that LFA payments can make to the range of rural needs because they apply only on farmed land and the payments offered must be based on compensation for handicaps affecting agriculture. In some cases, the maintenance of agricultural land, subject to conditions under GFP and national rules (which may include grazing requirements for example), will be sufficient to meet land management needs. The maintenance of valued open landscapes is an example where the continuation of farming might be the crucial requirement. In other cases, requirements may be more complex, for example maintaining a mix of land uses, renovating collapsing terraces, sustaining transhumance systems, or maintaining farm boundaries. The LFA compensation payments are not intended for this purpose and the focus on handicaps makes them inappropriate for this.

Maintaining land within agriculture is appropriate in many circumstances within the LFA because of the prevalence of HNV farmland and the need to maintain valued open landscapes, the benefits for the management of fire and mud slides in some areas, the opportunities offered for recreation and other needs. However agricultural uses of land are not required or appropriate in every situation. Mixtures of habitat may be preferable for maintaining biodiversity or landscape values in some localities. Forest or new energy crops may need to displace conventional agriculture in some areas. In sum, there are limits on the rural needs that can be met through a measure with the objectives embodied in the LFA, although it is relevant to a wide range of these needs.

Indeed, more than one policy is likely to be required to achieve the pattern of structural developments and management practices necessary on the ground to satisfy the full range and variety of needs. The type of decisions sought from farms and other land managers may vary between locations, depending on initial circumstances and requirements over time. In the agricultural context, a range of policy interventions have an influence on management choices. Consequently, the efficiency of a single policy measure, such as the provision of the LFA compensatory allowance, will be limited unless it is deployed in an appropriate combination with other instruments in the policy mix.

Support within the different categories of LFA is the only policy instrument available for maintaining the farmed countryside in specifically designated areas. Although land under Articles 18 and 19 was not classified on the basis of its environmental interest, these LFAs do include extensive areas of protected landscapes, HNV farmland and other sites of environmental concern. The compensatory allowance directly seeks to incentivise the required management at farm level and thus, has the potential to be more efficient than other payments made to farmers where the continuation of agricultural management is a central concern. Given the farm income effects specifically arising from handicaps in the LFA and the longer term threats of marginalisation, abandonment and alternative land uses, a policy measure providing incentives where they are needed seems appropriate. It is difficult to achieve the required land management through compulsion, even if the principle was regarded as politically acceptable.

Turning from the objectives of the LFA measure to its implementation in practice, its principal role has been to contribute to maintaining agricultural land use. Levels of abandonment appear to have been rather low and this, in turn, has contributed substantially to maintaining open landscapes and other outcomes where the continuity of land use is essential.

In respect to land management and the environment the LFA measure is efficient in some respects:

- The areas designated as LFA cover most of the areas of high nature value farmland indicating some success in applying the measure in areas of environmental need. However, this arises from the measure being targeted at agricultural disadvantage, rather than explicitly at HNV areas.

- The LFA measure works in synergy with a number of other Pillar Two measures which together contribute to meeting land use and environmental needs. The LFA provides a platform for maintaining a viable form of farming onto which more targeted measures can be added. For example a significant number of agri-environmental agreements are in place in the areas classified as LFA. Both policies apply on a substantial scale and LFA alone would not provide sufficient targeting.

- The standards applied through GFP, in many cases but not all, correspond reasonably well to the environmental needs and should, where effective enforcement and compliance occurs, contribute to environmental protection.

- A few Member States, such as England for example, have chosen to use their discretion over eligibility rules to target LFA support at explicitly environmental objectives. Similarly, a few have structured their compensatory allowance in such a way as to encourage certain production systems or forms of management which meet local needs (see Themes One and Two).

On the other hand, the LFA measure is not entirely efficient in meeting the core objectives of maintaining agricultural land use. This is discussed in response to Question 10 (Theme Four). There are some areas, for example, where LFA farm incomes are above those outside the LFA suggesting that compensation was unnecessarily high and it can be difficult to relate compensatory allowance rates to the severity of handicap.

As a measure to meet more specific land management and environmental needs it also has weaknesses:

- The application of Article 16, aimed at farms where there are restrictions on agricultural use stemming from EU environmental protection rules, has been on a very limited scale. Several Member States have established classification criteria for such LFAs, mainly based on Natura 2000 sites. However by 2005, only Belgium, Germany and Lithuania had designated Article 16 areas. This amounted to 607,000ha, of which nearly all was in Germany.

- Most Member States did not use the opportunity to adopt explicit environmental eligibility conditions when setting these at national level (see IEEP, 2006).

- In choosing criteria on which to weigh payments to farms under the LFA measure, most Member States did not select explicitly environmental criteria although several favour grazing livestock (see IEEP 2006 and Table 6.6 of this report). In some Member States, for example Spain, payment rates per hectare are higher on irrigated than on non-irrigated land, which is contrary to environmental needs.

- There is evidence that payment conditions applied by many Member States are weakly linked to the environmental objectives of the measure. In Wallonia, for example, stocking densities of up to 3.5 LU/ha are permitted before payment reductions occur.

- Some GFP standards do not correspond closely to the main environmental needs identified in the LFA or are irrelevant to those needs (see Question 14).

- There is weak enforcement or compliance with GFP standards in some Member States, potentially resulting in the environmental degradation of areas of high nature value (see Question 14).

- In some cases the measure competes with high afforestation grants.

