Farming & Farm Forestry in the Lake District

A report for the Lake District National Park Partnership, Farming & Forestry Task Force.

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June, 2013

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Forward

The importance of pastoral farming to the integral nature of the Lake District is not in doubt. The role of traditional farming and communing practice is recognised internationally for its role in creating the cultural landscape which is the outstanding universal value on which the nomination of the Lake District as a World Heritage Site is based. Protection of this candidate World Heritage site therefore depends on the continuance of hill farming in the Lake District. This is the context in which this report should be considered.

At the local level the Lake District National Park Partnership has a vision where a prosperous economy, world-class visitor experiences and vibrant communities all come together to sustain the spectacular landscape, its wildlife and cultural heritage. The partnership recognise that achieving this without an active farming industry is not possible as farming creates and maintains the very landscape that is considered of outstanding value would disappear. In order to take forward the vision the LDNP Partnership decided that a key priority of 2012-13 was to develop a shared Partnership view and action plan on farming in the National Park. Understanding the financial performance of farming in the Lake District is central to this.

This report on profitable farming and farm forestry in the Lake District was commissioned to inform the development of that action plan. The Centre for Rural Economy at Newcastle University has undertaken the work under the management of the National Centre for the Uplands. The report looks back at the financial performance of farms in the Lake District over the last decade and, through case study interviews, looks at the likely impact of different scenarios on the decision making of farmers at the farm level. These scenarios were chosen by an advisory group to assess the key drivers of single farm payment and agri-environment payments on farming practice. What would encourage a farmer to intensify production, extensify or sell or rent out their farm?

The hard financial data suggests that farm earnings on average are £8,000 per annum; less than half the income that an agricultural worker would expect. This average does hide a large range though there is no discernible pattern to the variation from the sample farms. Perhaps more worrying is that while the average investment in tenant's capital is £284,000 in only one case is the return on this capital more than 5% and in eight of the thirteen cases the return on capital is less than 0% when taking account of the farmer's labour. This is unsustainable as new investment is required that cannot be provided by the profits from farming. A better understanding of how profit from agricultural activities can be improved is needed for there is a weak positive correlation between financial return and size of the farm so other factors are at play.

Many rational business owners would in this situation pack their bags and find an alternative income but the report also tells us that there is a strong determination to remain farming even if payments reduce. This corroborates a widely held view that farmers are committed to their traditional way of life and are extraordinary resilient as is testified through their survival to numerous changes in government policy, extreme weather and livestock diseases such as foot and mouth.

What is our response to this complex picture? We have a resilient industry that is by objective criteria on the edge financially yet provides a cultural landscape of international value as well as many other non-marketed ecosystem services. To date we have relied on government support payments but alternatives urgently need to be

provided that are real and concrete and will act as alternative drivers to motivate and support farmers to deliver the benefits that are diffusely distributed to society.[1]

Our response should as a priority consider the forthcoming changes to external drivers due to the reform of the Common Agricultural Policy. The report stresses the dependence of farm business on support payments and the case study scenario exercise indicated that significant reductions in basic support (SPS) and agri-environment payments would prompt changes in the business including the selling or renting of land. Against this we know basic support payments are set to reduce from 2014 onwards by perhaps twenty percent and agri-environment schemes will become more targeted to comply with challenging biodiversity and water regulations. The conservation of cultural landscapes has no comparable regulatory protection and is not currently on the agenda for new agri-environment schemes in an era where money is scarce. We know that more than half of the farmers in the Lake District did not qualify for the Higher Level Stewardship scheme when their ESA expired. What options will they have in the next three to five years when their Uplands Entry Level Scheme expires?

One area where the report demonstrates a clear need to reconnect is farm forestry. The report found no evidence of active management of farm woodlands though some were beginning to consider biofuel. With a tenanted sector of over 50% farm forestry is not an option for all as woodlands tend to be excluded from tenancies. For others there is significant potential if assistance is provided to overcome the hurdles of not enough time to manage their woodlands and to develop clear markets for wood products.

To date farmers in the Lake District have used the single payment scheme and environmental payments to maintain a traditional farming system that delivers the cultural landscape that we value as well as environmental improvements to specific habitats. If these payments are reduced what will the impact be? Perhaps we need to be more honest about what we are paying for and seek direct support for that work. Farmers would then be better connected with what they are being asked to deliver. This reconnection is vital to the effective delivery of ecosystem services; whether water, food, carbon or a living cultural heritage; as well as for improving biodiversity. Currently farmers are too often far from engaged with the schemes they sign up to deliver.

This report provides hard data to base a debate on how to deliver the Lake District Partnership's objective to support and develop profitable farming and forestry businesses while delivering sustainable land management. Ensuring farms are more profitable, better understood and are paid properly for the extensive public benefits they provide are pre-requisites to ensuring the Lake District so beloved by its 16 million visitors is protected.

Julia Aglionby,
Director, National Centre for the Uplands, Newton Rigg College

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1 Total SPS and agri-environment payments are estimated in the region of £25-30 million per annum to the Lake District.

Executive Summary

This report is an objective assessment of the current business condition and future prospects for hill farming the Lake District. It is based on Newcastle University's annual Farm Business Survey, which covers (*inter alia*) 14 hill farms within the Lake District National Park (LDNP). The economics of hill farming in the LDNP is also illustrated and analysed using Defra's June Census and recent Farm Practices survey (2012). In addition, we have also both consulted with the principal stakeholders in the Park, and focused on seven case study farms to illustrate present conditions and future prospects.

The trends are towards fewer and larger hill farms, with an associated increase in number of the smallest (non-commercial) holdings. Livestock populations in the Park have declined, with 30% fewer sheep than in 2000. Woodland area on farms has remained relatively constant, at about 3% of the total farmed area. These trends reflect both the catastrophe of the FMD cull in 2001, and also the changes in policy, which previously encouraged livestock numbers to one which now emphasizes environmental management, as well as reflecting an improvement in livestock prices since 2000. While the majority of farmers are confident of their ability to continue farming in the future, only a minority are confident about the succession to their family business. The future of Single Farm Payments (SFP), and input and output prices are considered as the most important challenges facing their futures, both in the Practices survey and amongst our own case studies.

Hill farmers across England earn about half the income per farm of their lowland peers, (£30k per farm in a good year, and frequently less than £25k per year). However, the range of earnings is very substantial: ¼ earn nothing, effectively paying to farm rather than earning a living from farming, while the top performing quartile earn £40k or more per year. 2011/12, the most recent year for which we have firm data, was a good year (the best since 2003/4), but the forecast for 2012/13, is for a decline in farm income of more than 50%, even ignoring the dreadful weather of 2012 and 2013. Yet, half the hill farmers in England lost money from their actual farming activities in 2011/12. It is their 'care' (conservation, amenity, recreation and environment) payments and activities which rescue these farms from insolvency. Even so, the 50% better performing hill farms in England only manage to make between 1.5% and 2.2% as a return on their tenant's capital investment in their farms, which averages £218k per farm.

Against this general background, the FBS average hill farmer in the LDNP is 56 years old, with 94ha of inbye land, 236ha of rough grazing and 14ha of woodland, with access to common grazing equivalent to about ¼ of its own rough grazing. In some cases, farmers were no longer choosing to exercise common grazing rights as farming practices shifted to systems that required a lower labour input. There is little evidence of active management of any farm woodlands although some interest in the potential to use wood fuel resources. The key stakeholder interviews also highlighted the currently limited use of farm woodland, the potential for development of this resource and barriers associated with insufficient skills and knowledge with regard to farm forestry. The average farm carries 45 suckler cows and 840 breeding ewes and has a total tenant's capital of £284k. This average farm made virtually no money in 2011/12 (a management and investment income of between -£8k and +£1k, depending on the weightings used to aggregate small and large farms). Only 2 of the sample of 14

farms managed a return on their investment of 5% or more, while 5 made losses of 10% to 15% on their investments, and must be regarded as unsustainable. The remainder are clearly commercially very insecure to vulnerable, making returns of between -5 and + 5% on their investment. Although there is an apparent relationship between the size of the business and the returns the farmer is able to make, this relationship is rather weak, and profitability clearly depends on other things than simply size of the business.

Over the last ten years, our average LDNP farm has just about broken even, assuming that the farmers' own labour is worth the going agricultural wage rate (averaging £16k per farm in 2001, and down to £14k per farm in 2011). However, breaking-even is not sustainable in the medium to long run – since the farm operation requires continual re-investment to remain viable. These farms can only be sustained if farmers can generate some income elsewhere (off-farm diversification or support), or, as owner-occupiers, can live off the rental value (averaging between £11k (2000) and £14k (2011) per farm). Otherwise, these farmers appear to be content to live very frugally in the interests of sustaining their businesses and livelihoods.

Over this period, the support received by these farms has declined from almost 40% of their essentially static total returns to 20%. Environmental (care) payments have generally increased from an average of £12k to £20k. This reduction reflects the elimination of the Hill Farm Allowance and the gradual replacement of expiring ESA agreements and their replacement by either UELS or HLS agreements, and the associated transitional payment. The proportion of revenues earned from the marketed farm output, however, has increased from 51% of the total returns to 63%, assisted by the substantial improvement in livestock prices over the last decade. However, there is very considerable variation around these average figures, with only two thirds of the farms recording figures within a 75% range of these averages. Our specific case studies explore this variation in more detail, without revealing any reliable patterns and associations other than that larger farms, and those which are part of more extensive family and business concerns, tend to be more viable than their smaller counterparts.

Our case studies, however, reinforce the conclusion that hill farms are currently highly dependent on the SFP, as well as environmental payments. Nevertheless, most are determined to continue for as long as possible, and have a variety of coping strategies to deal with potential reductions in the SFP and changes in environmental payments. While some envisage expanding their on-farm or off-farm diversification activities, most are determined to continue farming as their core activity, and virtually all are determined to continue living on the farm, almost regardless of their prospect for succession.

This report has been prepared in the context of preparations for the forthcoming RDPE, 2014 – 2020. While some may think that radical reform of present policies is urgently required, any sustainable 'radical' reform needs to make sure that the roots of the unique character of the Lake District are understood and properly cultivated. These roots are the hill farmers and their various activities contributing to the care and cultivation of the landscape. We hope that this report helps.

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Acknowledgements.
Grateful acknowledgements are due to all those stakeholders and Lake District farmers who have helped us enormously in putting this report together. We hope that the result is helpful to all. We are also very grateful to James Steele and Catherine Maughan, both from the University's FBS unit, for their help with the case studies.

Farming & Farm Forestry in the Lake District

1. Introduction & Background

1.1 Background.

Farming and farm forestry in the Lake District National Park play a crucial role in shaping and defining the special qualities of the area. The National Park Authority, working with its partners, has identified twelve such 'special qualities' which make the Lake Distinct unique and globally important as an exemplar living, working landscape:

• Complex geology and geomorphology
• Diverse landscape from mountain to coast
• Unique farmed landscape and concentration of common land
• Nationally important mosaic of lakes, tarns and rivers and coast
• Wealth of habitats and wildlife
• Extensive semi-natural woodlands
• History of tourism and outdoor activities
• Opportunities for quiet enjoyment
• Open nature of the fells
• Rich archaeology
• Distinctive areas and settlement character
• Celebrated social and cultural heritage.

Farming and farm forestry have both contributed to the creation of most of these special qualities and are vital to their future sustainability. The Lake District is a cultural landscape, the product of many centuries of interaction between humans and the natural environment. Of particular importance are the commons and the wealth of management practices associated with them. Commons are a vital resource for the livelihoods of many farmers as well being important habitats and providing suburb opportunities for outdoor recreation on the open fells.

The Lake District National Park is currently (2013) a candidate World Heritage Site. The draft Statement of Outstanding Universal Value places the role of farming centre stage stating that "The English Lake District is the birthplace of what landscape means to the modern world. Its unique landscape, dominated by a long-standing, living tradition of upland pastoral farming…"[2]. It goes on to detail the attributes of the Park highlighting the 'remains' of past activity while also listing the 'living tradition of sheep farming'. Hence the bid relies not only on references to heritage or 'what remains' but stresses the continuity of farming and the lineage of farm families and their stock. The bid describes the Lake District as a "hand-made landscape". Yet it also hints at the vulnerability of the key attributes. A farmer from Forest Hall near Kendal is interviewed and describes the farming year, reflecting on why he has swales and summarising the nub of the issue in straightforward terms "it's a well-proven thing all this lot and if we're not careful it will all unravel…".

Those with a strong interest in the natural environment have also expressed concern

[2] Quoted from Lake District World Heritage Project, Draft nomination document (public version) available from: http://www.lakeswhs.co.uk/documents.html

about the implications on nature conservation. The recent report by the RSPB and other NGOs on the *State of Nature* in the UK (May, 2013) neatly outlines the critical interactions between farming and wildlife in the uplands as follows (p 31). "*Following the outbreak of Foot and Mouth Disease in 2001, sheep numbers fell in the uplands. This reduced grazing pressure and a remarkable blooming was recorded across English uplands such as Cross Fell*[3]*. Rare plants such as yellow marsh saxifrage and alpine foxtail were recorded in previously unseen profusion, and the sheathed sedge was discovered in England for the first time – an indication of how our uplands could appear if managed more appropriately. Recent policy changes, including nature conservation measures such as agri-environment schemes and changes to farming systems, have further reduced numbers of sheep and other livestock in our uplands.*

Upland land managers, particularly hill farmers, face economic pressure to change and intensify their management of enclosed land to increase productivity, as well as to abandon unenclosed rough grazing land. Yet many upland species need the varied vegetation associated with traditional livestock grazing. Agri-environment schemes can provide a lifeline for farmers wishing to maintain extensive cattle and sheep grazing – an often unprofitable farming system, but one that is vital to maintaining habitats like dwarf shrub heath and rough pasture. These habitats are important for a range of species, including the curlew, adder, bilberry bumblebee, tormentil mining bee (Andrena tarsata) and many butterflies."

Farming, perhaps especially in the uplands, not only affects and, in effect, delivers an associated mosaic of wildlife habitats, but also generates a range of other *ecosystem services* which are important and valuable to society. Natural England published an evaluation of three upland ecosystem service pilots[4], including one in the Lake District National Park – Bassenthwaite. "*In workshops in the Bassenthwaite pilot, farmers identified a wide range of ecosystem services that they can supply through their land management whilst commenting that they are keen to ensure the long term continuity of productive hill farming* (p 8). Table 1 below, taken directly from this report (p 8), documents this range of services explicitly. Put another way (following Aglionby) upland farming and land management has three major functions or roles: *provision; regulation; creation & maintenance*. It *provides* food, breeding livestock, water, and wood products; it *regulates* water flows, carbon sinks and cycles, and nutrients; it *creates and maintains* landscape, tradition, communities, access and recreation.

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3 Roberts, F. J. (2002), *Carlisle Naturalist*, 10, 33 – 43.

4 Waters, R. D., Lusardi, J., & Clarke, S. 2012. Delivering the ecosystem approach on the ground – an evaluation of the upland ecosystem service pilots. *Natural England Research Reports, Number 046.*

Table 1 Ecosystem services compiled for Bassenthwaite pilot baseline assessment

Ecosystem service	Data sources	Direct measure or proxy
Food provision	Density of breeding ewes (Defra data) Summer/winter stocking levels (NE local team)	proxy
Timber provision	Woodlands over 10 ha (FC)	proxy
Water provision	Annual water abstraction in litres (EA) Raw water colour (UU)	direct
Climate regulation	Peat soils (BGS/Cranfield University) SSSI blanket bog condition (NE)	proxy
Flood regulation	Flood risk chance from rivers and sea (EA)	proxy
Soil erosion regulation	Sediment supply risk ratings (Orr et al 2004) Soil vulnerability (Forest Research and Lancaster University)	proxy
Water quality regulation	WFD status of water bodies (EA)	direct
Biodiversity	Broad habitats (BAP inventories) Designated sites: SSSI, SAC (NE) SSSI condition (NE)	direct -partial data
Cultural heritage	Scheduled Monuments at risk (EH) Historic Environment Record (LDNPA) Historic landscapes (LDNPA)	direct -partial data
Tranquillity	Perceived tranquillity (CPRE)	direct
Inspiration from landscape	Sites of significance to key Lake District artists and writers (LDNPA)	proxy
Recreation and tourism	Public Rights of Way (Crown copyright) Footpath restoration type (LDNPA) Tourism businesses (Mersey Forest Green Infrastructure Section)	proxy

NE: Natural England, FC: Forestry Commission, EA: Environment Agency, BGS: British Geological Society, BAP: Biodiversity Action Plan, SSSI: Site of Special Scientific Interest, SAC Special Area of Conservation, EH English Heritage, LDNPA: Lake District National Park Authority, UU: United Utilities, CPRE: Campaign to Protect Rural England

Several of the key findings of this evaluation are particularly relevant to the Lake District National Park. *"Existing partnerships and partner groups, already working within established boundaries, are of critical importance when defining scale and boundaries for applying the ecosystem approach"* (p. 6), which appears to apply directly to the Park. Further key findings for people include (p 11):

- *"Effective engagement with farmers and land managers needs to be undertaken in the formative stages.*
- *Community engagement, although challenging and time consuming , is worthwhile; people want to be engaged and consulted and when they are their enthusiasm for environmental projects increases.*
- *Further engagement is required with wider beneficiaries.*
- *Local people are generally aware of the public benefits that are provided by the natural environment but not familiar with the term "ecosystem services"; appropriate language is important.*
- *Taking a fully participatory approach can feel uncomfortable as the outcomes are unpredictable, but it led to a co-created delivery plan which is more resilient because of the high level of engagement."*

This evaluation report also notes that "*in all three pilots, farmers are concerned about the future of upland hill farming; as a farmer said in a workshop in the Bassenthwaite pilot "Farmers are farmers and want to farm livestock". ... Delivery to enhance the provision of ecosystem services within the pilots is therefore entirely dependent on the voluntary uptake by farmers and other land managers of agri-environment and other funded management options"* (p. 17).

In the Bassenthwaite pilot, "*United Utilities Sustainable Catchment Management Programme (SCaMP2) will provide funding for capital works on 19 tenanted farms and commons in the Thirlmere water supply catchment. United Utilities investment in farm infrastructure and other capital items is in addition to HLS and this combination of private and public funds is being used to pay for the enhancement of ecosystem services*" (p28). Further, "*one of the key partners, Nurture Lakeland (formerly the Tourism and Conservation Partnership), runs the largest visitor payback scheme in the United Kingdom. This scheme currently generates c.£250k per annum for environmental projects. Through the pilot project, Nurture Lakeland undertook work with 35 businesses in the Bassenthwaite catchment to explore how to further develop the visitor payback scheme to pay for ecosystem services (Nurture Lakeland 2011). This work has identified that visitors prefer to contribute to visible capital projects such as footpath repair/improvements and woodland creation*" (p 30).

Key to the initiatives and documents outlined above is the past and future role of farming. Analysis of the current condition and future prospects of upland farms in the Park is necessary to inform future management policy in the National Park. The National Park Authority and its partners require a common understanding of the current and future profitability of farming and farm forestry industries. Our report is intended to provide such a common understanding of the state of farming in the Lake District National Park to inform the development and delivery of initiatives that will secure the future management of its cultural landscapes and maintain its special qualities. Our report is based on detailed, confidential, farm business records and accounts collected annually by our survey team as part of Defra's Farm Business Survey. We currently assemble detailed management accounts for 14 hill farms within the Park, and have records for some of these farms covering the last 10 years. These data provide an accurate account of the average business performance of the LDNP upland farms, and a good indication of the variations in performance between farms and over time.

In addition, we have interviewed 7 of these farmers, chosen to illustrate the range of conditions and circumstances in the Park. These case studies facilitated the detailed analysis of future prospects for upland farming in the Lakes. To preserve confidentiality, we have not specifically identified these farms, but their stories and histories are otherwise true reflections of their circumstances and prospects.

