Dales and Moors Farm Innovation Project

Summary of Findings

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Project Partners:

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1. Executive Summary

This report summarises the findings of detailed work carried out on 30 farms in the Yorkshire Dales and 20 in the North York Moors between February 2015 and June 2015.

The aims of the project were to:

- Develop and deliver a training programme to the 50 farms, at QCF Level 2
- Enable the participating farmers to produce integrated Whole Farm Plans that focus on analysing their own farm businesses and which identify future needs and actions to improve the profitability of their businesses and the environment in which they operate
- Report the overall business investment and training needs of the sector, with skill gaps identified and training demand predicted
- Indicate how this should be offered and priority areas for diversification

In partnership with Newton Rigg College and the Yorkshire Dales Farmer Network, all four protected landscapes jointly submitted a successful bid to the York, North Yorkshire and East Riding Local Enterprise Partnership for a grant to support development of 50 combined business and environmental plans as part of a pilot project in 2014. This directly contributed to the LEP's Strategic Economic Plan and specifically to Objective 21 'Sustainable growth in the Dales, Moors and Wolds' and Annex C which sets out a Local Growth Plan for the Yorkshire Dales National Park; North York Moors National Park; Nidderdale Area of Outstanding Natural Beauty; and Howardian Hills Area of Outstanding Natural Beauty, which was developed by the four protected landscapes in partnership with LEP officers.

Agriculture in the study area of the North York Moors and Yorkshire Dales National Parks and the Howardian Hills and Nidderdale Areas of Outstanding Natural Beauty is of fundamental importance to the economy of the area, contributing around £304m to the local economy.

The farms in the target area are responsible for the management of some of the most valuable environmental features in the country, many of which are of international importance. Land on many of the target holdings makes a significant contribution to carbon storage and flood risk mitigation, as well as producing high quality food and drinking water for the region.

The farmed landscape in the Dales and Moors contains a network of tourist attractions that are internationally renowned, attracting millions of visitors every year. These environmental attributes are of huge value to the rural economy and underline the importance of upland farming to the economy of York, North Yorkshire and the East Riding.

Current hill farming in the target area is under severe financial pressure with average profits of less than £14,000 per year, despite receiving average payment of over £43,000 per year from the public sector and this forecast to reduce over the next 5+ years.

Our vision for the future is to have a mixture of full and part-time farms that are managed more efficiently than at present, with a mix of youth and experience. There will be an increase in part-time agricultural businesses, with extra income generated from non-farming enterprises on farm, plus income generated by the farmer or other family members from employment off the farm.

To achieve this vision, farms need to become better businesses with more efficient agricultural enterprises and non-farming enterprises. They need to be more resilient to market price volatility through being more efficient, relying less on purchased inputs and improving prices through improved marketing. This will include:

- Making better use of (and not just intensifying) their own farms, with some investment needed
- Working together to improve marketing and taking control of costs e.g. for items that are related to the farm enterprises such as feed and also for items that are fixed costs such as fuel and power
- Increasing their business and technical skills

Farm businesses need to change but there are many barriers to overcome to enable this to happen and a danger that if not helped through this process, the changes could have a severely detrimental impact on the economy, environment, and iconic landscapes that many other sectors depend on. The most important barriers include:

- A lack of time by farmers to invest in making the changes needed
- The traditional farming systems and a reluctance to change
- A lack of recognition by farmers that they manage some of the most valuable environmental features in the country
- A lack of the right skills, especially general business skills such as financial management, business monitoring and business planning, for both the farm and non-farming enterprises, but many do not see the benefits of this. They do also need some advanced farming technical skills, which they are interested in
- Farmers in the target area need help but they do not trust, feel isolated and let down by "Government" and are wary of outside help
- Significant changes to the main agri-environment support packages which will reduce the amount of grant available leading to potential fundament shifts in farming philosophy and the resulting need to change and adapt

Although a small proportion would respond to training offers in the areas needed, most would not. A more subtle approach is needed to engage farmers using trusted intermediaries to train and support them to help them to become more open to change and provide the new skills they need, working with relevant experts when needed.

The Dales and Moors Farm Innovation Project has over a short period showed that the Whole Farm Planning approach can provide valued and useful support for the farming sector in areas of high landscape significance where High Nature Value farming dominates to provide a range of invaluable goods and services to society.

The report on this pilot stage includes a number of clear and workable recommendations for taking forward this approach within a wider framework. This framework has the ability to integrate with other projects in the York, North Yorkshire and East Riding LEP area to deliver the full aspirations of the LEP's SEP with respect to food and farming. The key elements of this (farmer driven networks at a landscape scale, skills and training support through whole farm planning, ongoing farm business support and localised clusters of farmers on a peer to peer level) mesh perfectly with the LEP's wider philosophy to business support through the 'How's Business' programme as well as being fundamental to the aspirations of many of the SEP priorities and the annexed Dales and Moors Local Growth Plan.

Whilst supporting farmers to undertake further whole farm plans is desirable the partnership will only support this if it is coupled with commitment to support the delivery of such plans, both from the existing pilot and from any further phase.

Thanks must go to the LEP and the funding bodies for supporting the pilot and allowing the partnership to demonstrate what we hoped all along, that by working with farmers we can integrate business support, resilience and productivity with environmental sustainability underpinned by the area's wonderful landscapes.

Quotes from farmers taking part in the Project:

"Leaning how to do a SWOT was quite interesting. I was recently speaking with my bank manager and he was really impressed that I'm using tools like he does. It is useful to monitor the accounts from year to year. I used to do something similar which was quite interesting but was time consuming and what you've shown me to do is simpler. Higher level stewardship is a vital part of the farming business and it was useful for Tara to explain to us the fields that were most important for the environment so that I know which fields I can optimise production on for the ice-cream business."

"You have made me reflect on both the short and long term directions that the farm needs to go in and helped to galvanise my thoughts on costings and potential future projects. I have learned that there may be some current aspects of the business that need to change but I have more time available to me now and I hope to put into practice the business skills that I have learned, and how the environmental value of the farm is an asset to this going forward."

"Very useful – as it has given the region's hill farmers the opportunity to look at other ways of doing things – and has been thought provoking for the next farming generation."

2. Study Aims

To develop a training programme for 50 farm businesses across the protected landscapes in the North York Moors and Yorkshire Dales National Parks and the Howardian Hills and Nidderdale Areas of Outstanding Natural Beauty (AONB).