- Some areas of environmental need are not classified as LFA (see Question 13).

Conclusions

Whilst the main needs for appropriate land use management and environmental sensitivity in the EU's rural territory are diverse, some key themes of particular relevance to the LFA can be identified. These include:

- An appropriate balance between land uses, including agriculture, forestry, biodiversity conservation, recreation, new enterprises and living spaces. Changes will be required over time as needs evolve.

- Sustainable agriculture generating sufficient income and job satisfaction while respecting environmental requirements.

- Meeting EU goals for nature conservation, including the effective implementation of the birds and habitats Directives, and halting the decline of biodiversity in the Union by 2010.

- A broader integration of environmental objectives into land use management, reflecting the need to meet water quality standards, reduce emissions of atmospheric pollutants, assist the control of fires and other objectives.

The LFA measure is appropriately designed to maintain agricultural land use. In many but not all respects it is an efficient mechanism for pursuing this goal (see analysis under Question 10). In sizeable areas, continued agricultural land use is desirable because it is integral to the maintenance of High Nature Value farmland or traditional landscapes of value, or contributes to other goals such as forest fire prevention. However, agricultural land use is not the priority in all areas and the objectives of the LFA measure preclude its application as an instrument for pursuing diverse land uses where these are required.

The LFA measure has contributed significantly to maintaining farmland over a large area of land, a considerable portion of which is environmentally sensitive. The result has been achieved by a combination of measures and it is difficult to identify the precise role of LFA payments within the mix. There have been corresponding benefits for traditionally farmed open landscapes and HNV farmland. The long running emphasis on supporting farmed livestock has helped to sustain grazing systems,

although not always at the most appropriate stocking densities. Since the switch from headage to area payments in 1999, several Member States have chosen to favour grazed livestock through their eligibility and payment conditions. This corresponds to environmental requirements in most areas, although there are some where more mixed land uses would be preferable.

As an instrument for achieving more specific and locally attuned forms of environmental management the LFA has made a much smaller contribution which is also difficult to specify precisely. Eligibility criteria have not been used very systematically to pursue environmental goals in most Member States and the same is true of payment structures. In some cases more intensive land uses, including irrigated areas, receive larger payments per hectare than more extensively managed land of greater environmental value. Good Farming Practice rules could be analysed more closely with environmental needs in the LFA. Whereas there is the potential to use the LFA measure to meet environmental needs more efficiently, this would require a more focused implementation within the Member States.

Efficiency could be enhanced by:

- Improving the targeting of the areas classified as LFA to areas where the environmental need is greatest.

- Adapting eligibility criteria, and payment strategies and conditions to ensure the right recipients and forms of land management are being targeted, that incentives are only provided where needed, and over compensation is avoided. Spatial and environmental planning may support the targeting process e.g. identifying HNV areas or mapping zones where forestry would be an appropriate land use.

- Ensuring GFP standards (or cross compliance from 2007) focus on key environmental problems and are effectively applied and enforced.

- Strengthening the synergies between rural development measures in order to ensure land use and environmental needs are met, for example, adjusting eligibility criteria or payment conditions.

- Avoiding conflicts between measures by applying environmental conditions equally across all measures (and not just LFA and agri-environment).

Overall Conclusions

Many areas of high environmental value particularly for landscape and biodiversity fall within the LFA. There is a relationship between handicaps that constrain agricultural intensification and these positive values. Vulnerability to soil erosion, fire or other hazards is a feature of some areas as well – so appropriate management is required. There is evidence of both positive and negative environmental trends within the LFA arising from the processes of agricultural intensification, specialisation, progressive marginalisation and abandonment. Preventing environmental degradation

and securing environmental protection and enhancement are key objectives for future policy.

The continuation of LFA and other measures has made a major contribution to meeting environmental goals, particularly relating to livestock farming, by incentivising continued management. This will continue to be relevant in future because of the importance of semi-natural habitats and other features in less intensively farmed areas.

Few areas have been classified as LFAs specifically for their environmental value, however, and Member States have made limited use of Articles 16 and 20. There is an opportunity to review the classification criteria to improve the targeting on environmental policies such as High Nature Value farmland and the most valued open traditional landscapes.

As the goals of the LFA measure have shifted to give more emphasis to the environment and sustainable agriculture, adjustments to eligibility rules and payment structures within Member States would have been expected. These have occurred on a relatively limited scale however and there is a need to raise the level of environmental ambition of implementation measures. These should be supported by GAEC standards that address key issues in the LFA, such as appropriate grazing regimes and irrigation management when cross compliance replaces GFP in future measures.

Policy adjustment could both improve the efficiency of the measure by better targeting and help to secure appropriate land management in addition to continued agricultural use.