We also use Defra's annual June Survey (previously a census) which records aggregate data on land use, livestock numbers and farm characteristics (size and labour force) for the Park[5]. These data provide the sampling frame for the FBS

[5] Commercial holdings are defined by Defra as "those with significant levels of farming activity. These significant levels are classified as any holding with more than 5 hectares of agricultural

sample, which is stratified to be representative of the whole population of commercial holdings. In addition, Defra's Farm Practices Survey unit has also produced two surveys of upland farms by region, including the Lake District and Cumbrian Coast, one in 2009 and the latest in 2012. These data provide a useful background to the more detailed business data provided by the FBS.

1.2 Defra June Survey – the Lake District National Park.

Figure 1: LDNP commerical holdings by size

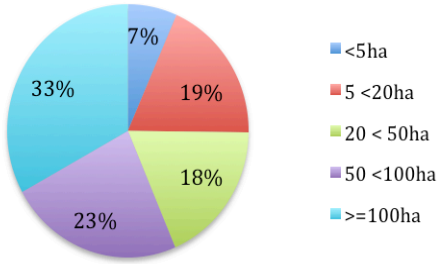


Figure 2: LDNP Commercial fams by type

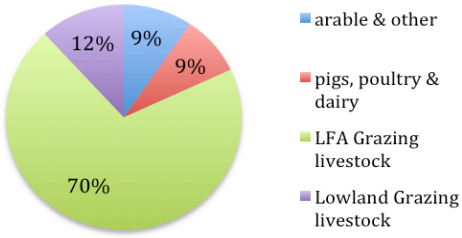
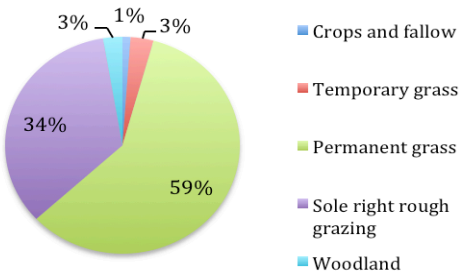


Figure 3: LDNP commercial farm land use



The latest June Survey data (2010) for the Lake District National Park record that there are just over 1,000 commercial agricultural holdings[1] in the Park and a similar number of full time farmers. The survey also records 800 part-time farmers and 160 paid workers on the commercial holdings. While ¼ of the commercial holdings are recorded as being of less than 20ha, more than half are larger than 50ha (Figure 1). Most of these are hill farms (classed as Less Favoured Area (LFA) farms) – Figure 2. Similarly, Figure 3, the major land uses by these commercial holdings in the Park are permanent grass and rough grazing (excluding commons), with only 3% of the total farm land being woodland. This land feeds 9,600 dairy cows, 17,200 beef cows, 319,000 breeding ewes and 900 horses. The total farmed area is 124,200 hectares, of which half is owner-occupied by the farmers and half is rented. The remaining 105,000 ha of the total Park area is made up of common land, commercial woodland, the lakes and tarns, built up areas and roads.

Defra's June Survey results since 2000 give an overview of the recent trends in

land, 1 hectare of orchards, 0.5 hectares of vegetables or 0.1 hectares of protected crops, or more than 10 cows, 50 pigs, 20 sheep, 20 goats or 1,000 poultry" (Defra, June Survey, 2012)

farm structure in the Park.[6] These data show a general trend towards fewer and larger farms, with the numbers in all but the smallest and largest size groups declining by between 2 and 17% over the period. The number of smallholdings (<5ha) has grown by 40%, presumably as a result of the sale of houses and cottages with some land following amalgamation. The largest size group (≥100ha) has grown by 91% (though a considerable fraction of this growth is probably a reflection of paper aggregations of holdings, rather than actual amalgamations of separate farms). The number of holdings classed as dairy has fallen by almost 40%, while the number classed as LFA Grazing has risen by 19%, as dairy farms convert to grazing farms. There has been a corresponding fall in the number of dairy cows in the Park, by 32%, though the number of suckler (beef cows) has also shown a slight decline (2%) over the whole period, following a sharp decline in 2001 (the FMD cull) and a recovery since then. Breeding ewe numbers also fell sharply following the 2001 cull, and have not recovered their 2000 levels, showing a decline of almost 30% from the 2000 flock.

This decline in stock numbers, partly triggered by the FMD crisis, implies a substantial decline in grazing intensity on both permanent grass and rough grazing. However, the total area of permanent grass in the Park has grown by over 14,000ha (24%), while the area of sole right rough grazing has fallen by 5,550ha (11%). The area under woodland on farms has remained more or less constant, though the 2009 area recorded in the June Survey shows an 11% increase on the 2008 area. These changes reflect both some conversion of moorland to permanent pasture, and also some reversion of previous cropped or temporary grassland to permanent pasture. The changes also reflect the decline in the Park's dairy herd in favour of suckler cattle and sheep (albeit in lower numbers than at the turn of the century). The continued pressure on dairy margins over the recent past, especially for the smaller herds being kept under more challenging conditions, has led to a substantial decline in the number of dairy herds, perhaps especially those in the Less Favoured Areas.

The disaster of the FMD crisis clearly forced and/or encouraged many farmers to re-assess their family and business systems. At least for those farms suffering an actual cull, they were also provided with some compensation to assist with their re-structuring. Those who 'merely' suffered from the dislocation of markets and movements (of both people and animals) had to rely on the then more or less friendly and sensible banks, and on the small business tax provisions allowing roll-over of losses against future profits. However, the FMD disaster was not the only major factor encouraging farm restructuring during the last ten years.

The noughties also saw a major change in agricultural policy under the Common Agricultural Policy (CAP). In 2000, farm subsidies were still based on numbers of livestock. Not surprisingly, this system encouraged farmers to run more livestock than otherwise. However, the suckler cow and ewe premia were eliminated early in

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6 Defra changed the nature of the Survey in 2009 to consider only those holdings defined as 'commercial' rather than seeking to document all agricultural holdings. Since this change obscures historical changes, the trends described here are those revealed by a comparison between the data for 2000 with those for 2009. Virtually all of the holdings of <5ha are not regarded as commercial – the 7% recorded as commercial in Figure 1 are market gardens and similar enterprises.

the century to be replaced by the Single Farm Payment, which is independent of the number of livestock. Although the Hill Farm Allowance continued until 2010, which did entail some grazing livestock conditions, this has now also been discontinued, replaced by the Uplands Entry Level Stewardship scheme (UELS). This scheme requires farmers to use simple and effective environmental management to maintain and improve the biodiversity, natural resources, landscape/ historical value of the uplands and contribute to climate change mitigation and adaptation.

Further major changes in payments for environmental stewardship are also currently being implemented. In particular, both the Environmentally Sensitive Area (ESA) and the Countryside Stewardship schemes (CSS) are being phased out, and will be completely discontinued by 2014. Farmers who were participants in these schemes are being offered the opportunity to join the Entry, Uplands, Organic or Higher Level Stewardship schemes, with a temporary Uplands Transition payment to ease cash-flow problems associated with the change. This change in environmental payments presents farmers with a particular challenge – conversion of existing ESA and CSS agreements to either the ELS or, if they are eligible, the HLS. This change involves either a 30% decrease in payments if moving to an ELS scheme or an increase of 30% if moving to an HLS scheme (with a corresponding increase in the environmental management prescriptions and assuming they can gain entry to the scheme). There is no option available to continue with the previous environmental management prescriptions at the previous levels of payment, so a distinct choice has to be made between significantly more or less environmental care, and associated income streams.

Furthermore, the future of the CAP is currently under negotiation, with a final decision not expected until the end of this year at the earliest. However, the general direction of travel is reasonably clear. The Single Farm Payment levels are unlikely to increase, and will probably be reduced. In addition, some further 'greening' measures will be required for farmers to be eligible for at least a part of the SFP (effectively making part of the SFP an argi-environment payment rather than an income support payment). In the longer term, continued direct support payments to farmers, without any requirement that farmers deliver specific environmental benefits, is politically unsustainable.

As if these threats to the future of farming were not enough, the poor summer of 2012, followed by the long winter and late spring, including the catastrophic blizzards in March 2013, make these especially challenging times for hill farmers. Even ignoring the effects of the weather, Defra is already forecasting a dramatic fall of more than 50% in farm business income for hill farmers for the crop year 2012/13 compared with 2011/12 – the latest year for which we have firm and reliable data – because of both weaker prices and reduced Single Farm Payments (SFPs).

1.3 Our Report

The particular and unique character of the Lake District National Park depends on the sustainability of hill farming. The unique landscapes, characteristic environments and settlement patterns are largely products of the farming-related management of the natural environment. This is recognised time and time again in the bid to achieve World Heritage Status and in the policy and management documents of key Park

stakeholders. Particularly dependent on active agricultural management are the commons which constitute around 25% of the land area of the National Park. Sustainable hill farming requires, as a necessary condition, that people can continue to make a reasonable living from farming, farm forestry and related environmental conservation. This report is an objective assessment of the current condition and future prospects for hill farming the Lake District.

We begin (Section 2) with a summary of the most recent (2012) Defra farm practices survey of Upland farming (focusing on the Lake District results). Section 3 outlines the national and regional picture of hill farm profitability, based on the annual national Farm Business Survey (FBS) conducted by Rural Business Research (RBR) on behalf of Defra. Section 4 provides more specific detail on the profitability of Lake District hill farms, based on the FBS data collected and processed by RBR, Newcastle at Newcastle University. Section 5 illustrates the diversity of conditions and circumstances, and the associated diversity of potential responses to future economic conditions, through 6 case studies of particular farms in the LDNP. Section 7 reports on interviews with key stakeholder representatives about the particular strengths, weaknesses, opportunities and threats (SWOT) of farming and farm forestry in the Park. We conclude (section 8) with a critical assessment of the present condition and future prospects for hill farming in the Lake District, to identify the critical issues facing the Park.

The ambitions of the Lake District National Park Authority for farming in the Park over the next five years have been spelt out (May, 2013 Farming Position Statement) as:

"The Lake District National Park to be recognised nationally as a leading example of a place where farming is resilient and sustainable, economically, socially and environmentally.

Farming will sustain and enhance the special qualities of the National Park and the Outstanding Universal Value of the World Heritage Site: its natural environment, delivery of ecosystem services, its cultural landscape and resilience to climate change.

Farming revenue will come from a mix of traditional market products, primarily livestock, public and market payments for ecosystem services and business diversification such as tourism. Payments for ecosystem services will include public payments, such as agri-environment schemes and new forms of public and market payments, for example for water and carbon management. Farming will supply an increased demand for high quality local products, especially from visitors. Farm household income will be able to be made up of a mix of these on-farm enterprises and off-farm income gained from other employment in the prosperous local economy.

Farming families, farming culture and traditions, farming's "social capital", will be sustained, strengthened and supplemented by new skills for the 21st Century. Young people will be keen and enabled to enter the industry.

The National Park will be a place where there are healthy positive working relationships between farmers, landowners, their local communities, visitors and the National Park Partnership on local land management and future National Park strategy. All parties will recognise and celebrate the contribution that the healthy farming sector makes to delivering the Vision for the National Park.

Our 4 priorities for Partnership action in the National Park are:

- *Securing the best deal for Lake District farming from the next Rural Development Programme and other EU and Government investment programmes.*
- *Local Food initiatives – promoting and increasing the return on high quality farming products.*
- *Payment for ecosystem services – encouraging new markets and investment in management of ecosystem services, for example carbon and water.*
- *People – Supporting the social capital of farming through supporting investment in skills and enabling generational succession by removing barriers."*

We hope that this report helps to achieve these laudable ambitions.

2. Defra's Upland Farm Practices Survey, Lake District, 2012

Defra's Uplands farm survey, 2012, records various data for a sample of 150 farms in the Lake District and Cumbrian Coast region. These data reflect the total population of the region, with more than half relying on their farms for all or most of their family income (Figure 4). Similarly just over half of these farms are either debt free or incur only short-term debts, while ¼ are increasingly worried about their financial solvency (Figure 5).

Figure 4: Dependence on farming

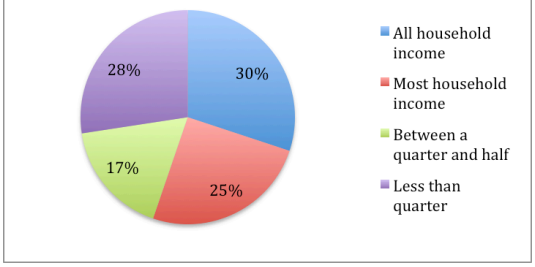
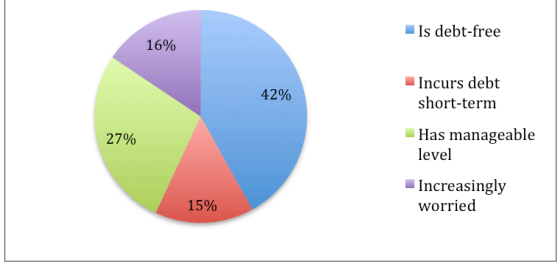


Figure 5: Solvency



By and large, these farms are not diversified (Figure 6) although rather more have some significant off-farm income sources (Figure 7). However, the Uplands survey records that 30% of the farmers are either actively developing or thinking about on-farm diversification (possibly substantially overlapping with the 30% already either moderately or significantly diversified (Figure 6)). Only 20% (1 in 5) are either seeking or thinking abut developing off farm income sources, again possibly overlapping with the 20% for whom off farm incomes already makes a moderate contribution to household income (Figure 7).

Figure 6: On-farm diversification

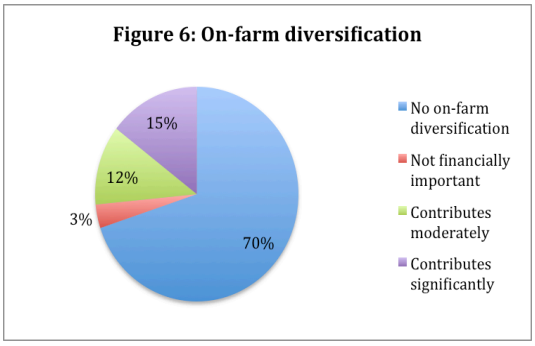
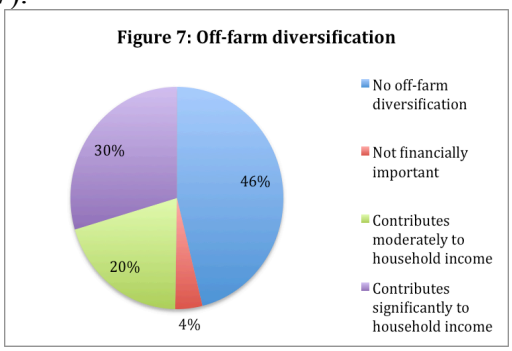
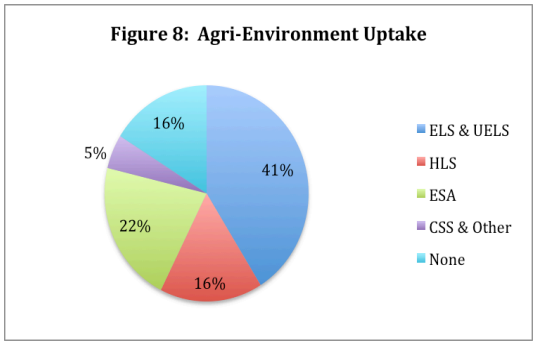
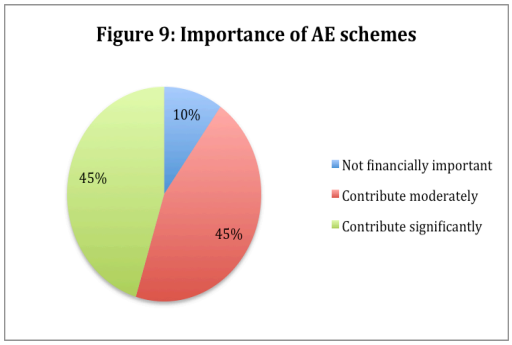


Figure 7: Off-farm diversification

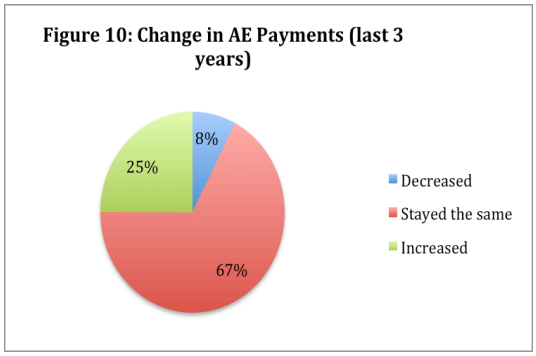


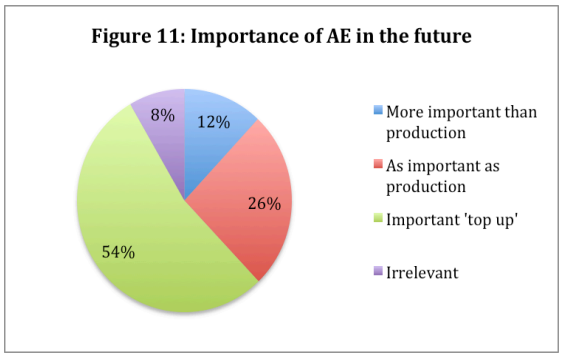




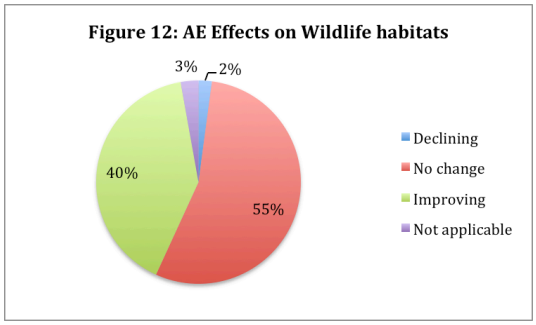
The majority of Lake District farms are in at least one agri-environmental scheme (e.g. ESA, HLS, CSS), (see Figure 8), which make a moderate to significant contribution to family income for the large majority of the farms, (Figure 9).

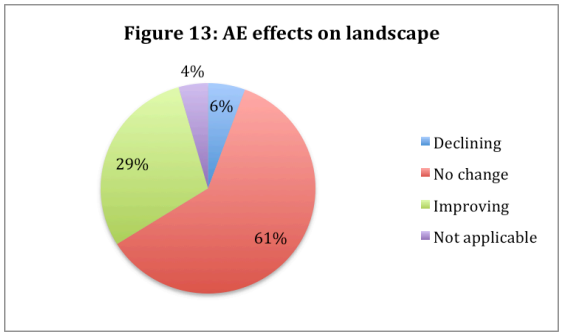
The payments have remained constant for most of these farms over the past three years. Around a 1/3 of them have seen payment levels change (Figure 10). This is probably associated with the changes from ESA agreements, which (as noted in the introduction) are expiring for many of these farms, to Higher Level Stewardship schemes, which typically improve payments by an order of 30% over the previous ESA. Some farms, however, are choosing not to follow the stricter management provisions of the HLS, and experience a reduction in AE payments following expiry of the ESA agreements, of the order of 30%. This small proportion (8%) of farms choosing to reduce the importance of AE payments and conditions is possibly the same as the proportion who consider that AE payments will be irrelevant to the farm business in the future (Figure 11), while most think that these payments will be at least an important 'top-up' to their family income.