To deliver the training at QCF Level 2 to enable the participating farmers to produce integrated Whole Farm Plans that focus on analysing their own farm businesses and identifying future needs and actions to improve the profitability of their businesses and the environment in which they operate.

To prepare a report that summarises the business investment and training needs, with skill gaps identified, training demand predicted and to say how this should be offered and priority areas for diversification.

3. Background

The importance of measures designed to ensure the survival of upland livestock farms has been recognised widely in national policy initiatives based on reports commissioned by successive Governments over the last 30 years. This has been manifested in three Rural Development Programmes, investment in industry-led organisations like the Farmer Network and initiatives by third sector organisations like the Princes Trust, the Farm Crisis (now Community) Network and the Addington Fund.

Upland livestock farming makes an especially significant contribution to maintenance of the environmental qualities of AONBs and National Parks, which together comprise more than 45% of North Yorkshire. The Management Plans of all four protected areas reflect this very clearly and argue strongly the contribution that these farming systems make to the wide range of goods and services that are provided by these landscapes[1].

In 2013 Nidderdale AONB and the Yorkshire Dales Farmer Network met to agree priorities for investment in farm business development based on preparation of combined environmental and business plans. The partnership was expanded subsequently to include the Howardian Hills AONB and the North York Moors and Yorkshire Dales National Park Authorities, and in conjunction with the National Centre for the Uplands at Newton Rigg College in Penrith and farming organisations across all four protected landscapes, a successful bid for funding for a pilot project to facilitate 50 Whole Farm Plans was submitted to the York, North Yorkshire and East Riding Local Enterprise Partnership (hence forth referred to as the LEP) in 2014.

The current project also contributes to and stems from the work done concurrently by the Protected Landscapes on the development of a Local Growth Plan for these areas. The project directly contributes to the LEP's Strategic Economic Plan (SEP) and specifically to Objective 21 'Sustainable growth in the Dales, Moors and Wolds' and Annex C of the SEP, which sets out a 'Local Growth Plan for the Yorkshire Dales National Park; North York Moors National Park; Nidderdale Area of Outstanding Natural Beauty; and Howardian Hills Area of Outstanding Natural Beauty', which was developed by the four protected landscapes in partnership with LEP officers.

The Dales and Moors Local Growth Plan states the following:

[1] North York Moors National Park Management Plan (2012); Yorkshire Dales National Park Management Plan (2013); Howardian Hills AONB Management Plan (2014); Nidderdale AONB Management Plan (2014)

"Farming in these landscapes is generally characterised by small (<100 ha) livestock farms. These farm businesses depend on the public funding (typically 25-45% of turnover) that is paid for the exceptional 'public goods' that they provide. However, this funding is under threat of being reduced over the medium term. There is an urgent need for these businesses to adapt to enable them to develop, reduce costs and sustain income levels."

The plan goes on to set out a potential programme for addressing this (Programme 1a of the Plan):

a. Upland Farm Business Advice – provide farmers with tailored 'whole farm' plans with recommendations for the farm business that will bring both economic and environmental enhancements. These could include: business improvement and efficiency measures; business development measures (e.g. new non-farming enterprises) and natural environment enhancement measures. The agreed economic recommendations would be implemented by the farmer from rural economic development funds directed by the LEP's strategic investment programme, or relevant LEADER programmes, as appropriate for business improvement, skills training, improving efficiency or improving/developing non-farming enterprises and tackling collaborative solutions to any underlying structural issues. This has the potential to join up, and then build on, the existing services provided by National Park Authorities (NPAs), AONBs, Natural England, the Forestry Commission and others.

In addition the plan also highlights the filling of skills gaps through training and apprenticeships as a key priority.

The pilot scheme taken forward in the Dales and Moors Farm Innovation Project demonstrates how these priorities within the LEP's SEP and the Dales and Moors Local Growth Plan can be addressed.

4. Labour Market Intelligence

4a. Methodology

The following information has been used to ensure a true representation of the current position in relation to the labour market on farms in the target area:

- 2013 Agricultural Census information, Defra, published 2014
- 2014 Agriculture in the United Kingdom, Defra, published 2015
- 2014 Farm Business Survey
- Data from Farm Environment Plans submitted in support of applications for Agri-Environment scheme agreements, Nutrient Management Plans for farms in Catchment Sensitive Farming areas and SSSI assessments prepared by Natural England were used where appropriate to characterise the environmental value of farms in the target area
- Analysis of 50 individual Whole Farm Plans for farms in the target area
- Analysis of the findings from 6 area meetings in the target area with farmers, environmental advisers and business advisers
- A range of information that has previously been pulled together to inform protected landscape management plans, other plans and strategies and these areas' work with the farming and land management sector
- Feedback from partner organisations and business advisers/trainers who participated in the project and who work with farmers on a day-to-day basis in the area

4b. Desk Research Findings

In England in 2013-14, total income from agriculture fell by 4.4% in real terms and Gross Value Added (GVA) increased by 3.2%. Average income from Less Favoured Area (LFA) livestock farms was £14,500, from lowland livestock farms £15,000, and from dairying £88,000[2]. The average age of farmers was 59 and 58% of farm businesses had an annual income of less than £30,000.

Previous studies[3] have shown the average profit figures per hectare on Severely Disadvantaged LFA farms in the Yorkshire Dales was £100/ha in 2007/08 and similar Net Farm Income figures on Hill Sheep farms in the North York Moors in 2013/14 was £46.50/ha. The North York Moors study[4] also highlighted the wide range in business performance between farms and a low level of interest in formal training. The Yorkshire Dales study highlighted the importance of farming to managing the landscape that other sectors depend on. It suggested the need for improving the skills of hill farmers and that they should be working together with lowland farmers and introduce a scheme to encourage succession to encourage younger farmers to take over the running of farms.

When considering the study area, there are distinct blocks of land that have different characteristics. The Yorkshire Dales and Nidderdale AONB survey area is characterised by many small family livestock farms, dominated by those categorised as LFA livestock units (mainly extensive beef and sheep farms). Some 82% of farms in the Yorkshire Dales and 61% in Nidderdale AONB (but a much higher percentage in the Upper Nidderdale study area) are classed as LFA livestock[5]. The number of commercial farms is reasonably static, with 839 in the Yorkshire Dales National Park and 469 in Nidderdale AONB, with the total labour force being 1,988 and 1,104 in each area respectively.