10

THEME 6: IMPACTS ON THE VIABILITY OF RURAL COMMUNITIES

Introduction

This section provides an analysis of the extent to which the LFA measure has contributed to the maintenance of viable rural communities through its support of the continuation of agricultural land use. The evaluation is framed by the following question:

Question 17. *To what extent has continued agricultural land use and the maintenance of the countryside, as achieved by the LFA measure, contributed to the maintenance of a viable rural community? Give examples of success (for example, the contribution of a maintained landscape to tourism) and show under what conditions the LFA measure achieved this.*

The central rationale for the LFA measure is to intervene to alleviate the threat to the continuation of farming in those areas which experience a competitive disadvantage due to natural and socio-economic handicaps. Article 13 of Council Regulation 1257/1999 sets out the core objective of the LFA measure which is 'to ensure continued agricultural land use and thereby to contribute to the maintenance of a viable rural community.' The logic behind this is that a threat to the continuation of farming implies a threat to the viability of rural communities, which is founded on an assumption of agriculture's central role in the maintenance of a vibrant rural social structure and economy. Of the four types of LFA set out in Council Regulation 1257/1999, Article 19, in particular, is targeted on those areas with 'a low or dwindling population predominantly dependent on agricultural activity, the accelerated decline of which would jeopardise the viability of the area concerned and its continued habitation' and as such, it is the key instrument within the LFA measure to explicitly address social needs in less favoured areas. It is the most widely used Article in the EU-25 and in 2004/5 accounted for 66% of the total LFA.

The first part of the analysis is largely hypothetical; it examines agriculture's contribution to the social and economic viability of rural communities and explores those factors which confer viability. The second part focuses on the ways in which the LFA measure has contributed to this objective, through the classification of areas, the eligibility criteria and the differentiation of payments to achieve largely social

objectives. Agricultural policy and agriculture more generally, are two drivers among many that exert influence on the social and economic characteristics of rural communities, rendering the chain of causation complex, and the isolation of the effects of any one driver difficult. In turn, and given the complexity of these interactions, it is difficult to infer secondary and tertiary effects of the LFA measure, such as its impacts on continuing agricultural land use and the viability of rural communities. The analysis, therefore, is largely based on reasoned argument of the potential effects of the measure and is substantiated where possible with evidence from the national data reports and the case studies. The analysis is limited to the EU-15.

The Role of Agriculture in Contemporary Rural Communities and Economies

The viability of rural communities is conferred by a number of factors including population density; age structure; the provision of health, education and recreational services; employment and income generation opportunities; affordable housing and transport infrastructure; and relative accessibility. Clearly, agriculture as the dominant rural land use in most EU countries has a role to play in maintaining the viability of rural communities through the creation of employment opportunities, and its broader contribution to the rural economy through the agri-food chain and various multiplier effects, even though it is just one sector in a increasingly diverse economic system.

In aggregate terms, agriculture's contribution to rural economies and employment has been in long and inexorable decline. When Council Directive 75/268/EEC was first implemented, it was a reasonable assumption that significant numbers of rural communities in LFAs were potentially economically vulnerable because a large proportion depended heavily on agriculture. Contemporary rural economies are now much more diverse and are no longer dominated by the primary sector. Increasingly, they display employment and business profiles similar to those of more urbanised communities. Indeed, the contribution of agriculture to Gross Domestic Product (GDP) is variable across Member States, but has been in decline over time. The average contribution is now around two per cent in the EU-15 (Eurostat, 2006). Concomitantly, other sectors, such as business and financial services, public administration, education, training and health, and tourism have gained importance in rural economies, and will also contribute to sustaining rural communities, through the creation of employment opportunities and maintaining the services upon which these communities depend.

With increasing mechanisation and farm amalgamations, the agricultural labour force has declined significantly, a trend that is evident in both LFAs and across the agriculture sector more generally such that in many areas, farmers represent only a small sub-set of the overall rural population. Between 1995 and 2004, the agricultural labour force of the EU-15, measured in thousands of Annual Work Units (AWU '000), fell from 7265 to 5774, a decline of 20 per cent. This shrinkage has various implications. The scaling back of farming means that the human capital and the associated knowledge-base that is necessary to maintain continued land use and manage landscapes is lost. The labour force diminishes if young people in rural areas do not have employment opportunities and out-migration is pronounced, resulting in a skewed age structure which also undermines rural viability. In the UK, for example,

there is evidence of an 'ageing countryside' (Lowe and Speakman, 2006) and the agricultural community plays a role in this; the average age of farmers in the EU-11 is 52 (excluding Greece, Spain, France and Italy, based on Eurostat data, 2006). In turn, as the process of counter urbanisation and the relocation of firms becomes more prevalent, other social groups not associated with agriculture increasingly comprise a larger share of the local population (Bosworth, 2006).

In monetary terms, agriculture's contribution to the rural economy has become small in many areas which, in turn, constrains the extent to which it can support the provision of adequate rural services and hence these aspects of the viability of rural communities. However, one must also take account of the public goods and services that agriculture provides, which, perhaps is a less direct way, contribute to the viability of rural communities. As discussed in Chapters Eight and Nine, farming systems within LFAs are important in maintaining large tracts of the countryside and provide a range of valued environmental and landscape goods and services. These are difficult to value in economic terms, but are important to the quality of life of local residents and in attracting tourists, in-migrants and businesses to these areas.

The preceding discussion has sought to capture general trends and to characterise the changing composition of rural communities and the character of rural economies. These trends do not occur uniformly across Europe, however, and a highly differentiated pattern emerges. The significance of farming and other activities related to agriculture in economic and social terms varies greatly between regions. Whilst it is now small in many areas, there are others, such as marginal, island communities in Denmark and in Finland, where farms account for 43% of the total number of small-scale enterprises. Here one would expect that a support payment making a significant contribution to the continued presence of agriculture and hence the agri-food supply chain in the area to contribute also to the viability of the whole rural community.