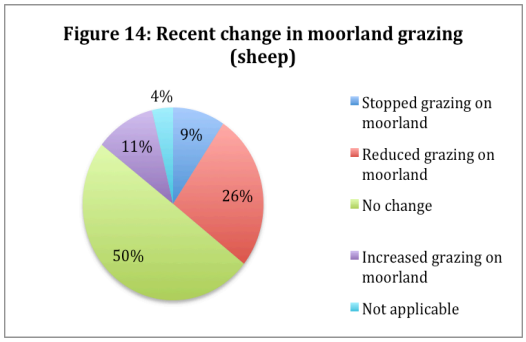


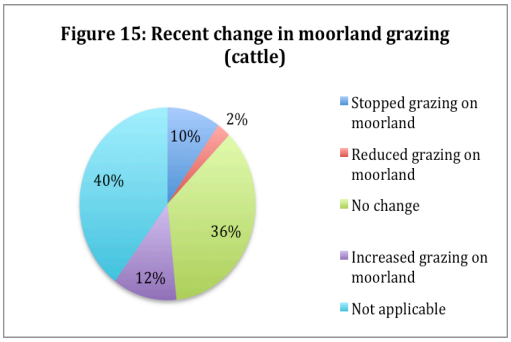
However, these farmers are not entirely convinced that their AE schemes make much positive difference to the wildlife habitats (Figure 12) or landscape (Figure 13) of the Park, with most considering that these schemes have no substantial effects over and above what they are already doing. This perhaps reflects the explicit objectives of the schemes to make payments for the maintenance of features rather than for enhancement or change.



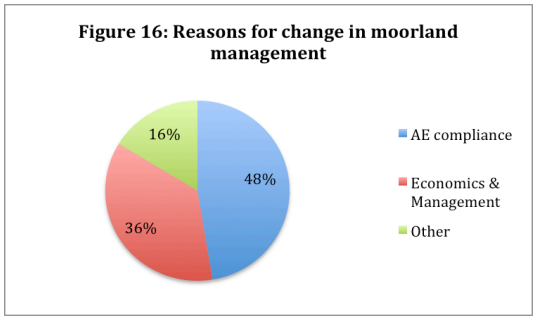


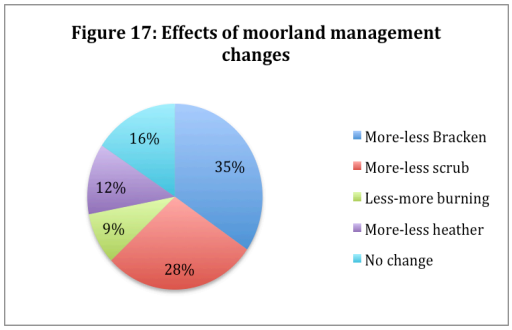
Only 38% of the surveyed farms use moorland grazing, while of those that do 2/3 have sole occupancy of their moorland versus the 1/3 with common grazing rights. Most of the later (90%) belong to an active commoner association. Over the past three years there has been either some reduction or no change in grazing moorland in the Park (Figures 14 and 15), though a few farmers have actually increased their grazing of moorland.



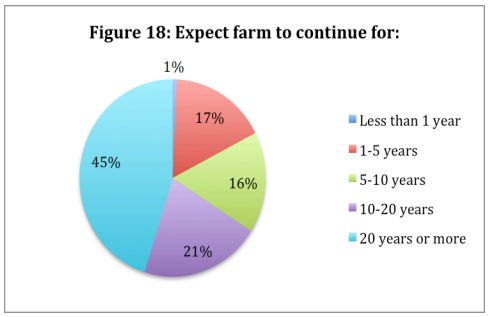


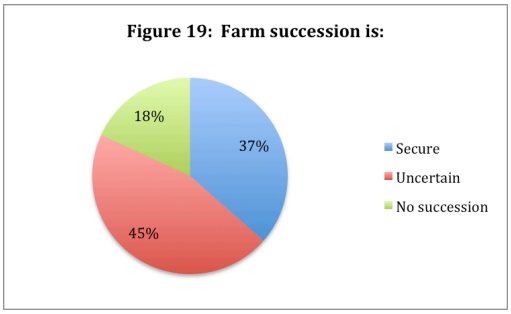
Of those whose grazing management have changed, the reasons are split between complying with AE schemes and commercial (economic and management) and other (including acquisition of more land), Figure 16. The effects of these changes are perceived as being more bracken, scrub and heather and less burning of heather (Figure 17). Very few (4 – 7%) expect to increase their grazing of moorland in the future. Defra's Upland survey also included similar questions about the use of rough grazing and other grass below the moorland line, with very similar results as those illustrated above for moorland.



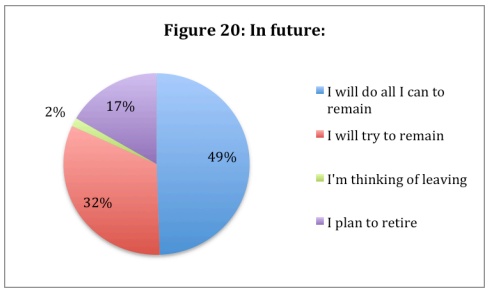


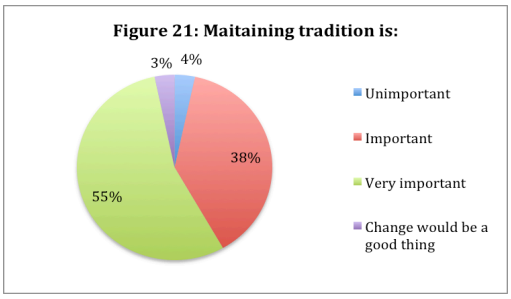
The majority of the farmers in Defra's Upland survey are confident that their farm businesses and livelihoods can continue for the foreseeable future (Figure 18), though only 1/3 of them feel that either family or non-family succession to their farm is secure (Figure 19).

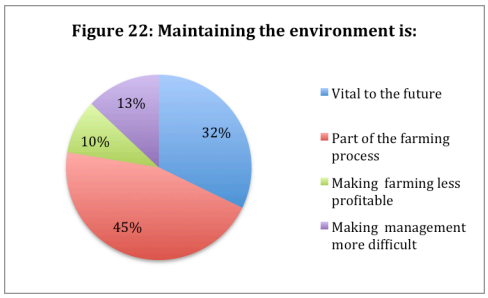




Most of them are determined to continue as they have in the past, though 1 in 5 are thinking of leaving or retiring (Figure 20), and an even larger majority consider that maintaining tradition is at least important if not very important (Figure 21).







Most farmers think that maintaining the environment is either vital to the future of upland farming or at least part of the upland farming system and process (Figure 22). A small minority, however, consider that environmental conservation either makes farming less profitable or more difficult.

The biggest challenge (threat) to their livings and ways of life are seen as changes to the Single Payment Scheme (SPS) and (weaker) market prices (Figure 23), with 80% and 70% of respondents citing these as major threats. These threats are closely followed by the effects of: new regulations; input costs; the levels of environmental payments. Only 20% (1 in 5) think that access to local services, or local livestock markets, or availability of skilled labour are substantial threats to their business and livelihoods.

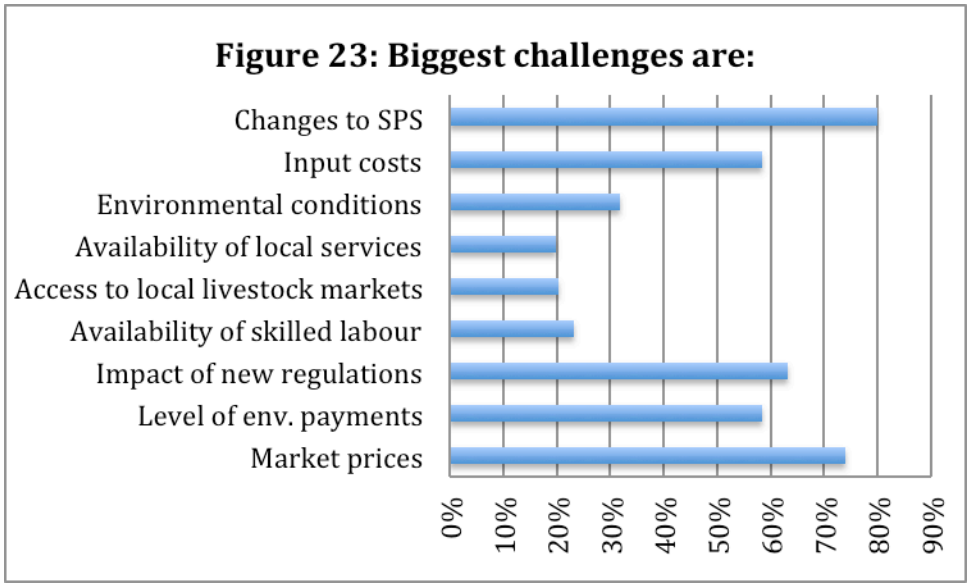
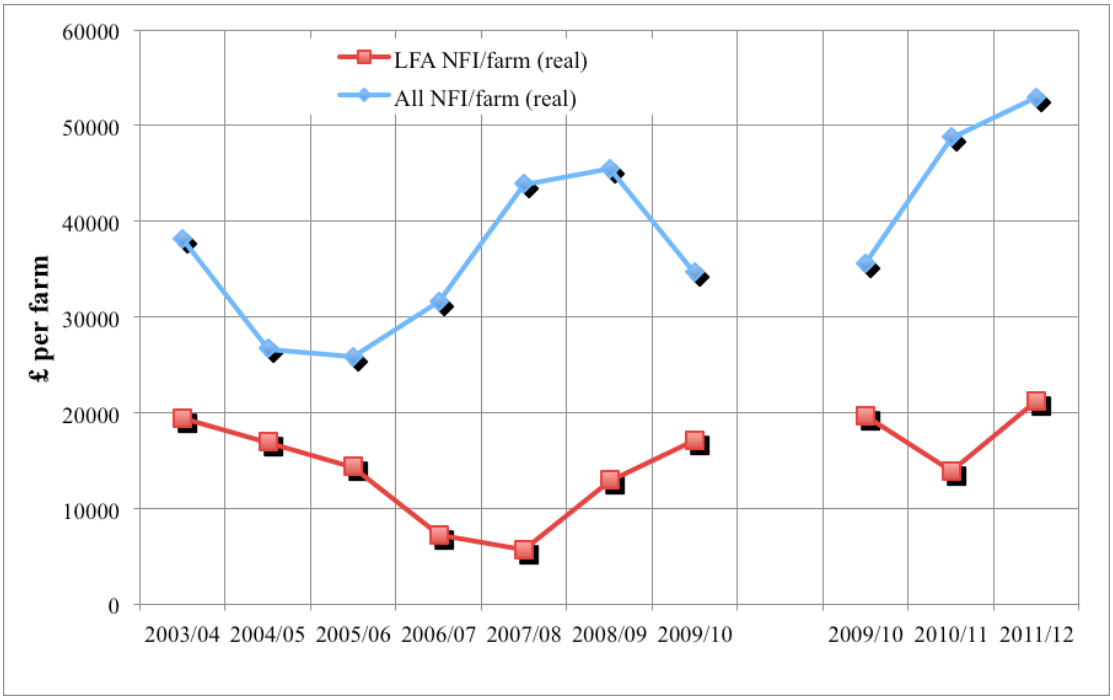


Figure 23: Biggest challenges are:
Changes to SPS
Input costs
Environmental conditions
Availability of local services
Access to local livestock markets
Availability of skilled labour
Impact of new regulations
Level of env. payments
Market prices
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%

3. Hill Farm Profitability: The national and regional context.

Most farms in the Park are hill farms. The recent business performance[7] of hill farms across the whole of England is illustrated in Figure 3.1, in terms of 'Net Farm Income' - the net returns to the farmers' own labour, tenant's capital and management. This measure makes the numbers consistent for both owned and tenanted farms.

Figure 3.1. Hill Farms[a] v. All FBS Farms farm income per farm[b], England



Source: *Farm Accounts in England, 2011/12,* Defra, and Hill Farming in England, Farm Business Survey, 2011/12. The classification of farms changed in 2010 from a standard gross margin (SGM) to a standard output (SO) basis, which slightly alters the composition of the sample. Hence the data for 2009/10 are repeated for each of the SGM and SO bases.

Notes: a: defined as Upland Grazing Farms, b: Real terms = deflated by RPI (all items), 2011/12 = 100.

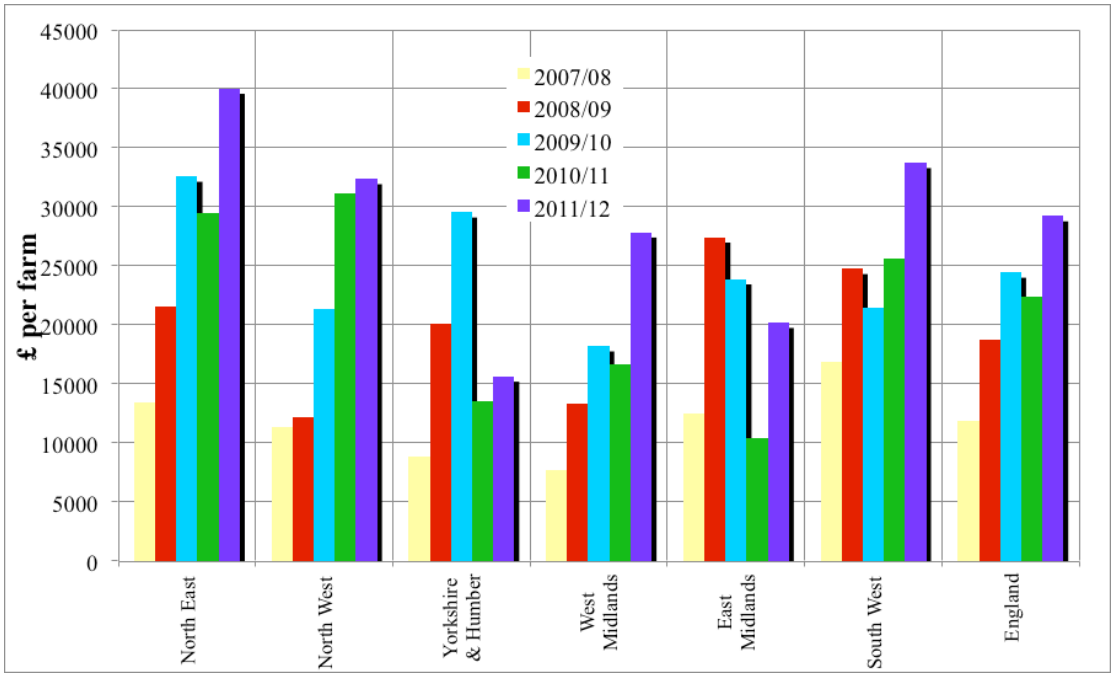
Hill farms continually under-perform relative to their peers elsewhere in the industry in terms of income per farm. Despite variable improvements in profitability over the recent past, hill farm incomes are still less than 50% of the national average farm income per farm, averaging £20,000 per year per farm in a good year such as 2011/12, and frequently substantially less than this, as Figure 3.1 shows.

Hill farms in the North West, including those in the LDNP, tend to perform rather less well than their counterparts in the North East, (Figure 3.2) partly because they tend to be smaller, though both tend to outperform the national (England) average, averaging between £11,000 and £32,000 per farm over the last 5 years in real purchasing power

7 The Farm Business Survey (FBS) team at Newcastle University produce an annual summary of the FBS data relating to these hill farms in the whole of England – Hill Farming in England – the most recent of which relate to the 2011/12 accounting year, from which these data and commentary are taken.

terms. Nevertheless, there is both substantial variation in income between years, and also very substantial variation between farms (Figure 3.3).

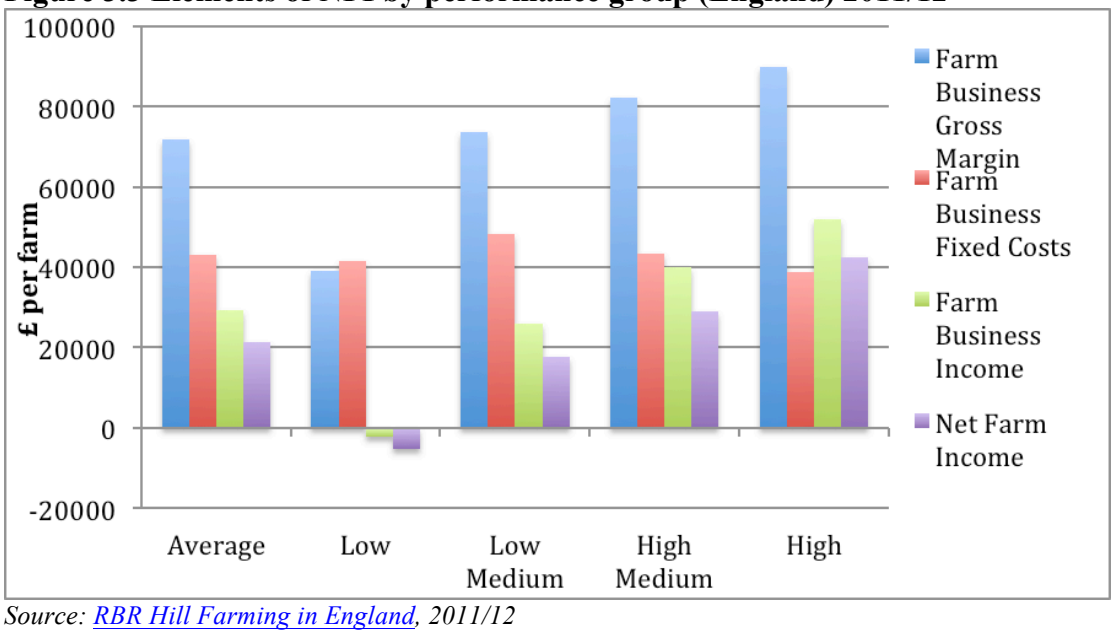
Figure 3.2 Hill Net Farm Income per farm, by region (2007/8 to 2011/12)



Source: - RBR, Farm Business Survey (2010/11 and 2011/12 on an SO basis). Real terms (by RPI, 2011/12 = 100)

Figure 3.3 shows how the average hill farm's Net Farm Income is generated and how it varies between farms. The all England Hill farm average is compared with the averages for each of the quartiles of the whole English sample, distributed according to business income per grazing livestock unit (GLU) – from the poorest 25% (low) to the best 25% (high).

Figure 3.3 Elements of NFI by performance group (England) 2011/12



Source: RBR Hill Farming in England, 2011/12

Ranking farms according to their performance per GLU (a common measure of all livestock on the farm) controls for the obvious effect of size of farm on the income per farm, although larger farms will obviously generate more income than their smaller counterparts, other things being equal.

As Figure 3.3 shows, there is a very substantial difference between the lowest and best performers in the all England sample. The first (lhs) column for each group of farms shows their *gross margins* (all farm revenues minus variable costs such as feed, fertilisers, fuel etc.) at £71.6k per farm on average, and ranging from £39k to £90k per farm. However, their *fixed costs* (hired labour, capital maintenance and depreciation) are generally close to the average, at £43k per farm, and ranging from £38.8k (Low) to £48.2k (High). As a result, the *Farm Business Income (FBI)* - the gross margin minus the fixed costs - for the high performers (£52k) is very substantially greater than average (£29.2k), and the poorest 25% of farms lose £2.3k per farm on this basis. As noted in the introduction, it is this Business Income which has been (January, 2013) forecast by Defra to fall by 53% for 2012/13 for hill farmers. The reasons for this forecasted fall are that: "*whilst cattle prices have remained firm sheep values have been lower than those seen in 2011/12. This is predicted to result in a reduced level of output which combined with higher feed costs is likely to result in average incomes of .. £14,000 for LFA grazing farms. As with other farm types, the single payment is around 10% lower than the previous year which for these farm types represents a substantial reduction in receipts*" (Defra, 2013). In other words, even this poor forecast takes no account of the dreadful weather experienced in both the summer of 2012 and, more especially, in the spring in 2013.