There is a strong Farmer Network in the Yorkshire Dales with over 100 members. This is run by farmers in the Dales, with 3 local farmer coordinators who help members buy inputs together, support young people to enter the industry and help improve skills and knowledge by organising training, farm trials and knowledge transfer events.

Farms and farming systems in the North York Moors and Howardian Hills are characterised by family farms that still dominate but there is a more varied mix of farm types because of the different soils, topography and climate. LFA livestock farms represent only 44% of total farms in the North York Moors National Park area (but a much higher percentage in the targeted study area), and none in the Howardian Hills, and there are a higher proportion of farms that are categorised as dairy, cereals and lowland livestock. The number of commercial farms is 978 in the North York Moors National Park and 142 in the Howardian Hills, with the total labour force being 2,164 and 342 in each area respectively. The average output on the sample farms in 2014 was £125,262 per farm, with this being re-circulated in the rural economy. Bearing in mind that the total number of commercial farms in the study area is 2,428, they are contributing around £304m to the rural economy per year.

The farms in the study area contain a higher proportion of nationally and internationally important features of conservation value compared to their counterparts elsewhere in the LEP area. Land on many of the target holdings makes a significant contribution to carbon storage

[2] 2014 Agriculture in the United Kingdom, Defra, published 2015

[3] Hill Farming Systems in Nidderdale AONB & The Yorkshire Dales National Park: Future Farming Trends, Economic Viability & the Delivery of Environmental Enhancement and Public Goods. Andersons, April 2009

[4] North York Moors Hill Sheep Economic Study. Mervyn Lewis, Askham Bryan 2014

[5] 2013 Agricultural Census information, Defra, published 2014

and flood risk mitigation, as well as producing high quality food and drinking water for the region. The farmed landscape in the Dales and Moors contains a network of tourist attractions that are internationally renowned, attracting millions of visitors every year. These environmental attributes are of huge value to the rural economy and underline the importance of upland farming to the economy of York, North Yorkshire and the East Riding as recognised in the LEP's SEP[6] as follows:

"The rural uplands of the two National Parks and two Areas of Outstanding Natural Beauty (AONB) cover well over a third of the land area of the YNYER LEP. They provide an outstanding range of economic and environmental benefits – wildlife, water, food, wood products, minerals, carbon storage and recreation – based on their natural resources, landscape and cultural heritage. They are generally characterised by 'High Nature Value', extensive livestock farming (often at the margins of economic viability) which shapes the magnificent landscapes on which a huge visitor economy depends."

The Northern Upland Chain Local Nature Partnership has undertaken a study of High Nature Value Farming[7] (HNV) which has a number of recommendations including one on addressing viability. Central to ensuring the viability of vital and adaptable HNV farming is building an understanding of the system's microeconomics and variability, and of its macroeconomic context. This includes not only how the farming system works internally – income, fixed costs, variable costs, profit, etc – but also the framework of markets, resource and finance allocation, etc within which it and the other systems with which it competes operates.

Whilst the North York Moors and Howardian Hills sit within a different Local Nature Partnership area (North Yorkshire and York) the principles of HNV are still completely relevant to the farming of these areas and these two protected landscapes support the use of such an approach across the key rural landscapes of the LEP area.

4c. Whole Farm Plan Analysis

As part of this study, the project has supported farmers and others involved in their businesses to prepare 50 integrated Whole Farm Plans, with 30 being in the Yorkshire Dales National Park / Nidderdale AONB area and 20 in the North York Moors National Park / Howardian Hills AONB area. This process has involved the farmer carrying out an appraisal of the farm business and the environment within which it operates to identify the strengths, weaknesses, opportunities and threats. From this analysis, each farmer has then prepared an integrated long term Whole Farm Plan, within which they have identified a list of actions that need to be carried out to enable their businesses to grow sustainably, to improve the environment linked to this and to identify any training needs, ultimately improving the sustainability of the area as a living landscape that can add value to the rural economy underpinned by the landscapes they exist within. The key principles within this integrated approach has been to encourage sustainable economic growth which conserves and enhances the environmental value that underpins it and therefore boosts the wider goods and services that are so crucial to the wider LEP economy.

The profit figures shown in Table 1 have been averaged from the farm accounts of each farm for year-ending 2013 or 2014 in most cases. These profits and those from previous years need to cover private drawings for unpaid family labour and also reinvestment in the business, which would include any items in the action plans and therefore the term 'profit' is to be taken cautiously.

[6] York, North Yorkshire and East Riding Local Enterprise Partnership Strategic Economic Plan 2014
[7] High Nature Value Farming in the Northern Upland Chain http://www.nuclnp.org.uk/wp-content/uploads/2015/02/hnvfinal.pdf

An analysis of the information in the Whole Farm Plans is shown in Tables 1 and 2. Key conclusions are as follows:

Current Position

- The dominant farm type across the specific study areas is beef and sheep, with 73% of farms having beef cows and 91% having breeding ewes.
- Adjusted average farm size at 191ha is lower in the North York Moors/Howardian Hills than in the Yorkshire Dales/Nidderdale study area at 407ha.
- Farms consist of a variable mix of owned land, rented land and common land grazing rights.
- 98% of farms are in receipt of public sector funding that assists farm businesses in management of environmental assets on their farms for wider public benefit.
- Average turnover per farm is £125,000, with 34.7% of this on average from the public sector. This income is almost all circulated in the local rural economy.
- 69% of farms have Higher Level Stewardship (HLS) agreements.
- The average profits on farms with only Entry Level Stewardship (ELS)/ Upland Entry Level Stewardship (UELS) agreements is £4,919, being less than half the average of all farms. These farms represent 27% of the farms that prepared Whole Farm Plans.
- 56% have profits below £10,000 per year, (this compares with 47% on a national basis)[8]
- Average profits over the whole study area were £13,501 (2013/14) with income from public funding at an average of £43,466 per farm. This shows the high reliance on public funding (Basic Payment Scheme and Environmental Schemes) in return for managing their farms for public benefit.
- Profit figures vary widely from the average of £35/adjusted hectare, ranging from minus £235/ha to plus £926/ha.
- Profit figures were generally higher for dairy farms, but as the figures studied were mainly based on 2013/2014, the milk price has dropped significantly since then for many farmers, with corresponding falls in profits.
- Because of the smaller size of farms in the North York Moors area, the profit figures for the North York Moors are significantly lower than those for the Yorkshire Dales.
- Only 8% of surveyed farms are in the top 25% of performance, when measuring profits per hectare.