A number of factors render some farmers and farm businesses vulnerable to the threat of the cessation of farming. These include low income and investment levels, high levels of indebtedness, competitive disadvantage, a lack of diversification opportunities, a weak regional economy, a farm household wholly dependent on farm income, low or falling population levels, and distance from markets. Some farming communities are more vulnerable than others to decline because of the size of holdings, a peripheral location, the production system, limited value added and the age of the farmer. These communities tend to exhibit a lack of dynamism that makes on-farm diversification or pluriactivity unlikely and, due to a lack of opportunity, local alternative off-farm employment options scarce. These agricultural structures and economic weaknesses are often found in more marginal farming areas associated with some LFAs.

Demographic relevance of LFA intervention

Under the logic of Article 19, a case might be made for LFA support in areas with low or dwindling population levels. However, it is no longer clear that depopulation itself is leading to a reduction in agricultural land use, given the other factors involved. Nor is depopulation so widespread in rural areas in the EU-15. In the EU-10, different forces are in play, not considered further here. The population density of Europe is, at

a general level, linked to the distribution of mountain areas. The lowest population densities (less than 8 inhabitants /km^2 in 1991, less than 20 inhabitants /km^2 in 2000) are concentrated in peripheral and high altitude mountain areas (northern Scandinavian regions, the central part of the Alps, the Massif Central, the Greek and Spanish mountain territories and the central Apennines). A comparison with the distribution of LFAs shows some overlap with these areas and includes southern Portugal, El Centro in Spain, north-eastern France (Bourgogne, Champagne, Lorraine), Ireland, parts of northern England, Wales and northern parts of Ireland. We may expect these areas to face a greater threat to the continuation of farming and for support – through the LFA payment or from other measures - to be targeted at these areas.

In contrast, certain mountain areas, including several of medium altitude are not associated with low population densities. These areas include northern parts of Italy, the Jura in France, northern Portugal, and parts of the Austrian mountain territory. The very high population densities in the central and northern Member States follow a north-west to south-east distribution (England, Belgium, Netherlands, Germany, Austria, Italy). Some of these areas of high population density fall within the LFA.

Depopulation hotspots as they concern the LFA, are concentrated in the Portuguese mountain areas, central and northern parts of Spain, the French Massif Central, eastern Germany, parts of Finland and Sweden, and northern, central and southern parts of Italy. They also concern parts of Greece, Austria, and the north of the UK. These areas may face a greater threat to the continuation of farming, and thus there may be a need to target LFA policy at these areas. However, vast tracts of the LFA are not affected by depopulation. Much of Sweden, Finland, western Germany, Austria, western France and the southern parts of Spain, Italy and Greece actually experienced a population increase between 1980 and 1995.

The population structure does however highlight the possible vulnerability of some marginal agricultural structures. The Mediterranean countries are characterised by a high percentage of older farmers (over 55 years of age) (Shucksmith *et al*, 2005). In Portugal, large parts of Spain and almost all of Italy and Greece, more than 50 per cent of farmers are aged over 55. These regions could be prone to the cessation of agricultural activity, but this process would be influenced by succession plans, the consolidation of farms and the influence of other CAP measure.

Implementation of the LFA measure and the viability of rural communities

In this section, we examine the various aspects of the implementation of the LFA measure at Member State level in order to consider the impact of the LFA measure on alleviating the threat to the cessation of farming and policy has had in contributing to the maintenance of viable rural communities in the areas concerned. We examine the influence of scheme objectives, eligibility criteria, the modulation of the compensatory allowance and the setting of payment levels.

Scheme objectives

Whilst most Member States identify the objectives specified in Article 13 of Regulation 1257/99 as the overall objective of their LFA scheme, a number articulate additional objectives through the eligibility conditions that relate specifically to own social needs.

The Greek, Portuguese and Finnish LFA schemes are focused on dominant ***social*** issues and afford priority to the maintenance of the population and agricultural employment. The scheme in Portugal includes objectives that seek to promote social cohesion. In Luxembourg, the objectives include the maintenance of the fabric of rural communities, the prevention of villages from becoming commuter suburbs, and the preservation of the family farm. The social cohesion objectives are especially strong in the Mediterranean countries, where an emphasis is placed on the maintenance of overall agricultural employment, the redistributive function of the LFA measure (a relatively lower level of support to a large number of small holdings) and support for old or retired farmers.

The LFA schemes in France, Ireland, Finland and Sweden focus on ***rural economy*** issues. In these countries, the aim is to support farm viability and in turn strengthen the agricultural economy, which is considered of major importance to the overall rural economy. Economic objectives relate land based tourism and recreation as well as the agri-food system.

A third set of measures centre on the general provision of ***rural services***. The aim is to support farming activity in order to preserve the services it provides to rural communities. These services are not centred on agricultural production alone, but more specifically focus on the maintenance of a sustainable farming system. This category of objectives is delineated in different ways across the EU-15. The different kinds of services potentially addressed by the LFA measure are as follows:

- In a peri-urban context where the maintenance of farming activities provides local services and amenities that support a healthy, living countryside. The aim is to maintain agricultural activity and open countryside and recreational functions. This is referred to in Article 20 areas in Belgium, Luxembourg and Finland.

- In the Austrian, Belgian and German LFAs, the measure is seen to contribute to amenities for local tourism, including farm-based tourism which depends on the maintenance of traditional and attractive landscapes.