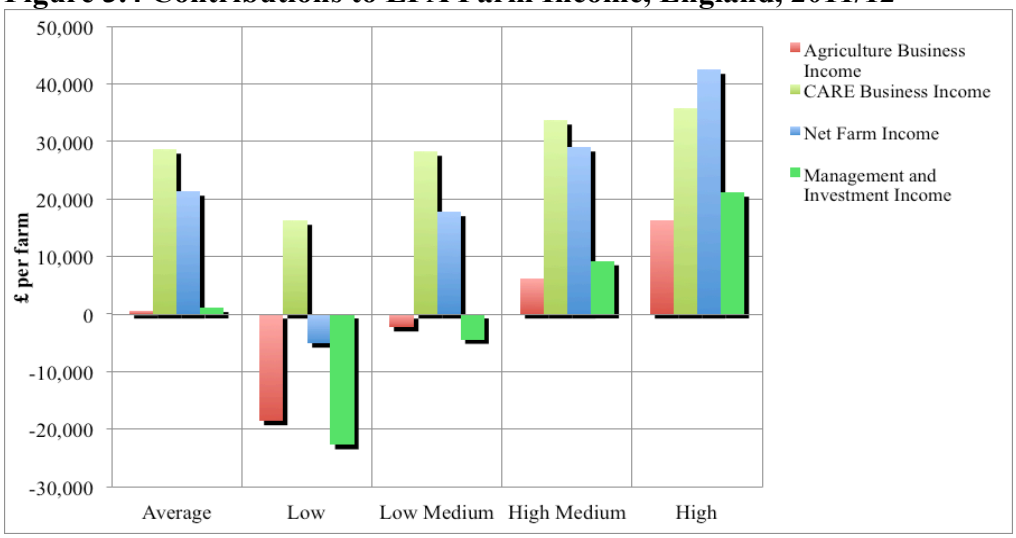
However, this Farm Business Income has to pay the (unpaid) family labour. Owner-occupiers, of course, do not have a rent outgoing, so to maintain comparability between owner-occupiers and tenants, the calculation of Net Farm Income also deducts an equivalent imputed rent for owner-occupiers. Net Farm Income (NFI) is the figure which results from deducting an allowance for unpaid family labour (excluding the farmers' own labour) and actual or imputed rents from the FBI. As such, it represents the returns to farmers' own labour and management, and any returns on tenant's capital. For the poorest quartile in 2011/12 (itself a relatively good year), Net Farm Income is negative. These farmers, in effect, are paying to farm rather than being paid to farm. These farmers would be better off financially working for someone else as a farm labourer, and investing their tenant's capital in a reliable savings bank. In practice, of course, this alternative might well mean finding somewhere else to live, and hence incurring housing costs, and probably other costs, which are to some extent already covered in the costs of running the farm business.[8] In addition, for most farmers, the value of being one's own boss, living on the job, making a living from worthwhile and rewarding activity and contributing to the stewardship of the land and environment are all worth something, which are ignored in the clinical calculus of business accounting.

Figure 3.4 shows some further detail on the sources and distribution of hill farms' income, for the whole of the England sample of hill farms, by splitting the farm

8 The FBS does make an allowance for the rental value of the farmhouse.

business into its agricultural and environmental care components. The *Agricultural Business Income* figure shows the returns generated by the farming business excluding all support payments (Single Farm Payments (SFP) and the Hill Farm Allowance (HFA)) and all environmental payments (Entry Level Scheme (ELS) etc.). As the Agricultural Business Income shows, only the best performing 50% of hill farms in England managed to earn a positive return (albeit small) on their farming business alone in 2011/12. Half the hill farmers in England are losing money being farmers, even in a good year. On average, they are only just breaking even from their farming activities, which means actually working for nothing, since breaking even does not provide any return at all for the farmers' own labour and management inputs. It is their 'care' income and activity which saves them from the workhouse or its modern-day equivalent.

Figure 3.4 Contributions to LFA Farm Income, England, 2011/12



Source: RBR Hill Farming in England, 2011/12

CARE Business Income includes all the support and environmental payments (CARE = conservation, amenity, recreation and environmental), which again increase as the performance ranking improves. It is this income, net of associated costs, which provides some return to the farmers' own labour, management and capital investment (their Net Farm Income), and even this income is not sufficient to provide a return equal to that which the poorest performers could have earned as farm labourers – the poorest quartile in the all England sample made a negative NFI even in the relatively good year of 2011/12.

Management and Investment Income (M&II) is the 'bottom line', being the income remaining when the value of the farmer's own labour (including that of the spouse), valued at the going agricultural wage rate, is deducted from Net Farm Income. M&II thus represents the return to the occupiers' managerial effort and to their tenant's capital investment in the business, having paid a rent to reflect the return to land (where the imputed rent accounts for the fact that owner-occupiers effectively earn their own rents). As can be seen from Figure 3.4, only the better than average performers manage to earn a positive return on their own management and investment. For the poorer performers, the M&II return is negative – these farmers would be financially better off as farm labourers (ignoring tax and other considerations). Perhaps more importantly, 50% of the hill farms in England did not

earn enough, even in the relatively good year 2011/12, to justify their investment in the farm – the returns on this investment are negative (a cost, rather than a return). Although these business accounts do, of course, make allowances, though the depreciation charges, for replacement of live and dead stock as they die or wear out, these farmers are, in effect, paying to farm - their negative management and investment income implies a payment rather than a return on this effort and investment. Only half of the hill farmers in England are making positive returns on their own management and investment, of between £10k and £20k per year per farm. Even this return is marginal, considering that the average investment in tenant's capital for the farms ranges from £666,000 to £900,000 for the high medium and high performers, respectively. With no account taken of the managerial inputs, these returns represent returns of between 1.5% and 2.2% - hardly a recipe for riches and prosperity.

One obvious question arises from this analysis – what are the critical differences between the top performing farms and their more commercially fragile peers? As Figure 3.3 above illustrates, the poorest performers typically exhibit substantially lower gross margins than the majority of farms – spending relatively more on purchased inputs and earning lower revenues per farm. Otherwise, their fixed costs are at more or less equivalent levels to the rest of the sample, so their net income (as the difference between the margin and the fixed costs) is substantially lower. Among the rest, there is some considerable evidence of better use of fixed capital on the better performing farms, with a consequent improvement in their net returns. The better performing farms also typically generate more 'care' income per farm (Figure 3.4), so overall they do better. With such relatively small margins, small differences in the component parts (revenues, variable and fixed costs, and care income) are magnified into substantial differences in net returns. Over and above these generalities, however, there is also a considerable element of luck – in the quantities and prices paid for inputs, in the prices earned for the products, and in the physical yields obtained – most of which can confound even the most careful planning from time to time.

How and why do they survive and persist? The short answer is that these farmers love what they do and know of no better way of making a living and having a life, and are prepared to go on doing what they know and love for as long as possible. As noted above, farmers are fortunate in that at least some of their living expenses (housing, some transport etc.) are generally covered in their business expenses. In addition, those owner-occupiers without the encumbrance of mortgage payments also benefit from being their own landlords, and earning their own rents in addition to their farming returns. In poorer years, too, these farmers can survive by postponing their depreciation costs until more favourable times, though the average depreciation charges for England's hill farms only amounts to £8.5k per year. Otherwise, hill farmers are generally losing money compared with what they otherwise might do, and even the best performing farms are only earning marginal returns on their effort and investments.

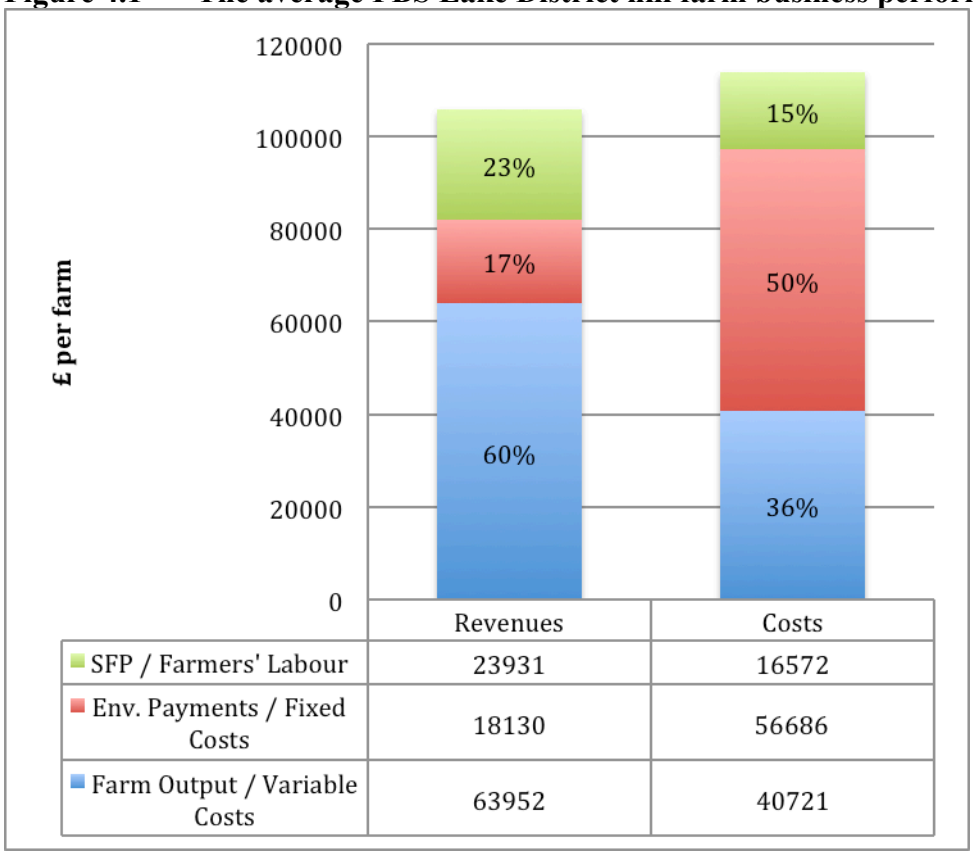
If this is the national picture, what is hill farming like in the Lake District? The next section shows how this national picture is reflected in the Farm Business Survey sample of hill farms located within the Lake District National Park.

4. Farming in Lake District National Park

4.1 The average Lake District FBS Hill farm

The average performance of the Lake District hill farm in 2011/12, according to our FBS sample, is illustrated in Figure 4.1. The figure shows the revenues in the left column and the costs in the right column, each categorised accordingly. On average the Lake District hill farm gets 60% of its total revenues from the farming output, (of which 5% comes from on-farm diversification), 17% from agri-environment payments (ESA, ELS, HLS, transition payments etc.) and 23% from the Single Farm Payment. 36% of its total costs are 'variable' (feed, vet and medicines, fertiliser etc.), and 50% are 'fixed' (machinery, fuel, paid labour (including an allowance for unpaid family labour), depreciation, rent and rental value for owner-occupiers (which makes up 13% of total costs)), and 15% is accounted for by the value of the farmer's own labour (including the spouse), valued at the agricultural wage rate.

Figure 4.1 The average FBS Lake District hill farm business performance

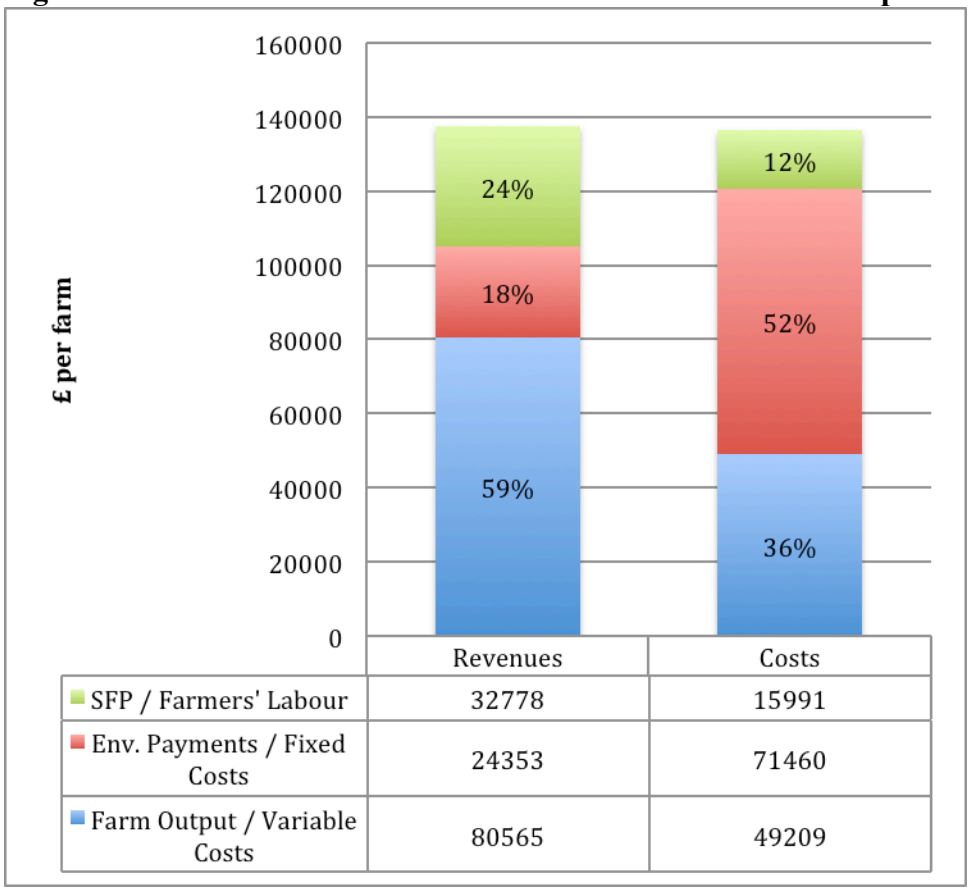


As the figure illustrates, the average hill farm in the Lake District made an economic loss in 2011/12, of almost £8,000, reflecting the national picture of the previous section. How do they survive? The short answer is that they survive by, effectively, earning £8,000 less than they would earn as a paid farm labourer (£16,572) or £8,572 per year. Owner-occupiers have an additional advantage, since they are also able to survive on the rental value of their farms (£14,500 on average), so long as they are not having to service loans made to purchase the land. However, these farm businesses are clearly not economically sustainable on average – they must either get bigger and/or better at what they do, or develop other businesses and income streams to

survive. However, on average these farms have very little off-farm diversification or other income streams, amounting to an average of less than £4k per farm.

Figure 4.1 weights the 14 Lake District hill farms in the FBS sample according to their Standard Output classification in the current version of Defra's June Survey (*op cit.*). Using the previous weighting scheme, based on Standard Labour Requirements (approximately similar to Standard Gross Margins) reveals a slightly different story of the average Lake District hill farm, Figure 4.2.

Figure 4.2 The SLR av. FBS Lake District hill farm business performance



	Revenues	Costs
SFP / Farmers' Labour	32778	15991
Env. Payments / Fixed Costs	24353	71460
Farm Output / Variable Costs	80565	49209

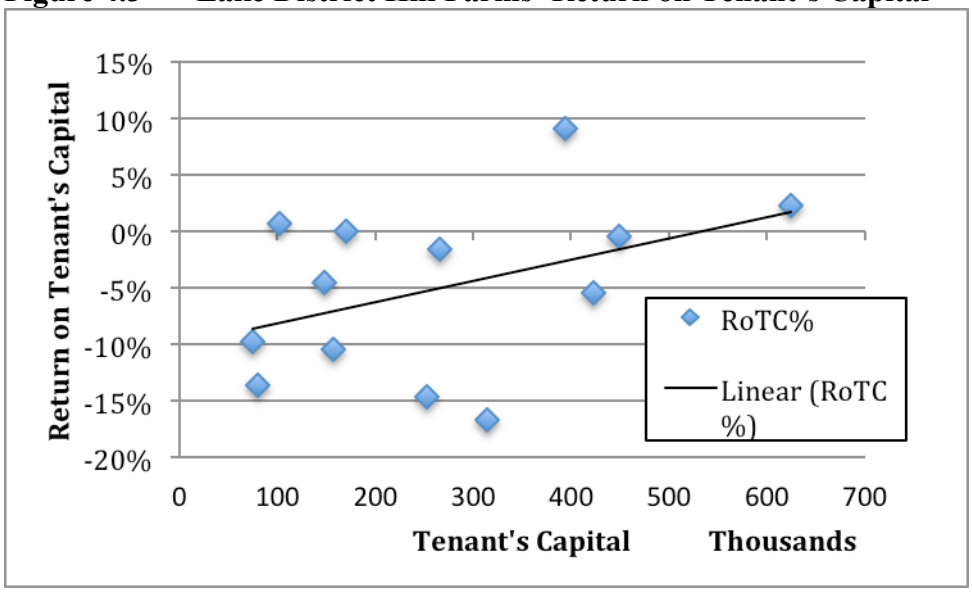
As can be seen, this weighting alters the average significantly, in that the average farm now does make a small surplus of £1k, rather than a loss of £8k, though the proportions of both the revenues and costs hardly change, with the exception of the imputed value of the farmer and spouse own labour, which decreases a little. However, the SLR weighting clearly gives more weight to the larger farms in the sample, since both revenues and costs per farm are now 30 and 20% larger respectively. It is clear that the larger farms tend to be slightly more profitable than their smaller counterparts. Nevertheless, the overall story remains very similar – this small surplus of £1k per year is hardly sufficient to update and improve the tenant's capital in machinery, livestock etc. estimated as between £230k and £280k per farm, depending on the weights used. In either case, the return is minimal.

This average farm has 94ha of inbye, 236ha of rough grazing and 14ha of woodland, with access to common grazing equivalent to about ¼ of its own rough grazing. The average farm also makes use of some additional summer grazing (equivalent to 7.5%

of its own rough grazing). It carries 45 suckler cows and 840 breeding ewes and has a total tenant's capital of £284k. The average farm manages a lambing percentage (born and reared) of 112%. It retains some ewe lambs as replacements, selling the remainder for breeding, while almost half the weather lambs are finished on the farm, the remainder being sold on as stores. The farmer is, on average, 56 years old.

The effect of the different weights attached to each of the farms in the sample on the sample average is an indication of the variability of both the revenues and the costs between the farms in the sample. The variation in the 2011/12 economic performance of 13 hill farms in the FBS sample is illustrated in Figure 4.3,[9] which plots the size of farm (measured as the amount of tenant's capital – plant, equipment and livestock) against the rate of return on this capital – the Management and Investment Income, as the surplus (or deficit) over and above all costs, including farmers' labour (as identified above for the average farm) expressed as a percentage of the tenant's capital.

Figure 4.3 Lake District Hill Farms' Return on Tenant's Capital



As can be seen, only one of these farms managed to earn a more or less respectable return on their farm investment in 2011/12, which was a pretty good year for hill farmers. Even this return presumes that the farmers are content to live on no more than the average agricultural labourer wage, though, of course and as noted previously, there are some off-setting advantages associated with being self-employed and living on the job, not least that housing costs are typically covered by the rent or rental value, which is here counted as a business cost.