[8] fbs-businessincome-statsnotice-30oct14

	Averages from farms surveyed		
	Yorkshire Dales and North York Moors Combined	**North York Moors Only**	**Yorkshire Dales Only**
Number of farms analysed	45	19	26
Adjusted Farm Sizefbs-businessincome-statsnotice-30oct14[9]	315.8ha	191ha	407ha
Farms only owned	21%	26%	16%
Farms only rented	27%	26%	28%
Farms part owned, part rented	52%	47%	56%
Average cow numbers on farms with beef cows	43 (73% of farms)	46 (68% of farms)	40 (77% of farms)
Average cow numbers on farms with dairy cows	70 (13% of farms)	108 (16% of farms)	31 (12% of farms)
Average ewe numbers on farms with ewes	473 (91% of farms)	339 (84% of farms)	560 (96% of farms)
Farms with HLS agreements	31 (69%)		
Average end date of HLS agreement	2021		
Farms with UELS/ELS only agreements	12 (27%)		
Average end date for UELS/ELS agreements	2016		
Average full-time family labour/farm	1.4	1.0	1.7
Average part-time family labour per farm	0.7	1.1	0.4
Average full-time employee per farm	0.1	0.2	0.1
Average part-time employee per farm	0.2	0.2	0.2
Number of farms where part-time staff only	14%	26%	4%
Number of farms with a non-farming enterprise	41%	23%	50%
Average profits per farm	13,501		
Average profits on farms where UELS/ELS agreements only	4,919		
Proportion of farms with profit up to £10k	56%		
Proportion of farms with profit between £10 - £20k	10%		
Proportion of farms with profit between £20-30k	13%		
Proportion of farms with profit between £30 - £50k	10%		
Proportion of farms with profit over £50k	10%		
Average turnover per farm	125,262		
Average income to farms from public funding (BPS, HLS, etc.)	43,466		
Public funding as a proportion of turnover	34.7%		
Proportion of farms performing in top 25%	7.7%		
Most Enjoyable parts of the business Average score where relevant; 5= very enjoyable; 1 = not enjoyable			
Livestock breeding	4.6		
Diversified enterprise	4.2		
Managing crops	4.0		
Managing grassland	3.8		
Enjoying the wildlife	3.6		
Milking	3.6		
Improving the environment	3.4		
Livestock fattening	3.2		
Working with machinery	3.2		
Attending the market	3.2		
Business planning	2.9		
Managing staff	2.8		
Financial management	2.7		
Working in woods	2.3		
Record keeping	1.6		

Table 1 Analysis of the current position on farms in the study area.

[9] Where common rights, assume 0.75ha per sheep common right and 7.5ha per cattle right, unless stated otherwise.

- Some 41% of farms have income from non-agricultural enterprises (23% in North York Moors and 50% in Yorkshire Dales).
- Income from the public sector is reducing, with environmental payments severely reduced. For farms in a current UELS agreement, income forecast under the new Countryside Stewardship Scheme (CSS) will see payment reductions of more than 75%. Under the new scheme, options to protect upland semi-improved habitat (the last remaining stronghold for priority species which are in severe decline nationally) are only available in the Higher Tier element. This presents a dual threat to the economic viability of farms along with the environmental and wider benefits they provide to society.
- Most farmers rated enjoyment of wildlife as one of their most enjoyable farming activities. However, they would readily accept that they have only a limited understanding of wildlife and its habitat requirements, and there is often a lack of awareness of how wildlife is vulnerable and capable of being adversely affected by farming activities. The disconnect between enjoying wildlife and understanding is more apparent in some project areas – in Upper Nidderdale for example farmers on average scored 'improving the environment' much lower than 'enjoying wildlife'.
- Business planning, record keeping and financial management are the least enjoyable parts of running the farms.
- 84% of farms are operated with at least 1 person working full time.

Actions identified by farmers to improve Business Growth, Environmental Quality and Sustainability

Investment Proposals from Action Plans	**% of farms**
Secure further and ongoing support from agri-environment schemes	100%
Improve soil health and sward management	80%
Invest in infrastructure – buildings, equipment and land for production (e.g. sheep buildings, farm tracks, equipment)	73%
Investigate, test and gather information to inform management decisions connected with production and environment (e.g. blood tests, slurry sampling, wildlife surveys, etc)	62%
Invest in infrastructure to improve wildlife habitat (e.g. woodland planting/felling, hay meadow restoration, improvement of land for ground nesting birds, stone wall maintenance, fencing, etc)	53%
Invest in non-farming enterprises (e.g. tourism, renewables)	42%
Carry out training (e.g. IT, accounts, technical)	13%

Table 2 Analysis of actions planned on farms in the target area

Table 2 shows a summary of the main actions that businesses identified within the Whole Farm planning process where actions are planned. Although there is a wide variation of actions planned across all farms some broad themes can be identified as follows:

- Improving the productive capacity of already more intensively managed areas of the farm through better understanding and use of resources such as soils, nutrients, manures and grassland. Farmers are keen to embrace newer techniques in order to become more efficient, reduce the cost of production and enable the remainder of the holding to continue to be managed more extensively to benefit the environment. Improving efficiency through better management of soils was considered to also have potential environmental benefits too, for biodiversity, climate change and water quality depending on local circumstances.