- In some Member States, the LFA scheme is seen particularly to contribute to the provision of environmental goods and services which are valued by the public. The LFA measure specifically seeks to promote public goods in some mountain pastoral areas in France, Greece and Italy. In other Member States, including Germany, the Netherlands, the UK and the Belgian region of Flanders, the policy very explicitly focuses on sustainable land use and the provision of environmental amenities.

- The maintenance of local agricultural activity is seen to mitigate land abandonment and afforestation in mountain or Scandinavian areas and natural hazards, such as forest fires, in Mediterranean countries. Forest fires are important issues in Greece, Spain, Portugal and indirect impacts might be expected as they are not explicitly targeted by the LFA scheme. Land abandonment is a concern in mountain areas of France, Italy, Spain, Sweden, Finland, Austria, and Greece.

Many of the areas targetted under these measures are classified under Article 19 "Other" LFAs, but this is far from exclusively the case.

Eligibility criteria

Member States have set eligibility criteria in addition to the mandatory criteria that are given in Article 14(2) of Regulation 1257/99. An examination of the eligibility criteria provides an insight into which agricultural structures are being targeted by the measure, and potentially whether the most vulnerable structures are being included or filtered out.

The minimum and maximum sizes of farm qualifying for LFA payments show the type of holdings that are being targeted. The minimum ranges from 0.1124 hectares in Malta to ten hectares in England, but with most Member States applying a minimum threshold of two or three hectares. In addition, most Member States apply limits on the number of hectares eligible for payments. This indicates that there is targeting of small structures in many cases, reflecting some commitment to the maintenance of a large number of small farms as opposed to agricultural land-use or farming through a smaller number of farms. Similarly, some Member States explicitly favour farms which rely on agriculture for a significant proportion of their income and, in some cases, local residents. Many preclude older farmers from receiving a compensatory allowance.

In some cases, the eligibility criteria result in the exclusion of the smallest farms, in terms of size, and the more vulnerable, in terms of the employment status of the farmer. The Cévennes case study (Article 18) in France illustrates this point. Here, the measure is adapted to extensive pastoral farming, though this is not the dominant farming type in the area. In fact, although only 24 per cent of the local farms are eligible for LFA payments, they account for 87 per cent of the total UAA. At least three hectares of UAA is required, but this excludes smaller, often pluriactive farms. These pluriactive holdings use the traditional terraces that characterise the Cévennes landscape, which are therefore barely concerned by the LFA payment. Retired farmers are also not eligible. In the Villafafilla case study (Article 19) in Spain, the farmer must earn at least half of his or her income from farming and spend at least half of his or her time farming. This criterion was seen to exclude some pluri-active farmers who had sought non-agricultural income in order to compensate for the low returns from agricultural activity.

With a measure based on area payments, only small firms can be transferred to the smallest categories of holding. Concerns about the potentially limited impacts of

small transfers and their administrative cost clearly influence the Member States which exclude smaller producers.

Modulation of the compensatory allowance

The way the compensatory allowance is modulated is another indication of the level of priority given to particular categories of recipient and to associated social needs. Article 15(2) of Regulation 1257/99 sets out the criteria according to which LFA payments are differentiated and provides Member States with the opportunity to give enhanced support to particular regions or farms. Areas with severe handicap are likely to require enhanced payments to maintain farm viability and ensure the continuation of agriculture. As detailed in Chapters Five and Six, payments are differentiated in many different ways, some of which are relevant to the analysis here:

- ***Farm size*** is taken into account in Austria, Italy and Spain, and to a lesser extent in France, Germany, Greece, Ireland, Luxembourg and Portugal. Two Member States in the EU-15 do not differentiate according to farm size. In some, the compensatory allowance is tapered so that the payment per hectare decreases alongside farm size. There may also be ceilings on aid levels or the number of eligible hectares per farm (see Chapter Six, Theme Two). This method of differentiation is seen to be most pronounced in mountainous countries where there are many small farms. This indicates that it is generally the case that smaller, potentially more vulnerable farm structures are being targeted.

- The ***income from farming*** and the employment status of the farmer are a factor in some Member States or regions. The employment status (full time and part time) of farmers is considered in Luxembourg and Portugal. This discriminates in favour of those with the greatest dependence on farm incomes, who are potentially most exposed to the impact of handicaps.

- The ***region, location or degree of handicap*** of the farm is considered in some Member States and in particular in Austria, France and Germany. Zoning and measures of disadvantage are used to moderate the payment level. This may be important to supporting vulnerable agricultural structures in those locations distant from downstream processors or markets, as well as those where the level of natural handicap or paucity of social support networks result in threats to viability.

- The ***type and intensity of production***, farming system and local agricultural conditions are also factors in some Member States in the modulation of payments. Farming systems play a role in Greece, Spain, Italy, Austria, Northern Ireland and Scotland, where stocking density or the production of certain crops may affect the level of payment. Local agricultural conditions are factored into the calculation in Germany and the Navarra and Basque Country regions of Spain, where, for example, different aid for certain types of pasture may be available. Depending precisely on how farmers are targeted, these criteria may influence the

ability of the LFA measure to address social need as well as land use requirements.

The evidence presented in Chapter Five (Theme One) shows that the move to area payments was accompanied by a tendency to broaden eligibility criteria to compensate for a wider range of farming systems. Several Member States, for example, extended eligibility to part-time farmers, recognising the importance of pluriactivity and a diversified income base in improving the viability of farms and therefore in supporting the structure of rural communities. In other cases, eligibility has been extended to a wider variety of grazing systems and livestock types, which play a role in maintaining the countryside, agricultural landscapes and the rural economy.