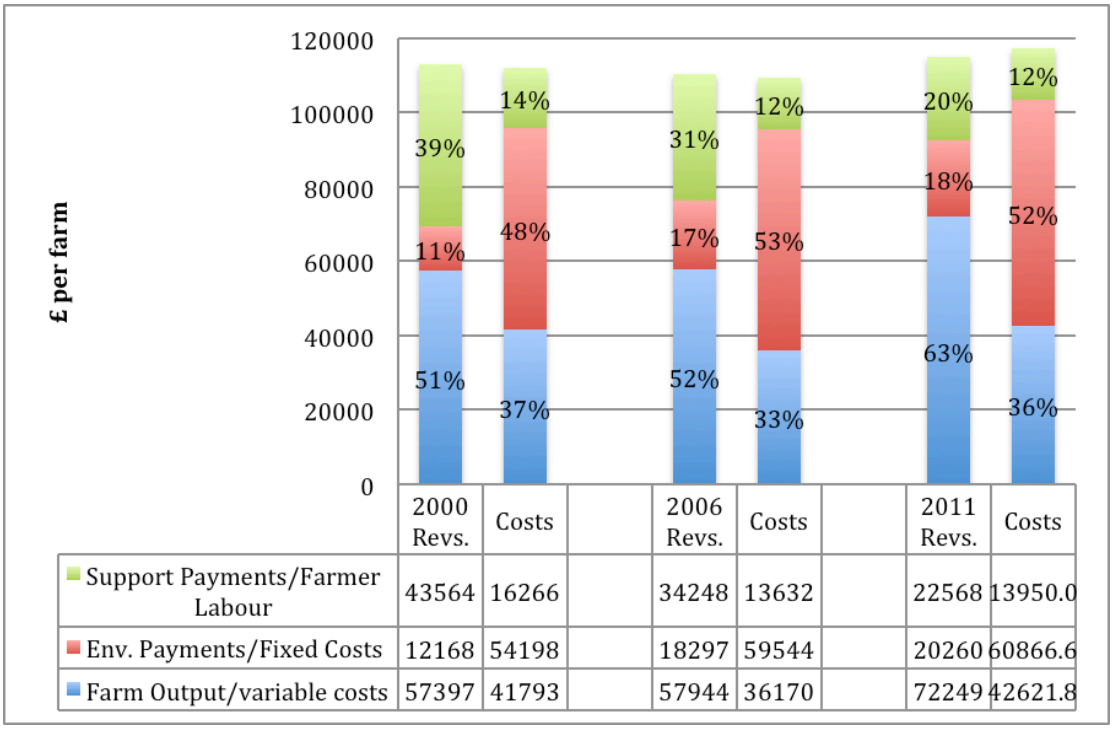
Five of these farms are apparently completely commercially unsustainable businesses, making losses of 10% or more of their investment. The remainder are clearly commercially very insecure to vulnerable, making returns of between -5 and + 5% on their investment. Although there is an apparent relationship between the size of the

9 One of our sample farms has been excluded from this figure, since it is such an outlier that inclusion could compromise the confidentiality of the farm.

business and the returns the farmer is able to make, this relationship is rather weak, and profitability clearly depends on other things than simply the size of the business.

To put the latest year's data in historical context, the average Lake District hill farm's commercial performance over the last decade is illustrated in Figure 4.4, in this case derived from an identical sample – the same (6) farms are included in the average for each year. For this average farm, beef cattle numbers have declined over the period from 42 to 28, while the breeding ewe flock has also declined from 800 to 600. The inbye forage are has expanded from 63 to 77ha, while the area of sole-right rough grazing has declined slightly from 69 to 63ha. The area of woodland has remained constant at 11ha, although in fact only 2 of these farms have any substantial area of woodland within the farm. The lambing percentage (born and raised) has improved from 106% to 123%. The key difference is that the prices received for all the livestock outputs (ewe lambs, store and finished lambs and store cattle) are all considerably stronger (especially for lambs and draft ewes) in 2011/12 compared with 2000.

Figure 4.4 Lake District Hill Farm performance, 2000, 2006, 2011 (real terms)



	2000 Revs.	2000 Costs	2006 Revs.	2006 Costs	2011 Revs.	2011 Costs
Support Payments/Farmer Labour	43564	16266	34248	13632	22568	13950.0
Env. Payments/Fixed Costs	12168	54198	18297	59544	20260	60866.6
Farm Output/variable costs	57397	41793	57944	36170	72249	42621.8

(*Data deflated by the RPI, basis 2011/12 = 100*).

As can be seen, in each of these three years, our average farm has just about broken even, assuming that the farmers' own labour is worth the going agricultural wage rate. However, breaking-even is not sustainable in the medium to long run – since the farm operation requires continual re-investment to remain viable. These farms can only be sustained if farmers can generate some income elsewhere (off-farm diversification or support), or, as owner-occupiers, can live off the rental value (averaging between £11k (2000) and £14k (2011) per farm). Our FBS survey does not always capture the full extent of off-farm income earnings by the cooperating farms, since the focus of the survey is on farm businesses. However, our information is that off-farm income is minor to insignificant for most of these farms. Otherwise, these farmers appear to be

content to live very frugally in the interests of sustaining their businesses and livelihoods.

The most noticeable change over the last decade is the reduction in support received by these farms, from almost 40% of their essentially static total returns to 20%. In 2000, these farms were still getting an annual Hill Farm Allowance (£11k), and also both sheep and cattle premia (worth £27k). Since then, these payments have been replaced by the Single Farm Payment (worth £22.5k). On the other hand, environmental payments have generally increased from an average of £12k to £20k. This reduction reflects the elimination of the Hill Farm Allowance (at least a part of which is regarded here as 'environmental') and the gradual replacement of expiring ESA agreements and their replacement by either UELS or HLS agreements, and the associated transitional payment. Associated with the relative decline in support payments has been an increase in the proportion of revenues earned from the marketed farm output, from 51% of the total returns to 63%, assisted by the substantial improvement in livestock prices over the last decade.

As with the national sample, and as illustrated in Figure 4.3 above, there is very substantial variation around these averages. The standard deviations of each of the elements detailed in Figure 4.4 range between 50% and 95% of the average values shown in the Figure, with no discernible patterns in the variations, either between different years, or amongst the different cost and revenue elements. Again, it is difficult to identify the specific factors which lead to this diversity in performance, even though many professional analysts have spent considerable time and effort trying to do so. As noted in the previous section, relatively small differences in revenues earned, costs incurred and the physical yields obtained make substantial differences in the final net margins achieved. No doubt some of this variation is due to differences in the quality of the management, but a considerable part is also due to the quality of the land and capital employed, and also to sheer good fortune in the prices received and paid. This is demonstrated by the fact that there is considerable movement of farms between the better and poorer performing segments of the sample between years.

To illustrate the variation in circumstance, the next section presents a sketch of 7 case study farms with the Lake District National Park.

5. Lake District Hill Farms: seven case studies

These illustrative farm case studies have been selected to cover the range of conditions and circumstances in the Park. We selected these particular case study farms to reflect the variation in, most importantly: situation (High or Low fells); likelihood of succession; common grazing rights (yes or no); size; occupancy status (owner-occupier or tenant); relative share of farm area as woodland.

Farm A "Most Fell Side"

This farm in the high fells is the largest of the case studies with 4,000 breeding ewes and 100 cattle. It is farmed as a partnership with three brothers coming together to run their farms as a single business. There is a mixture of owner occupation, tenanted land and use of common grazing rights. Formally part of the ESA, the farm is now in the Higher Level Stewardship scheme. The farm employs an additional worker half time.

The family is fully committed to farming, stating that only in the most extreme of circumstances would they consider selling up. They plan to respond to changes in support payments or farm gross margins through a combination of diversification and expansion. The chances of succession are high. The family has sources of income other than the farming enterprise with approximately fifteen per cent deriving from off farm income and nearly 20% of farm revenues from farm diversification.

The farm includes a substantial area of woodland but this is not actively managed. In order for it to be utilised the family would need to learn more about woodland management. There was potential for more woodland planting in the future but this would mean a shift to more cattle production and a reduction in sheep numbers. The farmer had also identified the potential for renewable energy production but thought that this was unlikely under the planning policies of the National Park Authority.

They see their main strength as being in a partnership. This allows them to share resources and labour. They also have a range of traditional skills as stockmen and livestock breeders alongside good environmental management expertise. Participation in environmental schemes was seen as strength of the business with the ESA having helped to expand the farming enterprise through providing capital.

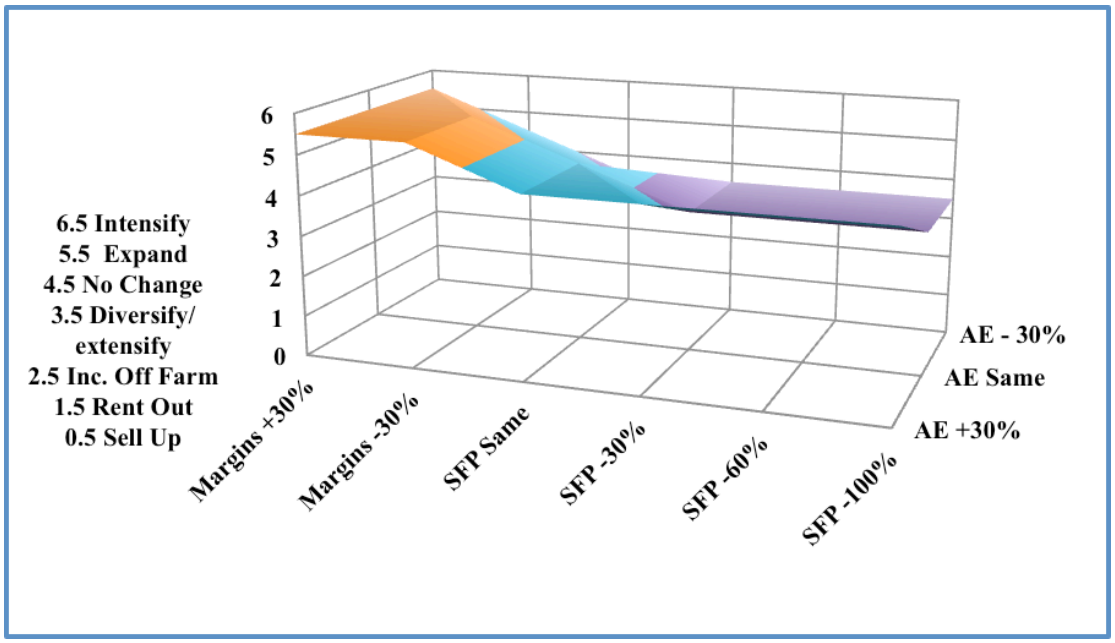
The partnership was, however, recognised as a potential weakness if there was disagreement within the family. There were also a range of other issues identified including: the lack of land available to rent or buy locally; high visitor and access pressure at busy times; the volume of traffic on local roads; the distance to the mart and a shortage of local farm labour.

Figure A illustrates the 'response surface' of this farmer to the major axes of future changes in the economic conditions facing the farm. These are characterised as scenarios of changes in output prices and input costs (summarised as changes in farm margins), and of changes in the Single Farm Payment (SFP) along the horizontal axis. Coupled with these changes are also changes in agri-environment payments (AE) on the depth axis, where the scenarios are an increase of 30% compared with now, no change, and a decrease of 30%.

The possible responses are illustrated on the vertical axis, ordered from the most extreme option of quitting and selling up at the base and progressing upwards through

remaining in the farm house and renting out the land, increasing off-farm income, diversifying or extending the business, staying the same as now, expanding the size of the farm, to intensifying the farm business. This progression is a simplification of the possible responses, which might well involve combinations of these options depending on the particular circumstances. However, this simplification does provide a synoptic caricature of the potential responses to the various future scenarios and allows us to draw of picture of the response surface as shown in figure A.

Figure A Future Scenario Responses



This figure illustrates the determination of this farmer to stay in business, and to expand as soon as there is any sensible opportunity. Diversification is the key defensive strategy in this case, if the worst future scenarios happen.

Farm B "South Lakes Heritage"

Situated in the southern lakes, this farm is classified as mixed grazing with 50 beef cattle and 1,000 breeding ewes. Over the last 10 years cattle numbers have been reduced by approximately fifty per cent. Sheep numbers had remained stable over the last decade, predominantly swales and mules. The owner has a range of other farming and property interests, and employs a paid manager to run the livestock enterprises.

The farm has substantial inbye land (25% of the farm land) and quite large areas of woodland (25%), with the bulk of the farm being rough grazing (50%). The farm has some common grazing rights, though these are not presently being exercised. The farm received Uplands ELS, ELS and HLS payments in 2011/2012. Just over half the total revenues come from these agri-environment schemes and the Single Farm Payment. However, changes in these payments and other recent changes to the structure of the business have resulted in a substantial decline in the economic performance of this farm in 2011/12 compared with the previous year, moving the business into the 'unsustainable' category from having been 'viable'.

For this farmer, continuing to own the land and ensuring that it is kept in good condition are the major themes driving management decisions. They are very certain

of succession and are prepared to consider a variety of options including diversification, extensification or renting out land in order to retain ownership if there were to be substantial reductions to Single Farm Payment, agri-environment schemes or farm gross margins. They are currently investigating some tourism related diversification options involving the use of redundant farm buildings.

The removal of agri-environment payments is seen as the major threat to the farm business with price volatility for both outputs and inputs also seen as major threats. Increasing rules and regulations were also mentioned as a threat. In addition to the opportunities being explored for tourist-based diversification, this farmer talked about the opportunities for farmers to be better recognised as custodians of the countryside, hoping that this would ultimately result in more substantial public support for agri-environment schemes.

The farm business strengths are the ability to produce a quality product whilst retaining control of costs. The main weakness is the volatility of the lamb price. The rapid movements in this price make it hard to predict what lamb will make even though it is a high quality product.

This farmer had some interest in the potential of the woodlands, and is beginning to investigate options for their further utilisation for recreation and timber/biomass production, but this is currently only at an exploratory stage.

Figure B: Future Scenario Responses

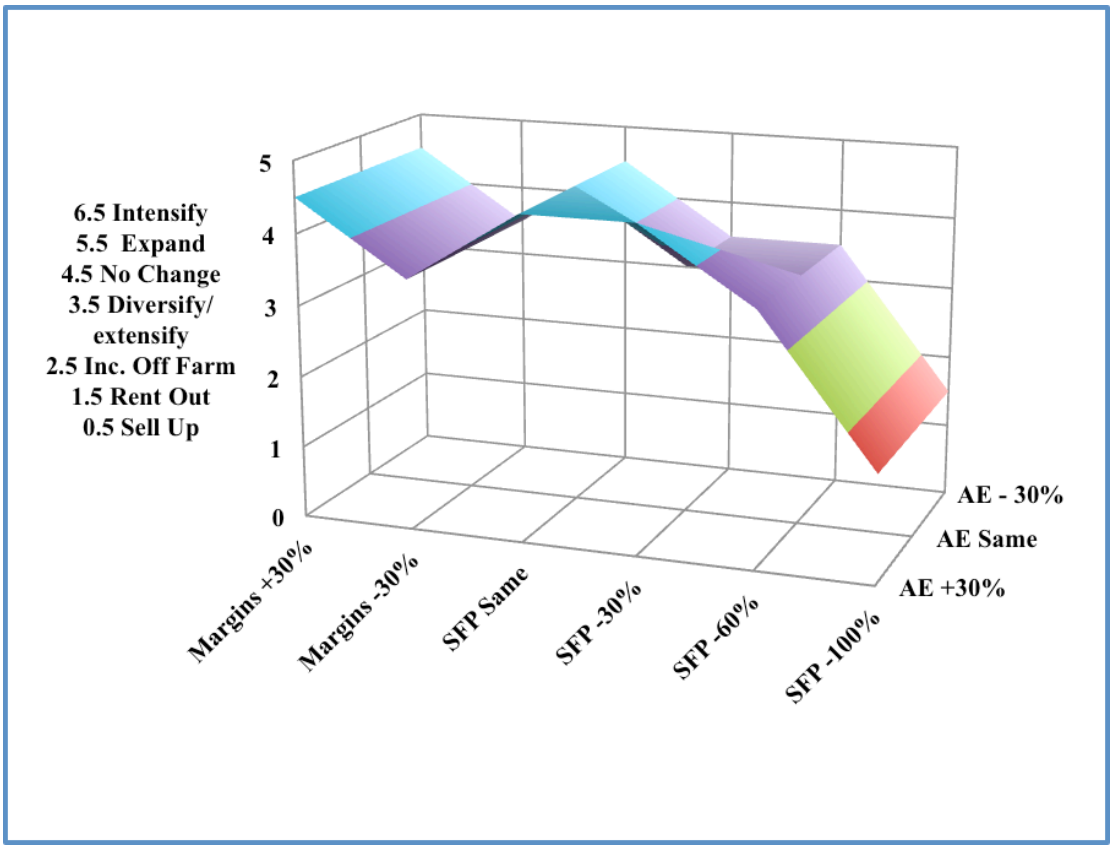


Figure B illustrates the 'response surface' of this farmer, as outlined above. The figure rather starkly illustrates the perceived vulnerability of this farm to change in the Single Farm Payment. Elimination of this payment would force this farmer to rent

out the land, rather than try and continue farming on their own account, though they realise that elimination of the SFP would substantially reduce the rental income to be earned from renting out the land. Interestingly, although the farmer considered that AE payments are an important element of the farm business, and that their removal would be a major threat, the responses to the hypothetical future scenarios illustrated in the figure do not reveal much sensitivity to changes in AE payments of plus or minus 30%. The most likely response to adverse changes in either SFP levels or farm margins are illustrated as being to diversify and/or extend the business – in this case making more use of both redundant farm buildings and the relatively extensive woodlands on the farm.

Farm C "One Man Beef"

This relatively small upland farm in the northern part of the Park has around fifty beef cattle and less than two hundred breeding ewes. A former dairy farm, it was culled out in the 2001 FMD epidemic. The farmer went back into beef cattle and restocked with cheviot ewes. These are now being replaced with swales. The stocking levels and management practices reflect the desire to ensure that there is just enough work for this one owner-occupier farmer, without the need to employ additional staff. Around 80% of the total family income is derived from his spouse's off farm work.

The farm was mostly inbye with only 25% rough grazing and no woodland. While there are common grazing rights associated with the farm these were not being used at present as the ewes bought post FMD have not been hefted, and cannot be without very substantial cost and effort. Therefore the costs of using the grazing outweigh the benefits. The farmer received a relatively small amount of agri-environment scheme payments in 2011/12 through Uplands ELS, an ESA scheme and ELS. Agri-environment schemes accounted for 10% of farm revenues with SFP accounting for just over 20%. The present operation is vulnerable to marginally viable in commercial terms.

For this farmer the Single Farm Payment rate was critical for future decision-making. A 30% reduction would mean looking for diversification opportunities, but a 60% reduction or removal of SFP would led to renting the land out or selling it. Again, retaining ownership is important with selling only seen as an option in the worst-case scenarios.

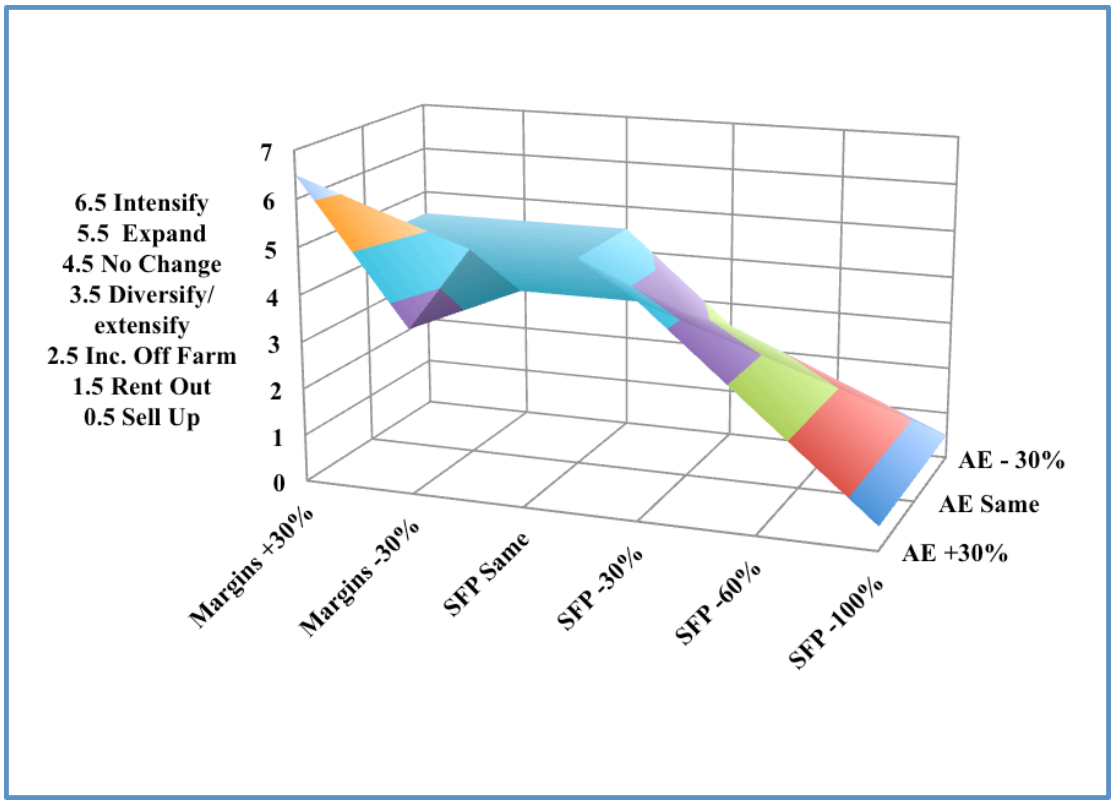
Unsurprisingly a reduction in direct payments is seen as the most pressing threat to the farm business, though reductions in environmental payments and input and output price volatility are also seen as important. Stricter regulations are seen as a potential additional threat.