- The farmers need access to the science that will help them identify where production and environmental improvements can be made synergistically. Soil testing, manure testing and forage testing are all really important, but with low labour levels (only up to 2.4/farm including part-time staff), time is a more limiting factor than the desire to improve understanding.
- Farm infrastructure improvements are needed to improve efficiency and to meet regulatory standards. There are farms operating with sub-standard infrastructure that does not meet requirements under legislation such as the SSAFO [10]. Because the regulations have exemptions for installations built before 1981 farmers are not obliged to meet the standards but would if they were to erect new structures or make substantial changes to existing structures. Again, improvements to infrastructure would lead to environmental improvements, such as improved water quality and reduced environmental risk and if implemented sensitively can avoid impacts to wildlife and landscape quality.
- Other farm infrastructure projects that require investment include items that could be within the scope of an environmental scheme, such as hay meadow restoration, or restoration of upland vegetation to benefit declining ground-nesting birds. Training provided by the project has enabled farmers to identify key areas for environmental improvement which will make best use of their limited financial resources and match agri-environment scheme priorities. Without additional support and investment in habitat improvements, farms may not score highly enough to be able to access current or future nationally competitive agri-environment schemes which would recompense them for maintaining these wildlife features and other wider benefits, thus putting them at risk.
- Investment in specialist machinery is required for tasks on-farm and also to offer opportunities for innovation and diversification. Items such as mobile saw benches, mobile livestock handling facilities and Electronic Identification Directive (EID) readers for livestock tags can be used both on-farm by individuals to benefit their own businesses and also by the operator to offer the service to others. The investment may be small and not meet the eligibility criteria or specification for nationally available funding, such as the grants available under the Countryside Productivity Scheme.
- As well as investing in EID tags, readers and the associated software and technology this legal requirements can be used beyond compliance in a number of ways to improve the managements, development and profitability of livestock farming and to deliver associated environmental benefits. The establishment of reference systems that will allow selected breeding, long-term improvement of the genetics of flocks based on key breed types to the conditions they graze within and also to provide sheep that are as high quality as possible for finishing within the area or for moving on to other areas for finishing. This application of agri-tech has the potential to deliver a number of LEP priorities, as well as to ensure that iconic breeds are adapted to delivering the extensive grazing that the local environments require and link to other parts of the LEP area and projects that are working in these areas (e.g. the bio-economy and sustainable intensification/agri-tech). There is also potential to use this alongside local marketing and branding of sustainably raised meat for economic benefit and to access new supply chains/buyers.
- Investment in non-farming enterprises is required for projects such as renewable energy generation and on-farm tourism ventures. The farm appraisals were not always

[10] Rules are based on the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations - known as the 'SSAFO' regulations and related legislation– which apply to all farmers who store silage, slurry or agricultural fuel oil

able to fully explore the opportunities presented by on-farm but non-farming activities. We can only report that previous funding programmes that have provided funding for on-farm but non-farming enterprises have had a positive impact on the rural economy.[11]

- With respect to renewable energy investment and utilisation on the farm a common issue was the state of the local grid infrastructure and the prohibitive cost associated with upgrading from single to triple phase in order to make the best use of feeding electricity back into the grid and any associated government subsidy. The use of innovative on farm energy storage to allow feed in to the grid without upgrading the electricity supply infrastructure would seem to be a potentially significant opportunity to improve profitability by reducing input energy costs.
- Taking the four study areas as a whole, only a small proportion of farmers (13%) are interested in formal training. In some areas however this was considerably higher – in the Upper Nidderdale study area for example 75% of farmers expressed interest in developing their skills in IT/business monitoring/technical equipment. Although the business advisers did identify that the farmers in general have good technical skills but poor business/entrepreneurial skills, they did also see the need to strengthen the more advanced technical skills that relate back to improving production, including interpreting and acting on results of soil test pits or silage test results, etc. It also seems that more training is required in relation to managing land for environmental outcomes, both for and beyond the specific targeted requirements of agri-environment scheme agreements (as mentioned above).

4d. Area Meeting Analysis

Seven area meetings were held in June 2015; these focussed on common issues that arose through the Whole Farm planning process and on how to improve both business growth and the farmed environment in the longer term.

Key points from these meetings were:

- Concerns about the longer term financial prospects as a result of several factors outside farmers' immediate control, including:
    - Reductions in environmental payments
    - Falling prices partly from supermarket competition, currency rates and world prices
    - Increasing input prices.
- Concerns about future damage to the environment through increased intensification when public funding for environmental benefits reduces.
- Farmers are struggling to support two generations, which contributes to making succession to the next generation more difficult.

Actions identified by farmers to counteract this included:

- Add value by improving quality and branding/marketing.
- Diversify, including into renewables/tourism.
- Help needed to restore or enhance habitats for wildlife, to enable higher scoring in the new CSS (for mid-tier or high-tier grants) and to access other grants.

[11] EUROPA 2003 Evaluation ex post des programmes de l'objectif 5B pour la periode: 1994-1999 (ex-post evaluation of Objective 5b programmes)

- Be more efficient at producing food, particularly by improving soil/grassland management by drainage, use of lime, testing, etc.
- Sharing more information in smaller groups or clusters of farms.
- Working together more to buy services and inputs cheaper e.g. lime, equipment, shared secretarial support.
- Supporting farm apprentices.
- Setting up a farmer network in the North York Moors and building on the established network in the Yorkshire Dales to support localised clusters.

4e. Conclusions from LMI findings

A review of the Whole Farm Plans, the discussion from Area Meetings and feedback from Partners/Business Advisers raises the following points:

- Farming makes a significant contribution to the rural economy of the Yorkshire Dales, Nidderdale, North York Moors and Howardian Hills areas, with over £304m per year being spent by farmers on goods and services.
- Farming is of key importance in maintaining wildlife/landscape and the cultural heritage of the areas that other sectors depend on e.g. the tourism industry.
- There are large differences in the profitability per hectare of the different businesses in the study area. Whilst this will be partly due to physical differences in the farms, differences in the technical and especially the business skills of the individual farmers is a significant factor.
- There is a good potential to improve profits across full and part-time farms in the area mainly as a result of improved efficiency, reducing purchased inputs and adoption of innovative ways of working.
- Although most farms are under significant financial pressure many actions were identified, including investment to improve the environment, that would yield a good financial return on capital and result in a growth in profits.
- Farming in the area is facing a period of fundamental change as the impact of reduced public funding is combined with increased financial pressures on production. There is an increased need for dialogue and support to ensure that future development is taken forward in a sustainable way to protect the wider goods and services these landscapes and the farmers as key stewards of this provide.
- Improving the efficiency of the existing farm enterprises is unlikely to be sufficient to cover the reduction in public funding from agri-environment schemes that pays for public goods in the long term, especially in areas without protected sites. This is mainly due to the prioritisation of public funding and the national scoring approach that will be taken in the new CSS.
- The farmers in these areas have opportunities to generate payments for ecosystem services from developers, energy companies, corporates and water companies, but this option may take too long to tackle the immediate problems of low profitability.
- Visitor payment schemes may offer an income stream in areas that are well-visited.
- Farm enterprises will need to be more efficient, with more group working (at the area and localised scales) to help each other to change, and more group buying and selling.
- There could be an increase in low input/easy-care systems in the study area but there may be others who look to take an intensified approach and without support either approach may miss crucial opportunities.
- Farm families will continue to require income from a wide variety of sources, requiring a wider range of skills.
- The people involved in general have good technical skills but less well developed business/entrepreneurial skills and it is clear that farmers need to be more entrepreneurial

i.e. more open to change, seeking solutions from a variety of sources, and taking decisions based more on facts and less on instinct and experience.