The combined effect of the eligibility rules and payment structures implemented at Member State level is to target the resources more at smaller holdings than a flat rate area payment would do. In some cases, there is also a bias towards farmers who are relatively dependent on agricultural incomes rather than pluriactives or towards local residents. In many cases, older farmers are excluded. Nonetheless, in regions with large numbers of farms below the threshold of two or three hectares, a significant tranche of holdings are ineligible for payments.

There appears to be a widespread assumption that targeting smaller farmers will help to contribute to the viability of rural communities, particularly by maintaining employment. There is little evidence from the case studies however, of the precise impact of variations in the payment regimes in terms of employment or broader viability considerations. Nor is there adequate empirical evidence of the scale of secondary benefits arising from maintaining agricultural land use, through tourism or recreation, for example.

Payment levels and area coverage

The LFA compensation payments result in a transfer of about €3.07 billion to recipients in the EU-25 (2004 figures) making a contribution to farm incomes in those areas where more vulnerable communities are most likely to be concentrated. Agriculture is the foundation of many rural communities, especially in the Mediterranean Member States. The large degree of geographical overlap between LFAs and these communities would seem to suggest that the LFA measure is a contributing factor to the maintenance of these rural communities. That said, LFA support is targeted at farm households and not rural households, and through the eligibility rules a large number of farms within the LFA do not receive a payment.

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Impact on population trends

One way to assess the impact of the LFA measure on rural communities is through an analysis of population trends. It could be assumed that the LFA measure is effective if depopulation id stemmed, given that this is an objective under Article 19. The case studies show that generally, the LFA measure has had little impact on rural demographic patterns. Reflecting national and European trends, the proportion of the population employed in agriculture has remained small. In most case studies, the total population has declined over the lifetime of the LFA measure, and the average age has remained relatively high, or increased. In some LFAs, the social make-up of rural areas has changed over time with the process of counter-urbanisation and/or the purchase of second homes by city dwellers. In the Waldviertel case study region (Article 18), the share of second homes is significantly above the Austrian average, with experts stating that in a typical village of 20 - 25 houses, only 3 - 4 are permanently inhabited.

The Waldviertel case study region is the only region in Lower Austria showing negative trends in terms of births and migration. In the Villafafilla (Article 19) case study area in Spain, the population has declined from 10,216 inhabitants in 1960 to 3,792 in 2005. In comparison, the population increased by seven per cent between 1971 and 2002 in the County Mayo case study region (Article 19) in Ireland.

In the Cévennes case study (Article 18) in France, 30 to 50 per cent of the population of local communes are more than 60 years old and in Peligna (Article 18) in Italy, 25 per cent of the population is older than 65. Some 37 per cent of the population of the Villafafilla case study area in Spain are older than 64.

In the case study regions, agriculture accounts for between two per cent (Cevennes, France) and 19 per cent (Langres, France (Article 19)) of employment. There is generally little evidence of changes to the employment structure. In the Villafafilla case study in Spain, the number of people employed in agriculture decreased by 30 per cent between 1991 and 2001.

The population trends reflect the entire population, and not just those working in agriculture. Whilst the evidence is limited, the LFA measure seems to have had little influence in stemming population decline and has played a limited role in maintaining or slowing down the decline in the agricultural labour force. As the LFA measure is targeted at farmers, and can only benefit the wider population through farming, it is ill-equipped to prevent or slow demographic decline on its own. The importance of other policy measures in this regard is discussed in the section on policy coherence.

There is evidence from the case studies to suggest that the LFA measure has had positive repercussions across a number of softer social issues. In many of the case study regions, agriculture forms the ‘backbone’ of many settlements. In some cases, this is because the farmers are the only members of the community who remain in the area during the day and throughout the working week. This is particularly the case for those LFAs that are within commuting distance of major settlements.

Policy coherence

In this section, we consider the role of the LFA measure in combination with other CAP measures in promoting a viable rural community through maintaining the viability of farm businesses in these areas. The LFA measure works in conjunction with other Pillar Two measures such as agri-environment schemes (Article 22 of Regulation 1257/99), the setting up of young farmers (Article 8), improving the processing and marketing of agricultural products (Article 25) and measures to promote the adaptation and development of rural areas (Article 33). The LFA measure is also a complement to the direct payments received through Pillar One and the Leader initiative supported through the Structural Funds.

A positive example of synergy between rural development measures has occurred with the Leader measure in the Bregenzer Wald case study (Article 18) in Austria, and the Bergueda (Article 18) and Villafafilla case studies in Spain. In both cases, the Leader programme has helped to promote farm diversification and improve the agri-food supply chain through local sourcing and direct marketing. In Villafafilla a rural accommodation network has been established and other Leader projects have contributed to the growth and modernisation of the local cheese industry, as well as a sausage factory. In Bregenzer Wald, the LFA payment has helped to secure the production of milk which is strategically important for the area's key Leader project, the 'Breganzer Wald cheese route.' A total of 1,100 farm holdings are involved in producing 4,500 tons of cheese from an average stock of nine cows, which is supplied to 20 Alpine cheese dairies. In the Bergueda case study in Spain, 53 per cent of those involved in the rural tourism initiative and 40 per cent of those involved in the agri-business project stream are farmers.