This farmer has explored two opportunities. The first was to convert farm buildings to holiday lets, which has been thwarted by lack of finance on suitable terms. Planting amenity/recreational woodlands has also been considered, and grant availability has been explored. However, those currently available are not suitable or available for these plans. There is no appreciable woodland on the farm at present.

The strengths of the farm relate to the high quality of the stock and the traditional skills used to maintain the farm including walling, hedge laying, commons management and stockmanship. These make a direct contribution to the quality of the landscape. The weaknesses are perceived as the small nature of the enterprise with no

real scope for expansion and the uncertain (as distinct from low) profitability of the farm.

Figure C: Future Scenario Responses



This farm's scenario response surface is shown in Figure C, above, which shows rather greater sensitivity to future changes than the previous farms. Improved farm margins (reflecting better output prices and lower input costs) would encourage this farm to try to expand the operation, implying either purchase or renting more land. However, reductions in either the SFP or AE payments would oblige the farmer to diversify, especially towards converting farm buildings to holiday lets, while more extreme reductions would lead to either renting out the land or, in the extreme, selling up and moving elsewhere. Since the farmer is still comparatively young, and has no succession possibilities, moving on or out of the farm is not seen as completely out of the question as it is for most of the rest of our case studies.

Farm D "Little Low Fell"

This small farm in the low fells is run by a single farmer assisted by casual labourers. The farm runs thirty cattle and two hundred and fifty ewes (swales and herdwicks). The ESA agreement for the farm has recently ended, and it is now in ELS and partially in HLS. There are no prospects of succession beyond the current generation, but the farmer remains determined to continue to farm no matter what changes are experienced in the coming years.

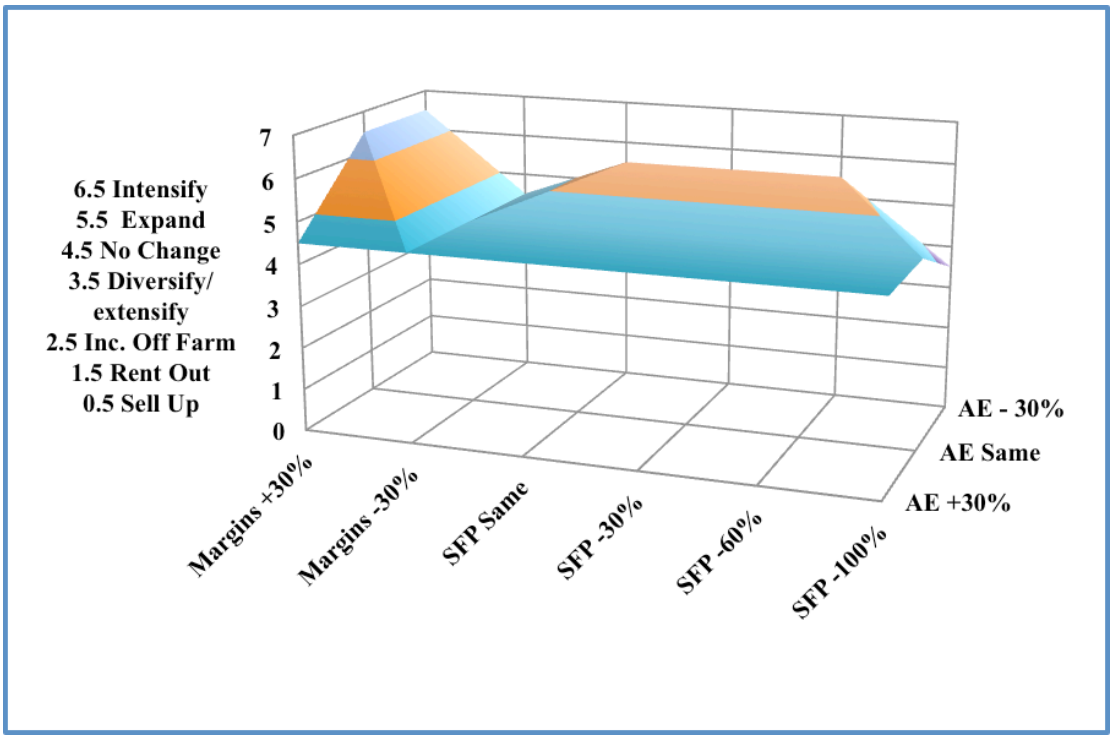
The farm is owner occupied. There are common grazing rights but these are not used. There is also a small area of woodland but this is not utilised or actively managed. All but 5% of the family income is derived from the farm enterprise with approximately 60% of the revenues coming from livestock production.

Responses to the scenarios on changes to support payments and farm gross margins indicated that this farmer wanted to maintain the management of the farm as it was if at all possible. In some of the more extreme scenarios he would have to consider expansion, intensification or cutting livestock and input costs. On retirement he ultimately planned to rent out the land but not to sell. Ill health would be the only prompt to major change.

The main threats to the farm were falls in output prices and the risk of losing CAP support and access to European markets. The prospect of leaving the EU does not appeal this Farmer D at all. There are opportunities in the resources on farm that would allow diversification into firewood, renewables or tourism. In particular there was the potential to make more of the woodland resource (8% of the farm area) as an existing asset that would be relatively easy to exploit. Using the woodlands would rely on having more time and a guaranteed market before devoting time and resources to its development.

The strengths were the farmer's skills as stockman and land manager, and also the willingness to live on not much money! The weaknesses were the remoteness of the farm, increasing haulage costs and the degree of difficulty in getting inputs onto the premises. This farmer also discussed the demotivating effect of high costs, poor weather and low input prices. There had been several years of low profits leading to a reliance on the SFP payment.

Figure D Future Scenario Responses



The determination of this farmer to survive is evident from the scenario response surface above. Only the most severe of the future scenarios results in a diversification response, and otherwise the coping strategy is mostly to try and expand the business, and even intensify it.

Farm E "Farm & B&B"

Farmer E is a first generation farmer, though has no successors. The farm in the high fells is the most reliant of our case studies on common grazing. The farm is managed alongside a very successful B&B, with the two enterprises going very well together. While approximately seventy per cent of the income comes from the farm, the B&B is critical to the family income, while there is also a small amount earned off-farm. It is a successful and modestly profitable business that allows the family to work flexibly and remain on the farm day to day.

The farm runs 50 cattle and 2000 ewes. Since 2001 they have moved from upland breeds towards more lowland breeds alongside reductions in the numbers of stock on the commons. While the common grazing is still used more sheep are being moved in bye and indoor lambing has been introduced, with the benefit of two new sheds. The result is that the total number of stock on the farm has increased.

Like many of the other case study farmers this farmer had no intention of quitting or selling up. His response to the scenarios was to state that he would intensify production towards better quality stock and products, and look for further efficiencies.

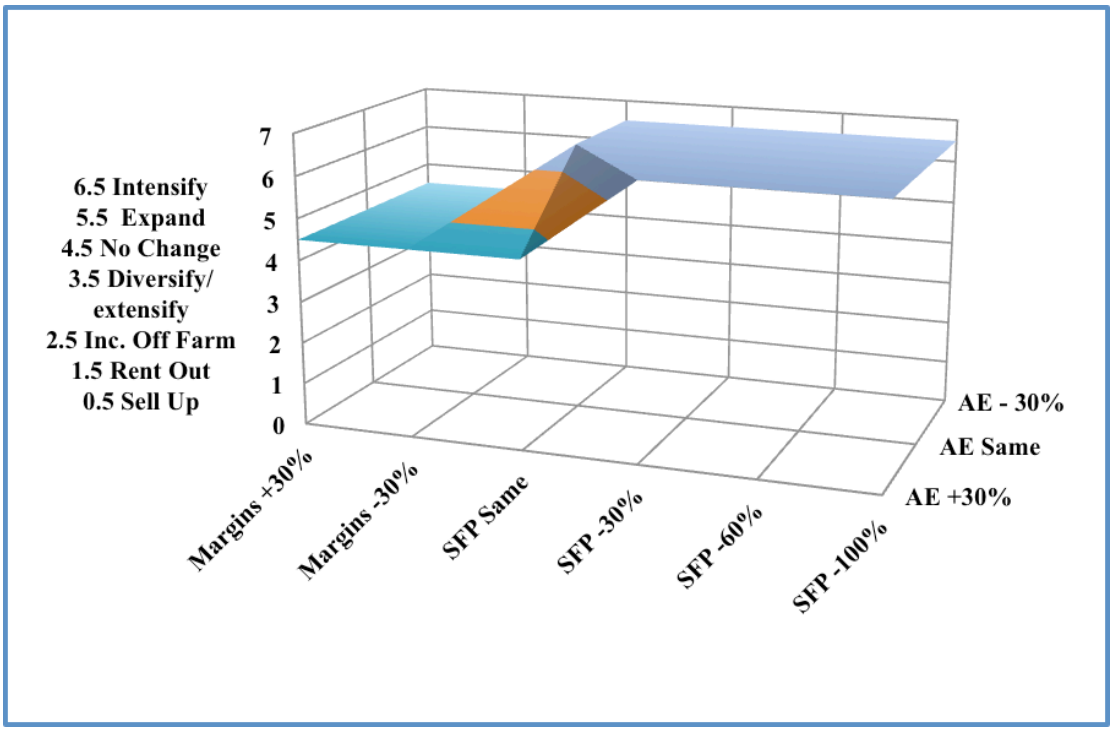
The threats to the farm were low output prices, increasing costs and the unpredictable effects of climate change. The opportunities lay in niche marketing of the meat products and improving stock quality. The area of woodland on the farm was too small (only 1% of the farm area) for the farmer to consider exploiting it. In order for him to maintain the woodland more financial incentives and encouragement would be necessary.

The strengths of farm business were the traditional expertise of the farmer resulting in quality stock combined with the location in the National Park providing a strong customer base for the B&B. However, the National Park location meant that the farmer considered that there were restrictions on his ability to expand due to planning policies. In particular he wanted to build more sheds to help the business and relieve pressure on grazing. In his opinion, nicely built sheds would look more attractive than the present ring feeders and consequent poached grazing in the in-bye fields, and would also provide some defence against bad weather, which appears to be increasingly common.

An apprenticeship scheme has provided some labour for the farm in recent years and has proved very valuable. He is very keen on this continuing. The farmer considered that a similar scheme to train local people to work in the tourist business would also be of great benefit.

Farm E's scenario response surface reflects an alternative strategy when faced with adverse futures – to intensify and improve both efficiency and the quality of the farm outputs. Once again, this farmer has no intention of quitting, and is determined to make the best of the conditions, whatever they are.

Figure E Future Scenario Responses



Farm F "High Fell Organic"

Farmer F is another first generation farmer, with a young family, so is not yet sure of succession. The farm in the high fells is an organic enterprise with 350 ewes and 50 cattle. It is tenanted (FBT) with a small area of owner occupied land. Over the last five years the farm has moved towards traditional breeds (Galloway cattle) and a reduction in sheep numbers. The grazing system is extensive with a large proportion of the farm income coming from SFP and environmental stewardship.

Fifty per cent of the family income is off farm and there is no diversification. There is some woodland on the land that is owned (2% of the total farm area) and there is interest in utilisation of this resource in the future. If appropriate grants were available the farmer would look at using the woodland.

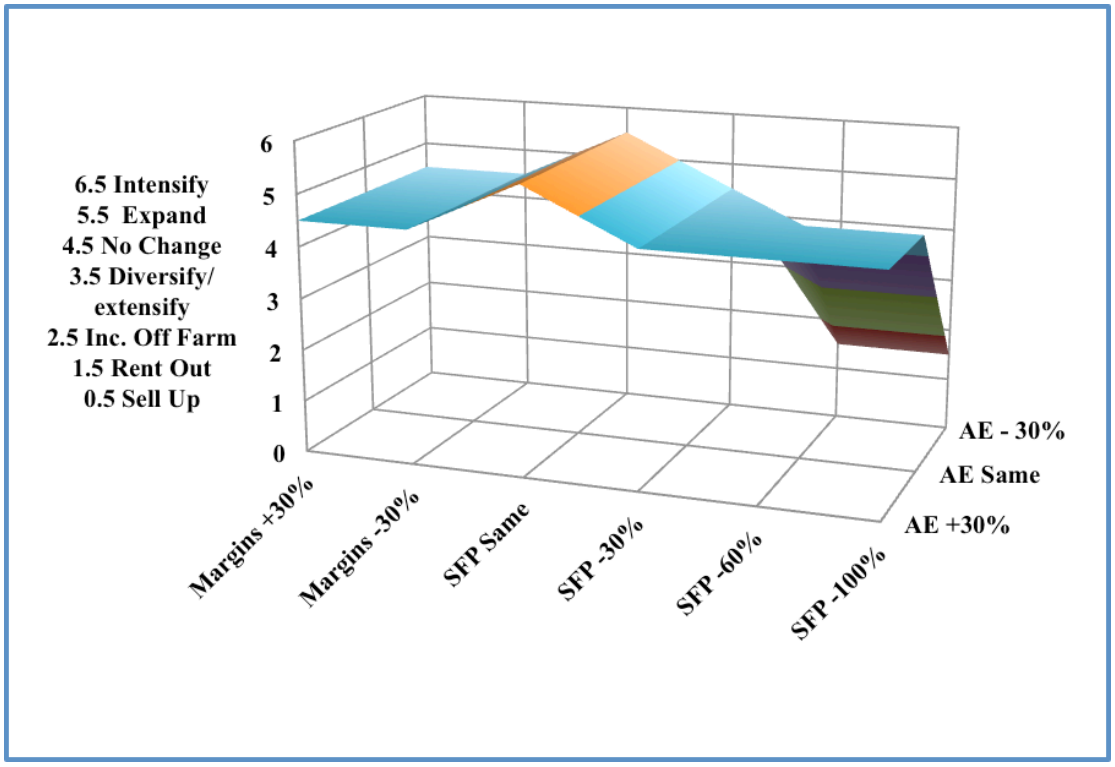
In most future scenarios this farmer would not change present practices. This is partly because most of the farm is on a farm business tenancy, so change is not easy. If support payments were reduced the farmer would look to renegotiate the rent in order to remain farming. If absolutely necessary the farmer would have to give up the rented land and rent out the land that is owned.

The major threats to the farm were seen as stricter regulation and reliance on support payments. Being organic had meant even stricter regulation than most farms with the result that this decision was now being questioned. The opportunities were considered to be the possibility of tourism related diversification (although this is not being seriously considered) and planting willow for biomass on the owned land. The farmer also commented on the potential for carbon storage to become a major future opportunity.

The strengths were that he was a first generation farmer willing to change and not subject to peer pressure, and the contribution that the farm made to the landscape and environment. The weaknesses were the lack of skilled labour to work on farm, in particular the lack of young people.

This farm's future scenario response surface (Figure F) illustrates the determination to stay farming, with only the most adverse of the future scenarios leading to the decisions to give up the tenancy and rent out the owned land, while remaining in the house.

Figure F Future Scenario Responses



Farm G "High Fell Dairy"

Farm H is one of only a few remaining traditional upland dairy farms with 50 dairy cattle, 50 beef cattle and 200 breeding ewes. Over the last ten years the number of beef cattle has increased by ten per cent and the quality of the beef stock improved. Sheep numbers have been reduced to make room for the extra cows. The farm is owner occupied with limited off farm income deriving mostly from the pensions of family members who form part of the farm household.

The farm is over 80% inbye with the remainder comprising rough grazing and woodland. There are also common grazing rights associated with the farm. 80% of the total revenues come from the livestock enterprise although the farm received Uplands ELS, Environmentally Sensitive Area and HLS payments in 2011/12.

For most of the scenarios where payments or gross margins experienced significant change the farmer would respond by selling the dairy cows and increasing sheep numbers. This change, with sheep being less labour intensive, would allow the farmer to do other work off the farm, such as relief milking. Again, for this farmer retaining

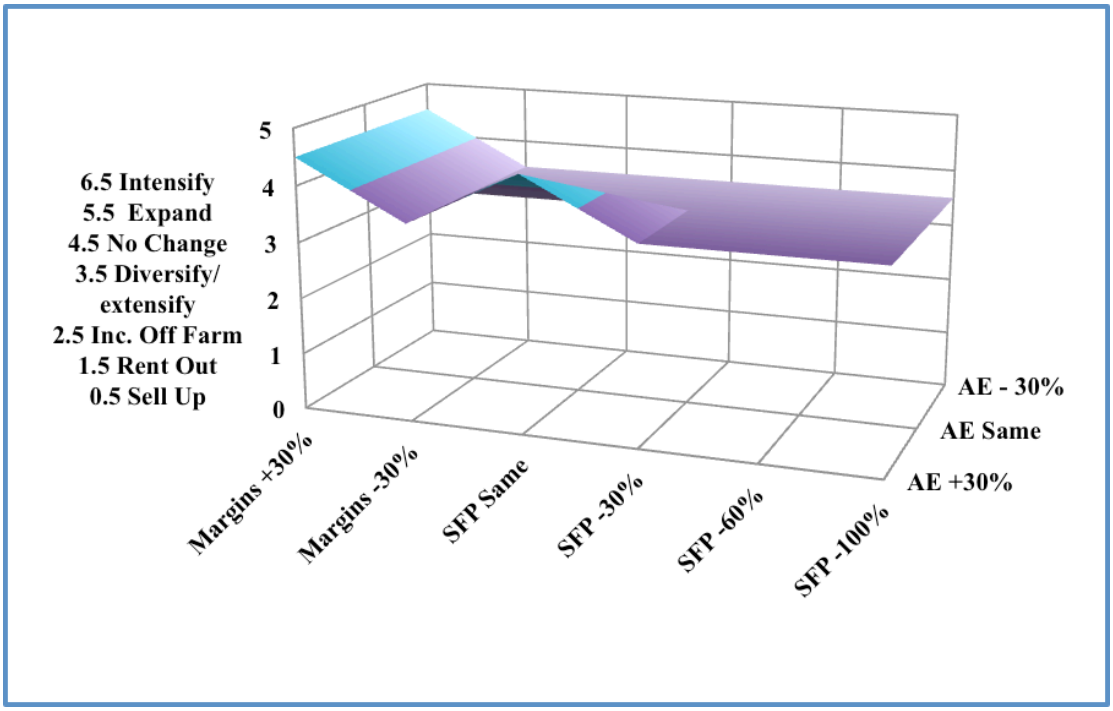
ownership of the land for future generations was vitally important, although he would consider letting it out as a truly last resort.

The main threats to this farm business are the increasing price of feed and any further decrease in the price of milk. There is also some concern about fertiliser price increases. There are clear opportunities to develop a camp-site business with interest in the potential to apply for grants for developments such as camping pods. If the dairy enterprise were forced to close, there would also be the potential to let out or convert some farm buildings.