- Business solutions will be more individual than in the past, requiring more individual thinking and not simply following the example of neighbours although group working will be required to provide the impetus for what these solutions might be and how they are best implemented.
- The future land use pattern is likely to include more part-time farms (important to allow young people into the sector) and increased farm size through more amalgamation. For those with non-farming businesses running alongside their farming enterprise any training or support on basic business management will have benefits for the wider rural economy as well as that relating to the farming sector making any investment more significant.
- Product quality and efficient use of inputs will be improved on most farms, new products will be developed by some farms and niche marketing opportunities will be realised for a small number of businesses.
- On the more intensive farms, particularly those in ELS and with new CSS Mid-Tier agreements, it is more realistic to create small pockets of linking habitat which will enable connectivity between good quality habitats beyond the farm boundary and enable species movement.
- All farms studied would benefit from ecological advice and improvements as well as more illuminating survey on the wildlife features that could help them access agri-environment particularly if they have land adjoining designated sites e.g. if they have land that supports wading bird assemblages which are features of the nearby designated site and which score points in agri-environment.
- Agri-tourism is an area of interest amongst farmers and may offer an exciting and sustainable way forward, increasing profitability and generating jobs and revenue for the local economy. Specialist advice will be needed to make this happen. This may integrate with wildlife or nature based tourism.

Barriers

- People find it difficult to make fundamental changes, generally responding best to sudden changes or shocks. The current stimuli for change are gradual and all contribute to farmers finding it very difficult to make fundamental changes.
- Farmers have little spare time to think of and invest in making changes. Both require time input.
- Past public support in the form of grants, subsidised advice and training has not been effective at tackling the structural issues facing the farm businesses in the study area or enabling them to make more fundamental changes to their businesses so as to become more sustainable in the long term.
- Most farmers feel let down by Government and do not trust initiatives delivered in a top-down manner, many of which they perceive do not meet their needs or speak a different language.
- Few people understand how to best use public funding to help hill and upland livestock farmers change, but the protected landscapes are in a unique position to provide such trusted support.
- The people who currently make the decisions in farm businesses have been brought up with a free and trusted ADAS adviser helping and supporting them to make changes to farm policy, so few developed the skills and confidence to respond quickly to new business opportunities or challenges. This free ADAS advice was stopped over 20 years ago, and the alternative cannot be afforded.

- Although free environmental advice is still available from National Park/AONB staff, few beef and sheep farms use them to inform their business decisions, instead making fundamental changes to business policy after speaking to other respected farmers, or by following their example.
- There are an increasing number of young people aged under-35 who are interested in farming but who have very few opportunities because the older generation cannot afford to retire, or do not want to, and the younger generation have too few assets to start.
- Little research is carried out in England on improving LFA livestock systems and what there is does not find its way easily to local farms in the study area. This is especially true in relation to extensive systems that may be less costly in terms of inputs, less damaging in terms of intensification and potentially more productive or marketable to buyers who are interested in conservation or environmental credentials.
- Many farms have low profits and a significant proportion have low liquid assets, making investment difficult.

5. Skills Gaps

Skills gaps have been identified by the farmers themselves in carrying out the Whole Farm Plans (see Table 1) and by partners and business advisers who have participated in the project; these are summarised below:

Subject	Identified as **wanted** by farmers			Identified by partners/advisers as needed		
	Most people	Few people	Very few people	Most people	Few people	Very few people
Financial management including management recording, understanding accounts			√	√		
Business analysis and planning			√	√		
Marketing			√	√		
Improving IT skills – computer use, social media,		√		√		
Technical knowledge – soil management, crop management for production and wildlife, new crop and animal husbandry developments	√			√		
Technical training – safe use of pesticides, hedge laying, chainsaw use, ATV use, etc.	√			√		

Table 3 Skills gap analysis

The main conclusion from Table 3, and as evidenced in Table 1, is that the main partners and advisers involved in the project have identified that improving skills across all sectors is of very high importance in improving business performance, whereas most farmers do not enjoy nor want to be trained in improving their financial, business management or marketing skills.

There is evidence that this attitude can be changed by working with farmer groups who are expertly facilitated by a trusted person who remains as part of the community and continues to be accessible. The Farmer Networks are an excellent example of this approach. The objective of group events is to build both group and individual capacity to improve their business skills and make better business decisions. The groups can work well over shorter periods of time too. The Teesdale Business Group that was funded through RDPE Uplands Skills Spec 26 did this for a period of three months (facilitated by AHDB Beef and Lamb) and linked production efficiencies with business management to really get the trust and engagement of the famers involved. There are a number of other farming sector networks that also provide this function, but which would benefit from integration so as to link in with wider support (e.g. in the North York Moors the Seven Hills Farmers and the North York Moors Quality Sheep Group).

Other options might include innovative methods of linking capital grants with capacity building, to ensure that farmers receive tailored training. This might be sufficient to ensure behaviour can be changed and constructive dialogue started, which can then be built upon.

It is clear from previous consultation (e.g. for the development of Local Development Strategies for the new LEADER Programme) and from the Whole Farm Plans and group meetings in this project that farmers respond more positively to training and support that is delivered through pier to pier bottom up approaches which mix in technical and specialist farming knowledge with the less attractive business management and administrative elements. This meshes perfectly with the LEP's latest thinking regarding business support and the philosophy of the 'How's Business' approach that they have developed which meshes in formal and informal approaches through face to face and electronic/online methods. A key recommendation of this Project is therefore to explore ways in which training and group learning can be integrated with business network approaches and these be linked into the LEP's approach to this.