The impact of the LFA measure in contributing to the viability of rural communities must be therefore seen in the context of the wider policy and economic spectrum. In certain areas, the LFA measure does have a small role to play in supporting rural communities and may be seen as complementary to other rural development initiatives. Indeed, the most positive benefits to viable rural communities might be where several policy measures overlap and payments are maximised. This would be most successful if applied in a strategic and co-ordinated fashion.

Conclusions

In principle, the LFA measure could contribute to the socio-economic viability of rural communities both directly through the payments received by farmers and indirectly through the maintenance of open landscapes and continuation of agricultural activity. It does not directly promote the diversification of the rural economy.

The LFA compensation payments result in a transfer of about €3.07 billion to recipients in the EU-25 (2004 figures), making a contribution to farm incomes in those rural areas where more vulnerable communities are most likely to be concentrated. Some additional income and employment will arise from economic activities upstream and downstream of agriculture and from recreation and tourism dependent on open landscapes.

It is difficult to measure the scale of this impact over a large area of farmland in extremely diverse conditions. While there will be positive impacts on the recipients of support it is not clear that the prolongation of agricultural land use is necessarily conducive to improving the viability of communities. Only farmers are direct recipients of LFA payments and although numerous (almost 1.8 million in 2004) they represent only one section of rural societies. Payment structures favour smaller farms in most Member States, which may help to prolong existing agricultural structures and perhaps more traditional rural societies but not necessarily strengthen longer term viability.

When Council Directive 75/268/EEC was first implemented it was a reasonable assumption that a significant proportion of rural communities in the LFA were economically vulnerable. Rural economies are now much more diverse and complex, with a mixture of dynamic and more affluent communities in some areas including certain mountain regions. Elsewhere there are more marginal societies, including significant parts of the new Member States where economic transition in the countryside has disrupted rural employment. Within the EU-15, the historically low levels of expenditure in the Mediterranean relative to North Western Europe suggests that the measure has not been targeted at regions with clear social requirements and where depopulation poses the greatest threat to the continued maintenance of agricultural land use.

11

CONCLUSIONS AND RECOMMENDATIONS

Relevance of Objectives

The core objectives of the LFA measure are concerned with securing public goods. Under the most recent Council Regulation 1698/2005 the purpose of the measure is to contribute to 'maintaining the countryside', through the continued use of agricultural land, and also to 'maintain and promote sustainable farming systems'. Whilst objectives have evolved over time, throughout the history of the measure payments have been intended to provide an effective contribution to the additional costs of agricultural activities arising from specific handicaps in classified LFAs. Farmers were to be compensated not to bring their incomes up to a given level, such as those outside the LFA, but to the extent necessary to secure the continuation of appropriate agricultural management.

The LFA objectives remain relevant because to a large extent, the environmental and related public goods that are of value in the countryside stem from appropriate land management, and specifically agricultural management over large areas. Continued agricultural management contributes most to the countryside where it supports the maintenance of valued open landscapes, semi-natural habitats and biodiversity; it assists in the control of forest fires; or it contributes to good soil and water management. In addition, valued features such as grazed semi-natural grasslands and hillside terraces stem from farming practices.

It happens that the farms and farming systems where these forms of management arise are generally subject to natural handicaps which act as a constraint on more intensive practices. In turn, these handicaps exert an impact on the viability of the farm business and its relative competitiveness. As such these farms are potentially under the greatest threat from the decline and cessation of management, with a consequent risk of the loss of environmental values. A decline in land management potentially preceding eventual abandonment is reported in several regions of the EU suggesting that continued land management cannot be taken for granted.

On the other hand, the original objective of seeking to prevent rural depopulation through continued agricultural activity has ceased to be relevant in most parts of the EU-15 as the share of employment directly dependent on agriculture has declined. The removal of this from the formal objectives of the LFA measure under Regulation 1698/2005 was therefore appropriate.

Impacts and Effectiveness

Relatively little farmland in the LFA has ceased to be managed by agriculture. The area of outright abandonment is small although it is not possible to determine this precisely from the data available. Thus, the principal goal of the measure has been reached in the EU-15. This contrasts with substantial areas of farmland abandonment in other industrialised countries, such as in parts of the United States, for example.

The LFA measure is one of a number of policies that have contributed to this outcome. It has been most effective on livestock farms, which have been the focus of compensatory payments in most Member States and where the contribution to farm incomes has generally been higher. There are variations between farms and Member States in the extent to which LFA payments contribute to incomes and in the income level required to maintain farming. It is difficult to be confident that the payments offered match these differentiated requirements suggesting that there is no uniform pattern of effectiveness. Some farms in the LFA rely heavily on compensatory allowances, or a combination of these and agri-environment payments, but support under Pillar One makes a greater contribution to farm incomes in all Member States.

The measure has been more effective in maintaining land use than in securing the most appropriate forms of management with both intensification and undergrazing significant issues in some areas. Over intensive management in parts of the LFA in the 1980s was attributed to livestock headage payments then obtainable under Pillar One market support as well as the LFA. Such pressures have been alleviated by the change from headage to area payments and decoupling in Pillar One.

Changes in agricultural employment since the 1990s have been broadly similar in the LFA to those outside it. This is true of Member States where the application of the LFA measure has been light, as well as those where most farmers have received payments. While LFA payments will have played a part in preventing a more rapid decline in the labour force in those Member States where they have been widely implemented, their impact is difficult to separate from other factors.