When asked about strengths, the farmer talked about this being a traditional family business located within the Park and focused on producing quality products whilst looking after the landscape. He also talked about playing an informal role in educating the public about how he farms by chatting with visitors. The weaknesses of the farm business related to low profitability, the limitations on development activity due to planning restrictions, and the size of the farm.

The determination of this farmer to stay in business and continue to live, and if possible work, on the family farm is evident in the farm's response surface (Figure G). Although the surface does not include the option of increasing off-farm income directly (since even in three dimensions it is not possible to picture multiple responses to the same scenario), it is clear from the pen-picture above that the most likely response to adverse conditions is to extensify by selling the dairy herd and expanding the sheep flock, so as to be able to diversify by working off the farm.

Figure G: Future Scenario Responses



Concluding Observations on the Case Studies.

None of these farms is currently making any real use of the limited woodlands on their farms, though those who have some woodland are considering greater use if the returns were competitive enough to be worthwhile, which typically requires more external assistance than is presently available. Likewise, it is notable that several with common grazing rights are not currently using them, in one case very specifically because of the difficulty and expense of re-hefting a new flock to the commons following the FMD cull.

Otherwise, the determination to stay in business and on the farm seems to be the most salient commonality amongst this group. While their coping strategies for the various future scenarios are different, depending on their circumstances, they are all farmers for the long term, including their successors where applicable.

6. Stakeholder Views

Eight stakeholder representatives were interviewed by telephone in May/June 2013. These people are all based in the vicinity of the National Park, and are from eight organisations most closely involved in working with farmers and land managers in the Lake District. All respondents received the questions in advance, about farming and forestry contributions to the special qualities of the Park, about the strengths, weaknesses, opportunities and threats facing the sector, and finally about the most important actions needing to be taken. This section provides an overview and analysis of the responses. The tables below are edited and abridged versions of the statements made. They therefore contain different interpretations of the contributions of farming and draw on different kinds of evidence (experience based as well as more conventional scientific sources). They therefore contain some a mix of views and place different degrees of emphasis on the contribution of farming to the special qualities.

6.1 The Special Qualities of the Park

We first asked the eight key stakeholders to characterise the major contributions of farming and farm forestry to the special qualities of the Lake District, as outlined in Part 1 of the Lake District National Park Partnership's Plan (p.10).

Our stakeholders answered this by echoing many of the themes and arguments contained in the World Heritage status bid document. They emphasised that farming was the basis of most of the special qualities (the exceptions being those that related to the geology and geomorphological features)and focused on the fundamental underpinning relationship between agricultural activity and the Lake District landscape. In particular they mentioned tenure systems, farm size, use of low intensity grazing, hefting and stock choice as all directly shaping the landscape both historically and today. The longevity of farming activity was a theme taken up by all of the interviewees. Three of them specifically discussed how the basic farming system had been in existence for around for 1,000 years, underlining the fact that the landscape is a product of natural and 'manmade' features. The second common theme related to the importance of understanding the interaction between natural and human processes in shaping the landscape. Stakeholders emphasised that the Lake District

was a living, working landscape that was constantly, although gradually, changing. Most of the stakeholders agreed that "farming is central to the special qualities, it underpins just about all of them".

Some respondents commented on the relationship between farming and specific special qualities. These are summarised in Table 6.1 below (where two very similar comments were made this is noted in brackets). Other comments are similar in terms of theme but reflect nuances in expression and depth of feeling.

Enhancing the contribution to the special qualities relies on the future of support policies according to most stakeholders. Respondents argued for changes in support mechanisms to recognise the value of the traditional farming system and its contribution to sustainable land management. The terms 'ecosystem services' and 'public goods' loomed large in the stakeholder reflections about the underpinning rationale for public support. Others preferred to use slightly different terms and language reflecting criticisms that they had of the ecosystem services concept. There was a high degree of consensus that existing agri-environment schemes were too narrow (focused on habitats and species rather than on landscapes, carbon sequestration and landscape and catchment management) and too inflexible, offering prescriptions rather than positive management solutions. It was argued repeatedly that agri-environment schemes were seen by farmers as an add on, necessary to maintain income because they were based on out-dated principles and failed to get farmers involved in determining appropriate management objectives that would secure broader sustainable land management.

Table 6.1: Farming & Forestry contributions to Special Qualities of the Lake District

Special Quality	Stakeholder responses
Complex geology and geomorphology	Limited impact of farming. River geomorphology influenced by neighbouring land use and the management of rivers by farmers.
Diverse landscape from mountain to coast	The farming systems that have developed over the last 1000 years have produced the landscape. This is partly due to farming and partly a result of natural features/processes. The extensive nature of farming contributes to the 'openness' of the Lake District, without farming woodland would have scrubbed over.
Unique farmed landscape and concentration of common land	Many of the features that we see and value are there because of farming activity. The landscape is a product of the interaction between nature and man's activities – primarily farming activities. Farming and the landscape are interwoven. The commons cover around 25% of the Lake District. Sheep have been on the fells for 100s of years. Without farming the landscape features would not be there. Long-term management has resulted in what we have now. Closely related to farming practice. Common land a physical resource and social/cultural one when commons associations and practices associated with commons are considered.
Nationally important mosaic of lakes	The mosaic of tarns is bounded by stone walls, put here by farmers to control stock, but now part of this special feature. Potential for farming to influence water quality and quantity. Run off, absorption in the landscape and sediment loads are all impacted by

	farming activity.
Wealth of habitats and wildlife	Grazing practices support biodiversity and habitats. Grazing both created them and maintains them (2). The habitats arise directly from farming. Farming creates and manages a wealth of habitats at a mixture of high and low altitudes. Grazing animals play an important part in managing habitats and without farming the biodiversity would be more limited. The Lake District was one of the first areas where farmers embraced environmental schemes with the ESA having a very high uptake and most farmers now in a scheme. Schemes have addressed problems of overgrazing although grazing is still needed - have to strike a balance between under and over grazing to maintain this special quality. Stock grazing manages habitats however animals should not be thought of as just environmental tools. The success of a flock of sheep affects their owner's standing in the community; breeding is part of the cultural heritage.
Extensive semi-natural woodlands	Woodlands were created by farmers. They were more important to the farming systems of the past with most not being as actively managed as they were (3). Woodlands characterise the valley sides covering just under 10% of the national park. There is extensive woodland cover in parts of the Lake District with the southern Lake District being a hot spot for ancient semi-natural woodland. In other parts the woodlands are more fragmented. This pattern is historical and considered by many to be aesthetically pleasing and attractive to visitors. 'Manmade' woodland was previously more coniferous and often in the wrong place. It is now being replaced with semi-natural and deciduous woodland that enhances the landscape. The Lake District is now a haven for red squirrels, maintained by the mix of deciduous and coniferous trees. Small farm woodlands are important but undermanaged. There are opportunities to increase beneficial management.
History of tourism & outdoor activities	Tourism and outdoor activities are underpinned by the farmed landscape (3). Woodlands and tree collections are part of what attracts so many tourists.
Opportunities for quiet enjoyment	The farmed landscape of the Lake District is an environment that people enjoy, they can feel confident walking on the open fells as grazing makes them relatively easy to walk on.
Open nature of the fells	The open nature of the fells is due to the tenure and management practices associated with farming (as well as campaigns and activities of various voluntary organisations). Farming means that fells are not tree covered or covered in bracken making them easy to access and enjoy (2).
Rich archaeology	Low intensity grazing systems have left sites relatively undisturbed while grazing has helped to uncover them (2). Woodlands have rich archaeology. Archaeology is there as a result of man's efforts to be able to make a living on the land (2). Farming practices have helped to preserve features on the ground while environmental schemes support farmers to continue to protect them. There are opportunities for farming to play more of a role in

	maintaining rich archaeology. Farm landscape is part of the historic environment.
Distinctive areas and settlement character	Settlement patterns directly reflect the influence of farming. We would not have these distinctive features and character without farming.
Celebrated social and cultural heritage	Some elements of social and cultural heritage were created, and are maintained by, the farming community (shepherds meets, shows, games). Also farming has had a strong influence on the architectural and built heritage of the Lake District. Farming created the structures that are associated with the landscape – walls, barns etc. The culture most associated with the Lake District relates to poets and the literary heritage but the working culture and heritage is strongly related to farming and the commons. We wouldn't have this working culture without the commons. Farming fostered a communal spirit, reflected in practices such a gathering and in the sheep shows. Shows like Borrowdale still attract 3,000 or more visitors despite being purely based on hill farming and having only sheep classes. Relates to commons and the farming culture of the Lake District. Richness of social activity based on farming in the Lakes.

The interviewees argued for the need to change the underpinning principles of support policies. The case was made for new forms of support that would ensure business futures and enhance the profitability of farming. Specifically there were ideas on building the skills of the farming workforce to equip to better deliver the special qualities (in areas such as water quality, biodiversity and business management). It was also suggested that a scheme to both encourage younger people into landscape management and create incentives for retirement for older farmers would ultimately enhance and secure the future of the special qualities.

A stakeholder from the farming community argued that the current balance between farming and the environment was about right with tax-payers getting good value for money for the investment in agri-environment schemes. Reflecting themes taken up in other interviews this stakeholder also consider that the special qualities could be enhanced if more was invested in small-scale projects to improve woodland quality and develop sustainable energy sources from woodland. This would help farmers to tackle the rising costs of energy while producing biodiversity and habitat benefits.

Stakeholders with specific natural environment responsibilities recognised that it was vital to work closely with farmers if the special qualities were to be enhanced. They pointed to the importance of understanding how the natural environment integrates with farming operations and to understand that the National Park is a living, working landscape. The importance of understanding the integrated way in which farming works was discussed while it was also recognised that agencies can make the mistake of being too narrow in their approach, thus failing to integrate. The result is that if the special qualities are to be enhanced then farmers and stakeholders need to communicate and collaborate effectively. This needs to happen on a range of different projects/issues. A challenge lies in the fact that the pressures on farmers time and resources are growing with the increasing recognition of what the uplands actually provide (water, access, landscape management, energy, biodiversity, food etc.). This

leads to pressure on individual farmers and the need to ensure that they have the labour and capital available to them to respond to this workload.

In summary stakeholders consider that the special qualities could be enhanced by action in three major areas:

- Reform support mechanisms to reward (broadly understood) sustainable land management and farm profitability objectives;
- Introduce new schemes to build the capacities of farmers to run profitable businesses based on sustainable land management;
- Improve the working relationships between farmers and the range of professionals who work with them so that they communicate and collaborate more effectively and with a better understanding of what drives and constrains farmers.

6.2 SWOT analysis

The stakeholders were asked to identify the top three strengths, weaknesses, opportunities and threats/barriers to farms and farm forestry in the Lake District. The responses are recorded in table 6.2 below. Again, where very similar comments were made this is recorded by the number in the bracket. Often stakeholders made more than three points under any one section (with several making fewer). What was important for the analysis was that we identified the most important points, the rationale for asking for a top three being to encourage stakeholders to prioritise.

The table shows a high degree of consensus in all areas of the SWOT analysis. In terms of the future it demonstrates the highest degrees of support for developing mechanisms for paying for ecosystems services (broadly defined) and better capitalising on the growing market for local products. There is also interest in the potential of renewable energy and specific ideas about capitalising on the value of wood fuel. This was related to a range of objectives from improving the management of farm woodland for biodiversity gain to the creation of new businesses and cutting farm energy costs.

While the list of threats and barriers is longer there is consensus on the top three: *planning policies* (that make succession and new entry difficult); *reductions in support* (threatening short to medium term profitability) and what could be termed 'issues with *farmer attitudes and outlook*' (that make change more challenging). Many of the specific points further down the list relate to these themes in some way. They also return to the need, identified in the 'special qualities' section, to address the (sometimes strained) relationship between farmers and stakeholders from organisations involved in land management.

The challenges and barriers analysis suggests the need for action on the part of farmers as well as stakeholders. There are actions that can be taken at a local level to address the points made in the analysis. However, an increasing pressing problem unites farmers and stakeholders, requiring action at the national and European levels: how to ensure a system for paying what the farmers of the Lake District produce and protect that will ensure a profitable and sustainable future.

Table 6.2 SWOT analysis of Farming & Forestry in the LDNP

Strengths	Weaknesses
• Resilience of farmers (5) • Distinctive, high quality products that can be marketed as local food (3) • Adaptability of farmers (2) • Farmers' desire to maintain traditional management practices and breeds with consequent impacts on the maintenance of the landscape (2) • Continuity of farming system (2) • Farmers passion for livestock • Skills and knowledge of farmers • Extensive grazing system (at least in UK terms) • Social capital associated with farming • High degree of public support for maintaining iconic landscapes on the part of the public • Strength of the tourism industry and its relationship to farming • The LEADER Programme bringing investment to farms and farm forestry. About £2 million has been spent on forestry initiatives since 2009. This includes investment in capital and in skills/training • The diversity of the farms with a complex mosaic of business structures, sizes, approaches etc. The number of individual businesses involved in farming in the Lake District • Appeal of forestry as well as farmed landscapes for tourists • Farmers have management control over the landscape – they control what others have an interest in • Diversity of income sources – farmers have strategies to maintain incomes and keep farming	• Dependency on support payments (5) • Challenging physical environment/climate (3) • Challenges in ensuring succession and continuity (3) • Low productivity of extensive systems with limited scope to improve productivity (2) • Lack of control over input and output prices. Subject to the vagaries and volatilities of the market (2) • Low financial value of much of produce • Low financial return for public benefits that famers provide • Stratification of the sheep industry means that hill farmers are vulnerable to price volatility of fat lambs and the economic fortunes of the lowland farmers that they sell on to • Lack of innovation • Lack of willingness to respond to changing societal expectations • Decreasing numbers of cattle • Over-reliance on sheep • Drive to graze woodland by farmers as a result of a perception that woods have always been grazed. Result is landscape change and loss of woodland • Lack of a farm forestry culture. Knowledge about how to manage woodlands has disappeared with the result that farmers today do not have the skills or confidence to manage their woods. This is exacerbated by bureaucratic barriers to accessing grants and lack of spare labour for management • Farm woodlands have been neglected for so long that timber is of poor quality resulting in vicious circle of decline • No financial incentive to manage woodland • Difficult terrain and access for harvesting forestry

Table 6.2 Continued.

Opportunities	Threats/Barriers
• Creating and increasing payment mechanisms for providing Ecosystems Services, recognising the value of the environment (6) • The growing market for local produce (including food, wool and wood based products) and potential to develop Lake District brand (6) • Potential to develop mechanisms to use tourism revenues to support landscape (2). While at present these are small scale voluntary schemes, more consideration could be given to a tourism tax (1) or congestion charge style fee for visiting the Lake District (1) • Using renewable energy technologies to enhance resilience and adapt to low carbon economy (3) • Wood fuel is becoming more economically viable. Some farms are now installing wood burning boilers and using farm woodland to supply their energy needs • Scope for further tourism business development especially finding more niche offers • Interest and enthusiasm for supporting uplands reforms at national and EU level. Increasing willingness to value uplands • Scope to better promote the benefits of farming and what is delivered in return for support • CAP reform creates opportunities to maximise benefits and ensure high levels of agri-environment scheme coverage are maintained • Lake District would be one of the last areas to loose public support payments if they were cut	• Planning policies and regulations make it difficult for farmers to live in the area and for multi-generational farm families to all live on farm and hence secure succession (4) • Reductions in CAP budget & support payments (4) • Farmers are often resistant to change (2) • Farmer focus on solely producing food (2) • Conservation focus of policy makers and decision makers resulting in lack of adequate understanding of the complex farming systems of the Lake District • Policies are not 'common proofed' – have to rely on universal instruments to deliver complex policy goals. • Lack of suitable successors, in some areas of the Lake District there are no succession arrangements in place. • Lack of new entrants combined with low levels of innovation create led to more pressure on those still farming. • Specific tenancies are unattractive to many people. • Public perceptions of wilderness and lack of clarity on the character of the Lake District landscape and how it was formed. • Problematic relations between the Lake District NPA and the farming community including a perception that the NPA does not value farmers or fully understand how to effectively manage relations with farmers. • Local impacts (and unintended consequences) of environmental regulations • Climate change and its uncertain impacts • Recent weather patterns in particular wet summers. • End of current LEADER programme will mean gap in funding, threatening the progress that has been made with regard to farm forestry. • Difficulty of accessing particular CAP based schemes (Higher Level Stewardship and Woodland Grant Scheme) due to lack of funding and high levels of competition. • Lack of on the ground human resources to ensure farmers are aware of opportunities and are advised when practicing potential damaging activities. • Lack of support mechanisms to pay for ecosystems services. • Lack of engagement with ESS opportunities. Getting farmers to work with partners on this in a collaborative way. • High levels of 'red tape' combined with lack of labour on farm mean that many farmers have lots of pressure on their time. • Enabling succession.

6.3 Actions recommended by Stakeholders.

In the final part of the interview stakeholders were asked what top three action they would advise the National Park Partnership (or other relevant organisation) to take in relation to farming and farm forestry. These are reproduced in table 6.3 below. The individual nature of the responses means that there was relatively little specific overlap. However, certain common themes clearly emerge:

- Managing relationships
- Improve the profile of farming
- Tackle the neglect of farm forestry
- Lobbying to ensure appropriate support payments
- Moving away from a focus on biodiversity to recognise the full range of special qualities.

Table 6.3: Actions.

Actions for the National Park Partnership
• Promote and procure more local food including a system for rewarding/recognising tourism businesses that use local products (3). Work in this area is being set up by the NPA, Cumbria tourism and the NFU. • The NPA needs to work more through and with farmer organisations rather than just consult with them. Need to look at ways of improving the relationship with the farming community across the National Park. In particular the NPA needs to learn lessons from the experience of the Ullswater Nature Improvement Area (2). • Lobby to maximise rural development and agri-environment scheme support for the Lake District (2). • Undertake further work on payments for Eco-system services. Build on existing schemes like that with United Utilities to develop new ones in relation to carbon. Also develop further visitor payback schemes so ensure tourist industry reinvests in the landscape. • Put protecting the cultural landscape on a par with implementation of the habitats, birds and water directive. Have thresholds for the numbers of farms sustained and the numbers employed on farm so that the diversity of farming is protected. Introduce a legislative framework to ensure that appropriate powers and incentives are available to maintain cultural landscape and range of special qualities. • Landscapes should be given more weight/prevalence. At the moment biodiversity and habitats are the priority but landscape is a big feature of the tourist industry. • Look at ways that communicate with farmers to ensure that stakeholders talk in a language that is meaningful to them and that recognises their resilience and adaptability. Ensure mutual respect in order to find new ways of balancing competing objectives in the uplands. • The Partnership could to more to raise the profile of farming and set out its contributions especially to external audiences. • There is a need for the Partnership to look at how to improve farmer 'buy in' to the wider benefits that farming provides. In particular could look at training programmes which support business development in ways which reflect the role of wider land management activity to the farm business rather than just focusing on the production aspects of the business. • The Partnership will need to undertake lobbying and advocacy work to ensure the future of public support. This will include the CAP reform process and piloting

systems that will represent a restructuring of the support mechanisms. Such restructured mechanisms need to take account of the wider benefits that farming produces. • Lobby to ensure that farmers make a decent income. Ensure that money 'goes up the hill' i.e. that support payments maintain upland farming. At the moment the returns on upland farming are so low that any threat undermines resilience. • The Partnership should ensure that it celebrates, respects and supports what is special about hill farming while supporting the sector to adapt to challenges and threats. • Ensure that policies and support in place to allow a generational overlap. Allow housing and business development on farms to allow this and create added value enterprises on one steading. • Address the need to develop more of a farm forestry culture. In particular ensure that farmers understand more about woodlands and have opportunities for training to develop woodland management skills. • Address lack of knowledge about woodlands amongst range of stakeholders. Ensure that specialist forestry expertise is maintained or expanded while, at the same time, awareness about forestry throughout environmental sector is improved. • Address inconsistencies and anomalies between Forestry Commission and Natural England administered forestry/woodland schemes. • Look at ways to earn more revenue from tourism to pay for landscape benefits. In particular scope to use such income for capital works which would have a wider economic benefit to local industries beyond farming. • The NPA could do more to educate the public about farming and about their responsibilities under the Countryside Code

The final table (6.4) summarises the changes to subsidies and incentives that the stakeholders advocated. While the analysis clearly follows on from the earlier questions the responses contain some specific ideas for policies and initiatives and principles that could be embedded in future schemes. Not all the suggestions are consistent with each other reflecting different stakeholder perceptions and interpretations.