6. Recommendations

The Dales and Moors Farm Innovation Project has provided a successful pilot demonstrating how the Whole Farm planning process can up-skill farmers across a range of topics and areas. The completed Whole Farm Plans will also provide a platform for each farm to move forward into the future with a better sense of what actions they could take to increase the profitability, sustainability and resilience of their business and the skills and training they may need in order to achieve this.

As well as achieving the stated aims and learning outcomes the project has also highlighted a range of opportunities, challenges and barriers which if harnessed, addressed and overcome will help the York, North Yorkshire and East Riding LEP achieve a number of its priorities with respect to the rural economy, including:

Profitable and ambitious small and micro businesses

- Innovative, growing small businesses
- More entrepreneurs who start and grow a business

A global leader in food manufacturing, agri-tech and bio-renewables

- World class innovation in agri-tech and bio-renewables
- Agriculture and food business connected to new opportunities
- Low carbon businesses

Inspired People

- A productive workforce for growing businesses

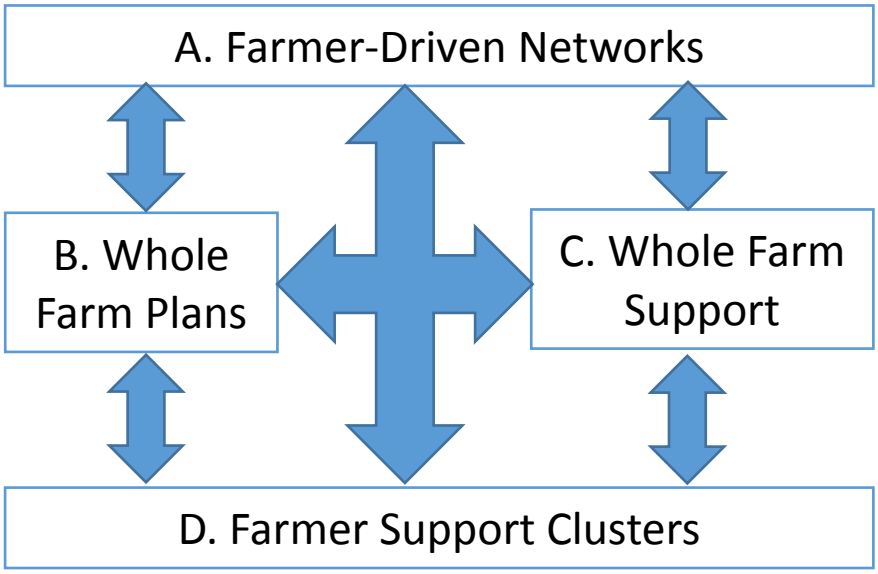
Successful and distinctive places

- Unlock major growth opportunities

- Environmental quality and community needs

To successfully take forward the project's learning it is recommended that a 'modular' approach be taken, as represented by the diagram below. This approach would ensure that those developing Whole Farm Plans could do so within a supportive farmer-to-farmer environment, with sufficient scale to allow sharing of best practice and development of support mechanisms using the principles advocated by the 'How's Business' approach. It would be linked to localised clusters of farms that could help each other with practical implementation. The modular approach would also ensure that such specific and practical support can be resourced appropriately to deliver integrated business and environmental improvements.

An overriding message from both the farmers and the project partners is that further Whole Farm Plans should not be progressed unless there is then practical support for delivery.



The following sections briefly outline each of the four blocks in the diagram above and what is required to progress each:

A. Farmer-Driven Networks

This element would provide a farmer led network at a landscape scale which would have the critical mass and scale to provide cross-cutting support functions with the aim of providing support for all farm businesses to become more productive and profitable by facilitating access to information, opportunities and resources. This would allow support schemes to be designed by people who understand the target audience and the communities they live in and by taking the advice of the people who would benefit. This approach has already been successfully delivered in Cumbria and the Yorkshire Dales through their Farmer Networks. In addition there is an aspiration to establish such a network in the North York Moors as articulated in the North York Moors, Coast and Hills LEADER Local Development Strategy[12]. Key functions of this network would include:

[12] North York Moors, Coast and Hills Local Development Strategy http://94.136.40.103/~moorscoastandhills.org.uk/wp-content/uploads/2015/04/North-York-Moors-Coast-and-Hills-Local-Development-Strategy-05-09-2014.pdf

- Provide a co-ordinating role and establish strong links between all training, advice, support and resource providers locally and nationally creating a single source of information.
- Hosting / co-ordination of best practice events, external skills and training and awareness raising activities. Support with fully utilising new technology to increase productivity is needed – again a role for young famers to bring to the business.
- Facilitate access to or provide support where none currently exists to help link famers / land managers to external opportunities, support systems or funders.
- Support farmer-led sharing of information, skills and best practice especially with young farmers / the next generation
- Support, promote and engage with existing and emerging local cluster activity (see element D below).
- Promote and assist with the development of grant schemes for farmers including the Farming and Forestry Productivity Scheme (FFPS) and LEADER and provide advice to the these programmes and potentially to assist in structuring future calls for projects.
- Young farmers – getting the next generation of farmers in is essential – gap is emerging and needs to be filled.
- To support branding and marketing approaches across the wider areas that these networks cover.
- Support and investment in the existing trusted networks/new networks to develop new services and improve the skills of their staff (including facilitation and business skills), in order to help the "slow to change" farmers improve efficiency and increase output.

B. Learning, Skills and Training Vehicle through Whole Farm Planning

To further develop and refine the whole farm planning training approach as developed through the current pilot project and to deliver this across a greater number of farms in the Dales and Moors linked to strategic priorities identified by the Protected Landscapes and the LEP. A crucial element of this would be the recognition that the farming sector has specific needs that make a traditional training and skills approach challenging and that funding for capacity building support, facilitation and further research would be crucial to allow this to happen beyond basic funding levels. As this has been a pilot we have acknowledged that our sample is not diverse enough so there is a rationale for expanding the project to further gather information from previously untargeted farms regarding their current skills/knowledge needs, in addition to delivering the training aspect of the project. The Local Response Fund approach provided via the LEP has been invaluable to address the needs of this sector. This element would include:

- To develop and refine the accreditation of appropriate learning outcomes and accredited courses (with the most relevant body) that respond to the needs of the farming sector and that can be delivered in the most appropriate way for the audience.
- Investment in undertaking more Whole Farm Plans, and the associated learning process, across the protected landscapes, including expanding and refining the process based on the findings of this pilot phase.
- Expanding the 'offer' to arable/mixed farming systems by including agri-tech advisers alongside business and environmental advisers.
- To facilitate group learning approaches on an informal and formal basis as appropriate to develop skills across those areas identified in this project.