Efficiency

In principle, the EU Regulation provides a flexible framework for an efficient system of targeted compensatory payments. The present combination of classification criteria, eligibility rules and payment structures at Member State level, however, does not result in resources being targeted sufficiently sharply on areas where public goods are most apparent and the hazard of abandonment is greatest. Expenditure is skewed towards a limited number of Member States and it is difficult to reconcile payment rates to the severity of handicap at a European level.

This inefficiency in the compensation structures does not mean that the majority of farmers are being over-compensated for handicaps. Indeed, large areas of land receive no compensatory payments and FADN data relating to FNVA per hectare, itself a rather crude indicator of relative deisadvantage, suggests that in many cases, compensation levels in the EU-15 are below what might be expected given the handicaps farmers face.

To improve efficiency, the wide scope of the measure could be reduced to focus more on areas at greatest risk and where the benefits of continued agricultural land use are most evident. In addition, greater clarity could be sought about the relationship between the intensity of the handicaps faced and the level of payments, accompanied by the development of payment calculation formulae, which are more transparent.

Future Role of the LFA

The objectives of the LFA measure have always been different from those of other policy measures within the CAP. With the advent of decoupling and support for farmers under the Single Payment Scheme (SPS), there is more convergence between Pillar One and LFA compensatory allowances. The SPS is not connected to specific types of production, takes the form of an annual area payment, and is subject to cross-compliance, including the obligation to keep the whole farm in 'Good Agricultural and Environmental Condition' (GAEC). This is intended to prevent under-management and abandonment on all farms receiving the Single Payment. It provides a good opportunity to review the role of the LFA.

Complying with GAEC is potentially more onerous for farms in the LFA where the presence of handicaps is often associated with low yields and returns per hectare, while the potential for scrub invasion and land marginalisation is relatively high. Progressive abandonment on the less productive land in the LFA is more probable than elsewhere. By contrast, however, the Single Payment generally will be lower per hectare than on farmland outside the LFA because of low historic yields. The Single Payment per hectare is therefore likely to be lowest in regions where continued agricultural land management is most important in environmental terms and where marginalisation is most probable.

Hence there is an argument for focusing LFA policy in future on compensating farmers in such regions for continuing with land management in the face of handicaps and growing legislative requirements. As such, payments need to be concentrated on areas where there is a clear need for agricultural management and there are genuine risks of abandonment or inappropriate land use change. The criteria for selecting areas and the rules governing eligibility and payment structures need to be adjusted to support this more explicit objective. The current objective of supporting sustainable agriculture in the LFA remains relevant but should give rise to more specific environmental conditions, relating directly to handicaps and the required form of management, including limits on stocking densities.

A revised measure of this kind would not overlap to any significant degree with agri-environment measures which are distinctive in that they apply potentially to all farms irrespective of whether they are in the LFA and they provide compensation for a range of prescriptions, many unconnected to natural handicaps. Furthermore, they are negotiated on an individual farm basis whereas a revised LFA would be based on relatively simple rules applying throughout a specific region, underpinning sustainable farming rather than guiding management more precisely.

Recommendations

This evaluation has focused on the implementation of Council Regulation 1257/1999 and its predecessors. Looking ahead, LFA policy will continue within the framework of the new Rural Development Council Regulation 1698/2005 but with the provisions of 1257/1999 unchanged until January 2010.

The fundamental objectives of the LFA measure as cast in Council Regulation 1698/2005 remain relevant to the needs of substantial areas of the farmed countryside in the EU. Payments in areas with handicaps should contribute, through the continued use of agricultural land, to maintaining the countryside as well as sustainable farming systems. This is in the public interest and is compatible with the Community's wider rural development and environmental goals.

The LFA measure provides a useful mechanism for pursuing these goals and has a distinctive role alongside other policy instruments embodied in the CAP. Nevertheless, there is scope both in the shorter and the longer term to improve the effectiveness of the measure:

On the basis of this evaluation, the following recommendations can be put forward:

- A more explicit approach is needed to ensure coherence in the application of the LFA measure with respect to the mechanisms and objectives of the Single Payment.

- With a view to the renewed focus of LFA policy on 'maintaining and promoting sustainable farming systems' (Recital 24, Council Regulation 1257/1999; Recital 33, Council Regulation 1698/2005), the criteria for the classification of LFAs as well as the eligibility criteria need to be revised in view of adapting them more precisely to recognised environmental priorities and region-specific land management requirements.

- Given the high degree of path-dependency in establishing payment levels in evidence today, a fresh approach is needed to revising payment levels to better reflect the handicaps to be compensated for.

- Clarification needs to be sought regarding which classification criteria of LFA areas should be applied at the EU level and what degree of discretion should be left to the Member States (in defining criteria at the regional level). In particular, this clarification is needed for the criteria concerning Articles 19 and 20 where, for the time being, only a few criteria exist which are comparable at a European level.

- Better guidance is needed on the measurement of handicaps, the use and interpretation of baselines, and the presentation of compensatory payment calculations in view of affording a more effective and transparent implementation of LFA policy in the future.

- Given the political concern about land abandonment and the central goal of the LFA measure to maintain land under agricultural use, it is

recommended that approaches to the collection of land use and management data with greater sensitivity to abandonment are investigated, with data collected on a regular basis.

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