Table 6.4 Stakeholder Recommendations for changes to policy

Changes to subsidies and incentives
• Introduce more ecosystem services based payments so that the full range of activities that farmers undertake are valued rather than just SSSI focused schemes (3). • Move away from making payments on the basis of income foregone and replace with a system that rewards the delivery of environmental goals. Move to a more positive system that rewards people for what they do and involves them in determining objectives and the evaluation and monitoring of the achievement of these objectives. • Invest in change on farms which does not rely on future public payments. Make changes that will be financially sustainable without revenue payments. • Add a socio-economic element as well as environment aspects to agri-environment schemes. Certain farms can deliver more environmentally, but all are part of the Lake District. Hill farming is in itself a public good. • Support mechanisms and schemes should integrate economic and environmental objectives. Environmental payments should be conditional on meeting economic goals and *vice versa*. This would involve farmers taking part in things like animal health/ welfare and business efficiency programmes alongside agri-environment schemes to create more holistic packages of development.

- The Hill Farming Allowance was based on socio-economics. It acknowledged the difficulty of being in the uplands but the newer schemes do not do this. Qualifying for UELS is less easy than ELS on an arable farm as there are more limitations on the amount of features that farms have.
- Improve the process of negotiating agreements including a much higher degree of flexibility on determining the objectives of the scheme. At the moment the prescriptive nature of the schemes means that many nature conservation objectives are missed out and farmers don't feel actively engaged in delivering a positive scheme.
- Mainstream a Sustainable Livelihoods Framework. This approach looks at the specific context of individual farms to produce tailored support (see Mansfield, 2011, p.308 for more detail on this approach[10]).
- It is important to ensure that the uplands share of the CAP is protected and maintained but the basis for payment needs rethinking to address the value of what is being delivered by farmers.
- Achieve better integration between the rural development 'axes'. Work at a landscape scale rather than just individual farms.
- Design support mechanisms to encourage farmers to be more ambitious and maximise the rewards that come from engagement with schemes and programmes.
- Reconceptualise support payments as a right rather than a reward. This is based on the recognition that support payments are a vital part of farming and something that rewards positive behaviour rather than subsidy used to address failure.
- At present spend in the region of £30 million pa on agri-environment schemes in the Lake District. It is vitally important that farmers understand what it is they are being paid to do. They need to feel more ownership of the positive work that they do for that money. Shifting payment to be on the basis of positive work would help to change the farmer's attitudes to agri-environment schemes.
- Increase the moorland payment.
- Financially support a Commons Council for Cumbria

[10] Mansfield,L. (2011) Upland Agriculture and the Environment, Badger Press, Bowness on Windermere.

7. Conclusions and Implications

The major theme emerging from this review of the economic performance of the Lake District's hill farms is that very few of them are economically sustainable, even in a good year such as 2011/12. Both on average, and for most farms, they are insecure, vulnerable or apparently unsustainable according to established management accounting principles. Yet they have survived until now, and appear to be more or less confident of their ability to continue to survive, if not actually prosper (according to our case-studies, at least, and supported by the recent farm practices survey). How can we reconcile these apparently contradictory results?

The simplest answer is that these people are farming for love and as a way of life rather than for money and as a way of making a decent living. Some, at least, are determined to grow their businesses in one way or another. Others are hanging on as best they can, taking advantage of the various streams of support and environmental payments on offer. Most will carry one doing what they are currently doing for as long as possible, and will only contemplate change as defensive responses and strategies to cope with adverse economic conditions. Surprisingly, few of our case study farmers mentioned climate and weather as being particular threats to their businesses and ways of life, despite the recent appalling weather of last summer and this spring.

Yet they face potentially far-reaching changes in policy in the future. Already, they are having to cope with changes from the previous ESA and Countryside Stewardship Schemes to the newer entry level, higher level, uplands and organic stewardship schemes. These changes oblige farmers to choose between either more stringent environmental prescriptions on their management and farm operation (in the case of the Higher Level Stewardship (HLS) scheme), with higher levels of payment (assuming that they are eligible and are accepted on to the scheme), or choose lower payments (ELS) with less severe restrictions. In addition, the future of the Single Farm Payment in the longer term must remain in doubt. This payment has already been subject to both continual erosion as the 'modulation' of the payments in favour of Pillar 2 (environmental and rural development) funds has progressed, and also to annual variation because of changes in the exchange rate between sterling and the euro (in which the payments are specified). These changes will happen against a background of continually varying input costs and output prices.

As noted above, the current forecast (Defra, 2012) for hill farmers' Farm Business Income last year (2012/13) is for a fall of 53%, from an all-England average of £30k to £14k, both as a result of falling sheep prices and a 10% reduction in the Single Farm Payment. Even before the effects of the weather during the summer of 2012, and the even worse conditions during this spring (2013), average Net Farm Income for these hill farms will almost certainly be negative. Inevitably, some of these farmers will be forced to give up and find something else to do. Not surprisingly, most of these farmers (both in the recent Defra Upland farming practices survey, and according to the business performance data, and in our own case studies) regard the future of the SFP as critical to their future survival. Elimination of 20% to 25% of their revenues (Figures 4.2 and 4.4 above) would clearly tip virtually all these firms into a state of near bankruptcy if nothing else changed.

However, this condition should be put into perspective. If these farmers had been asked in 2000 how they would cope with a) a cut in support payments of 50% (Figure 4.4) and also b) a major FMD outbreak in 2001 with all its disruptions of markets and movements, there is little doubt that most would have regarded this future scenario as catastrophic. Yet many, if not most, have survived, if not actually prospered, and some have found opportunities to make fairly radical adaptations and adjustments to their businesses. There is little doubt that the major change in support payments (away from headage payments and towards more targeted payments for the conservation of the environment) has encouraged farmers to adapt and adjust their practices. Many habitats are still recovering from the impacts of headage payments for sheep that operated 1976-2004. In that period sheep numbers in Britain went up by 25%, but farm incomes went down. Since then, incomes have not continued to decline, albeit continuing to fluctuate round relatively low levels, while habitats are beginning to recover.

In any event, the immediate prospects are not for an elimination of the SFP, at least not before 2020. Although the negotiations over the future of the CAP to 2020 will not be complete until later this year, at the earliest, the Pillar 1 SFP (renamed and re-defined as the Basic Payment Scheme (BPS)) will continue from 2014 to 2020. Payment rates are likely to somewhat reduced from current levels (though even this is not certain, especially for the uplands) and could also be subject to further 'modulation' over the course of the budget period to move funds from Pillar 1 to Pillar 2. However, the BPS will also be subject to additional 'greening' conditions, at least for a part of the payment, meaning that these payments will require farmers to follow additional environmental management prescriptions to preserve their eligibility for payment. But these conditions are unlikely to be set at onerous levels for most hill farmers.

Nevertheless, the political justification for continued direct payment support to farmers, at least without much stronger conditions about delivering environmental and public good benefits in return, will be increasingly questioned. By 2020, the justification may well be impossible to make. The recent trend (Figure 4.4) of shrinking support payments, somewhat increased environmental payments, and greater dependence of agricultural output seems certain to continue.

Livestock product prices and input costs will continue to be variable, though most commentators and analysts expect world prices for both grains and livestock products to be firmer in the future than has been the case in the past. If so, this will be a mixed blessing for hill farmers, since although output prices should be generally better than in the past, it is likely that feed prices, and also fertiliser prices will also be stronger. As a result, livestock farm gross margins are likely to continue to be squeezed, depending on the balance between local supplies and demand. The weaker output prices of the past reflected conditions of over-supply, which have been mitigated by the reduction in livestock numbers over the last decade. Widely anticipated prospects for improved margins could reverse this trend if farmers expand production again.

Against this general outlook, the consequences of the eventual elimination of the SFP (BPS) for the Lake District (and other) hill farmers appear to be substantial – surely none of these farms can be expected to survive without this continued support? There are two major aspects to the analysis of a future without direct support: the likely

market consequences of removal of support; the associated development of markets and/or payments for 'environmental services'.

The provision of direct income support to farmers alters both the behaviour of farmers and the operation of the markets for factors of production (land, labour and capital equipment). The SFP enables farmers to continue farming when otherwise they would need to either change their business structure and operation considerably or leave the sector. This reduces the pressures for adaptation and adjustment and delays the change-over between generations. A consequence is that the value of the stream of SFP associated with land becomes capitalised into the agricultural value of the land (and, equivalently, into the rents which agricultural land commands). In addition, it is also likely that the existence of direct payments also affects the prices charged for machinery and equipment, since the SFP provides a significant part of the returns which are used to justify investment, and adds to the demand for investment goods. Hence, the economic logic of market interactions implies that the SFP adds to the costs of entering farming. New entrants are faced with the difficulty that they need to pay for the rights to receive the SFP in the capital and land costs associated with farming – and so are no better off with the payments than they would be if the payments did not exist and the costs of entry were correspondingly reduced.

However, elimination of the support payments (SFP) would clearly undermine both the ability of these farms to continue their present management of both their farms and the associated landscape and natural and cultural environments. It would also severely depreciate their investments, and hence their retirement funds. The most difficult phase in the development of family businesses, especially farms, is the change in generations. Rather than providing a reasonable income and standard of living for one family, a family farm needs to provide for two families for at least 1/3 of its life cycle as the older generation is supported by the incoming younger cohort. Diversification and expansion of the business, or the development of off-farm income sources, as well as changes in the management and structure of the farm business are all options to support this generation change. Responses from the stakeholders also indicate that they would like to see changes in the planning system to facilitate succession. The alternative is that the successors find something else to do, and the family farm is either sold off or rented out, typically amalgamated with neighbouring farms. In any event, the most obvious and noticeable changes in the operations and structure of farms happen with the change of ownership or management control. Valleys which used to consist of 20 farms evolve through time, and in the face of continuing pressures on margins, to valleys with progressively fewer farms. Redundant farm buildings are converted to other uses, or left to rot. Stone walls are left unrepaired. Communities change from being substantially agrarian to being places increasingly dominated by retirement homes, holiday lets and the service sector. Census data from 2011, published in 2013, indicates that the population of the Lake District has declined by 2.5% between 2001 and 2011 compared to a growth of 7.9% for England as a whole. The population is ageing with significant declines in those aged less that 45 and a growth for the over 60s[11].

[11] Cited in Cumulus Consultants Ltd and ICF GHK (2013) Valuing England's National Parks, Final Report for National Parks England.

The continued existence of the SFP delays and slows this 'natural' development process, allowing farmers to continue farming in the traditional ways, which is still regarded as being important to very important by the overwhelming majority of farmers (Figure 21 above), and also by our stakeholders (Section 6 above). What if these payments were discontinued? The traditional character of the Lake District could be subject to very considerable change. What might be the response of the 15.8m tourists who visit the Park each year (LDNP Authority)? Might the almost £1bn spend of these tourists be taxed in someway to support and maintain the traditional landscape and environment, and the farming operations which contribute to these, and if so, how? Perhaps the Nurture Lakeland initiative (Section 1 above) might be expanded and further developed? Might there be some way of increasing employment and provision of livelihoods which underpin and contribute directly to the conservation of the unique character of the Park?

One current response to these issues is the development of payment systems and quasi-markets for ecosystem services, as noted in the introduction. The development of stewardship schemes towards Higher Level prescriptions for land and environmental management can be seen as an illustration of current approaches. The Bassenthwaite pilot study (Introduction above) is instructive for the development potential of environmental payments. There are already plans for further work ecosystems services involving new types of resource. It is evidently important that the lessons gleaned from the delivery of any future 'pilots' are shared within the wider partnership. Mansfield (2011)[12] provides a thorough overview of the ecosystems services approach in the context of the changing economic conditions of hill farming including further lessons for the design of future schemes.

The conventional suggestion for farms which are currently unviable as commercial enterprises is to diversify. Yet Defra's Upland farm practices survey reveals that by and large, these farms are not diversified (Figure 6 above) although rather more have some significant off-farm income sources (Figure 7 above). However, the Uplands survey records that 30% of the farmers are either actively developing or thinking about on-farm diversification (possibly substantially overlapping with the 30% already either moderately or significantly diversified (Figure 6)). Only 20% (1 in 5) are either seeking or thinking abut developing off farm income sources, again possibly overlapping with the 20% for whom off farm incomes already makes a moderate contribution to household income (Figure 7). As our case studies reveal, individual repsonses to potential reductions in support payments vary widely, though none indicated that they had any real faith in the development of ecosystems services payments.

Few farms have any appreciable amounts of farm woodland, and neither of our two case study farmers with woodland have yet found it worthwhile to try and exploit their woods for additional income. One, however, is considering exploring the possibilities in the future, while the other considers that the present grants and support are inappropriate for his circumstances. It is possible that the proposed extension of

[12] Mansfield,L. (2011) Upland Agriculture and the Environment, Badger Press, Bowness on Windermere.

the Renewable Heat Initiative (RHI) to include domestic installations in 2013 will make use of these woodlands more attractive to farmers. The stakeholder interviews indicate a strong interest in the future of small scale farm woodlands and a concern that these are not being actively managed. There is a consensus that there is potential to develop farmers skills in woodland management for environment and economic benefit. Much depends on access to appropriate funding to build on schemes that have run in the recent past using RDPE resources.

A critical issue in developing an ecosystems services approach to rewarding farmers for their contribution to these 'public goods' is convincing farmers and land managers that their actions and operations can actually make a positive difference and are worthwhile. The more remote and disconnected the beneficiaries are from those who are capable of delivering these services, the less reliable will be any scheme to encourage and reward their delivery. Hill farmers, perhaps particularly amongst the farming community, are both resiliant and inherently traditional, and are largely determined to continue their past practices. Change typically happens only when generations change, or when (as with the FMD crisis) farming conditions and returns force it. Although these farmers respond to changing market and policy conditions, they tend to do so in the context of traditional hill farming practices rather than seek radical change. In particular, current farmers are not easily interested in becoming landscape managers or wildlife custodians instead of being farmers. They can be convinced to change their practices in the interests of landscape and wildlife, or even the conservation of soil and the improvement of water quality, but these changes need to be integrated with agricultural management and production. If not, then the future of the uplands appears likely to belong to a new breed of landscape managers, rather than hill farmers. The stakeholders clearly recognised the importance of desiging schemes to support a range of policy objectives in an integrated way which engaged farmers in what they were doing. They also recognised that it would be important to improve working relations between farmers and those from environmental and ammenity bodies.

There has been no shortage of policy statements and reviews, especially concerned with the uplands, since Sir Donald Curry's report to the Cabinet Office, 2002, following the trauma of the FMD crisis. Curry emphasised a central theme of reconnecting farming with the rest of the economy and the environment: – "*to reconnect our food and farming industry; to reconnect farming with its market and the rest of the food chain; to reconnect the food chain and the countryside; and to reconnect consumers with what they eat and how it is produced.*" Although this report generated a new Strategy for Sustainable Farming and Food (Defra, 2002), the development of processes and institutions to help reconnect farming with both consumers and citizens remain substantially incomplete. Reconnection cannot happen as a result of 'top-down' policies and strategy papers. It has to happen, if it is to happen at all, on the ground, within and between communties, such as those within the LDNP.

North West Upland Farming completed its Hill Farming Systems project in 2008, which concluded that "*For the future we need to:-*

- *Maintain active up-to-date research on the state of hill farming and its social, environmental, and economic benefits.*
- *Help policy makers and members of the public understand and value the unique*

characteristics of hill farming in Cumbria.
- *Help hill farmers understand and apply for funding such as the new Rural Development Programme for England.*

The late Commission for the Rural Communities published its report on the Uplands: High Ground-High Potential in 2010, concluding that "*There needs to be a fundamental shift in the way we look at the uplands. Rather than seeing them as areas of severe disadvantage – which in turn influences policy and its delivery – they should be considered as areas of significant environmental, cultural and social value and opportunity… and.. recommending a new national strategy, with visible leadership and empowerment at all levels driving genuinely integrated activity*." This report identified four major weaknesses with current policies seeking to conserve the uplands - that current policies are largely: non-participatory; seeking to provide a one-size-fits-all solutions; fragmented solutions to specific issues rather than holistic and integrated programmes; uninformed by either local or scientific knowledge.

The Government's Uplands Policy Review, 2011, gives the current official government position, which "*wants to see hill farmers become more secure economically so that they can continue in future as both producers of food and stewards of the valuable natural resources of the uplands. The Government therefore committed, in Defra's Structural Reform Plan, "to develop affordable measures of support for hill farmers*". This strategy statement commits "*to support and encourage all hill farmers to improve the competitiveness of their core agricultural business.. At the same time, it is vital that hill farmers grasp the opportunities to diversify, whether as managers of the natural resources and ecosystems of the uplands, or through other business opportunities. To support this two-fold approach, we will*:
- *Create an "Uplands Theme" within the new delivery arrangements for the Rural Development Programme for England (RDPE) to provide targeted support to upland areas through specific schemes and/or weighting towards the uplands in national schemes. Through RDPE's Axis 1and 3, this will support improvements in hill farmers' competitiveness, skills, professionalism, and ability to diversify.*
- *Ensure that funding is available within the 2007-13 RDPE to allow all farmers in the Severely Disadvantaged Area (SDA) to enter Uplands Entry Level Stewardship (Uplands ELS).*
- *Update the existing Uplands ELS guidance to make it even clearer what commoners need to do to ensure their applications can be processed as quickly as possible.*
- *Ensure that Natural England works actively with hill farmers, land managers and other stakeholders in the uplands to explore how they can best work in partnership to deliver the multiple benefits these areas can provide.*
- *Look for opportunities to bring about greater co-operation and networking between the various demonstration farm initiatives, including those in the uplands.*
- *Remove unnecessary cost burdens which may undermine the competitiveness of hill farmers, taking account of the forthcoming recommendations of the Farming Regulation Task Force.*
- *Ensure, longer-term, that reform of the Common Agricultural Policy post-2013 supports both the competitiveness of hill farms and makes adequate payment to secure the provision of public goods from the uplands, beyond those the market provides; and, that any future re- designation of Less Favoured Areas*

> *(LFA) fully captures the land in England that we consider to be genuinely 'naturally handicapped'."*

By combining more efficient agricultural practices with the delivery of wider ecosystem services, hill farms will have opportunities to build and plan for a more sustainable future and communities in both the uplands and lowlands will reap the benefits." The strategy also incudes a commitment "*to support and promote local communities,… empowering them to identify and address their issues and concerns*."

The Government also published its Natural Environment White Paper in 2011, which promises to "*mainstream the value of nature across our society by:*

- *facilitating greater local action to protect and improve nature;*
- *creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature;*
- *strengthening the connections between people and nature to the benefit of both."*

A Local Nature Partnership for the whole of Cumbria has been approved (October, 2012) under this policy.

There is no apparent shortage of rhetoric and strategic commitments supporting more local and community engagement and action for solutions to common problems. We hope that this report helps to inform the development of more and better communication between the various interest groups, which is necessary to ensure the continued careful development and sustainability of the Lake District. It is difficult to see how this might be accomplished without the support and commitment of its hill farmers. Particularly as interest groups and official organisations wrestle with the problems of designing the next Rural Development Programme for England (RDPE) for the 2014 – 2020 budget period, it is vital that the interests and knowledge of the major land managers of the hills and valleys of the Lake District – the hill farmers – be consulted, recruited, cultivated and supported to sustain the Park's unique and distinctive character.