C. Whole Farm Support

It is critical that ongoing support is available for farmers to take forward the actions from their Whole Farm Plans otherwise expectations will have been falsely raised and this is relevant to the farmers that have engaged in the current project as well as any future new learners. The elements described in A. and B. will be able to provide the support to help identify, secure and manage particular opportunities, investments or grants but there needs to be a range of funding opportunities to support the delivery of the actions themselves. It is recognised that such funding support will likely come from a wide range of potential sources, indeed a key part of this approach would be to ensure the best funding stream is targeted. This element would include:

- Building flexibility into funding streams to optimise the opportunities available, including potentially linking capital grants to tailored training.
- Investment in implementing Whole Farm Plans, knowledge transfer activities and improving the environment.
- Seeking funding to improve investment in:
    - *Farm infrastructure and non-farm enterprises*; to improve efficiency, generate extra income and improve the environment.
    - *Improving the efficiency of production systems*; to encourage a lower reliance on purchased inputs e.g. funding for more measuring and testing, use of lime, etc. to stimulate changes in management practices.
    - *Opening attitudes towards change and improving existing/developing new skills (especially business skills)*; to deliver training through trusted intermediaries to ensure continuity and build the capacity of the community so it becomes more self-sustaining rather than being reliant on external people.
    - *Young people*; to encourage them into the industry.
    - *Share-farming initiatives*; to incentivise older farmers to set up agreements with young people.

D. Farmer Support Clusters

Whilst the overarching network described in element A above would provide a range of support mechanisms it is recommended that a more localised approach is required for taking forward the more personal, sensitive and localised issues pertaining to delivery of Whole Farm Plan actions and to the sharing of best practice and learning that goes along with this. This element would include:

- Support for farmer groups to invest in farm trials and link with external research organisations and academic institutions (e.g. Bio-Economy and innovation at York University and FERA at Sand Hutton).
- Deliver the cluster approach to an on-farm appraisals to promote business resilience and best practice
- Develop officer support for clusters of farms and link this to facilitation fund applications through the CSS for taking forward new and existing environmental outcomes (e.g. water quality, catchment sensitive farming approaches and landscape scale biodiversity improvements such as wading bird conservation).

Overarching Recommendations

As well as the specific recommendations for the framework in which the pilot project could be taken forward the project has highlighted a series of wider recommendations for consideration by the funder, the LEP and those working with the farming sector. These include:

- The approach set out above for taking forward the current pilot project could be linked to other projects that the LEP have supported, and may continue to support in the next funding round, so that a comprehensive approach for engaging the farming and food sectors is provided to deliver relevant LEP priorities. Notably this would include links with the Bishop Burton College project on agri-tech and precision farming, which has had a more lowland and medium and large farm focus as well as the bio-economy (Bio-Vale) project that the University of York has led looking and innovation and research in the sector. A further project that would benefit from the farmer networks and clusters provided would be the plant health project whereby they would be able to provide training so farmers going through the Whole Farm Planning process might act as the eyes and ears on the ground for early detection and prevention of plant health issues.
- The bureaucratic requirements for the current pilot project have been substantial and whilst this is to be expected where European funding is concerned it has made the process of working with farmers challenging at times and has been exasperated at times by seemingly moving requirements leading to inefficiency and repeat dialogue.
- The partnership approach to the current project involving the protected landscapes, Newton Rigg College, the Yorkshire Dales Farmer Network, the delivery support and the farmers themselves has been extremely positive and provides a sound platform on which to build should this project be taken forward further. It is however recommended that further engagement is required with a range of other partners to ensure that the project outcomes and learning can be used to best effect, this would include the National Farmers Union (NFU), Countryside Landowners and Business Association (CLA) amongst others.
- There is considerable scope for promoting and celebrating the work done in this pilot regionally and nationally as an example of best practice.
- That the recommendations for taking this project forward be taken forward as part of the development of the wider Dales and Moors Local Growth Plan and that discussions are progressed with the York, North Yorkshire and East Riding LEP on future funding options once further detail can be added to the requirements of the framework provided in this report.

7. Conclusion

The Dales and Moors Farm Innovation Project has over a short period showed that the Whole Farm Planning approach can provide valued and useful support for the farming sector in areas of high landscape significance where High Nature Value farming dominates to provide a range of invaluable goods and services to society.

The report on this pilot stage includes a number of clear and workable recommendations for taking forward this approach within a wider framework. This framework has the ability to integrate with other projects in the York, North Yorkshire and East Riding LEP area to deliver the full aspirations of the LEP's SEP with respect to food and farming. The key elements of this (Farmer driven networks at a landscape scale, skills and training support through whole farm planning, ongoing farm business support and localised clusters of farmers on a pier to pier level) mesh perfectly with the LEP's wider philosophy to business support through the 'How's Business' programme as well as being fundamental to the aspirations of many of the SEP priorities and the annexed Dales and Moors Local Growth Plan.

Thanks must go to the LEP and the funding bodies for supporting the pilot and allowing the partnership to demonstrate what we hoped all along, that by working with farmers we can integrate business support, resilience and productivity with environmental sustainability underpinned by the area's wonderful landscapes.

8. Glossary

ADAS	Agricultural Development & Advisory Service
AHDB	Beef and Lamb is part of the Agriculture and Horticulture Development Board
AONB	Area of Outstanding Natural Beauty
ATV	All-Terrain Vehicle (commonly known as quad bikes)
ELS	Entry Level Scheme, part of Defra's Environmental Stewardship Scheme
HLS	Higher Level Scheme, part of Defra's Environmental Stewardship Scheme
LFA	In the European Union, less-favoured area (LFA) is a term used to describe an area with natural handicaps (lack of water, climate, short crop season and tendencies of depopulation), or that is mountainous or hilly, as defined by its altitude and slope
RDPE	Rural Development Programme for England
UELS	Upland Entry Level Scheme, part of Defra's Environmental Stewardship Scheme