



FF0204 – Integrated Advice Pilot

Final Report

Issued by ADAS UK Ltd,

Submitted to:
Olawale Ladapo
Climate Change Mitigation for Agriculture and the Food
Chain
Food & Farming Group, Defra

Authors
ADAS, INNOGEN, RAND & AHDB
Report compiled by Sarah Wynn

EXECUTIVE SUMMARY

Defra is committed to the provision of a robust system of advice delivery that is capable of meeting the needs of the wider society in terms of improved environmental performance and food security, whilst also allowing farmers to maintain profitability and competitiveness. There are a wide range of policy areas that impact upon the farming industry some of these target improved health and welfare of the livestock, some target specific environmental pollutants (e.g. nitrate, phosphate, ammonia), others tackle wider issues such as greenhouse gas emissions. All of these Defra policy areas have important deliverables and targets to meet that have wider benefits to society in terms of improved drinking water quality, improved air quality (and associated impacts on improving human health), reducing greenhouse gas emissions, increasing biodiversity and protecting the natural environment and of course maintaining a profitable and resilient farming community that can meet the food and fuel requirements of a growing population. These policy areas and targets are not all in synergy with one another and in many cases there are conflicts, or perceived conflicts, between these policy targets.

In order to try and meet the needs of multiple policy areas at the farm level the Integrated Advice Pilot Study was commissioned.

Aim: To develop a novel farmer-focused approach to delivery of flexible, integrated advice that balances farm business objectives with Defra policy objectives and integrates measures to achieve multiple wins.

This aim was met through the delivery of five specific objectives;

Objective 1 - Sector specific integrated advice: to build on previous research and decision support tools to define sector specific integrated advisory packages that balance Defra policies with economic and environmental factors to deliver improved overall benefits to farm businesses and to society more generally.

Objective 2 - Flexible advisory protocols: to involve farmers and advisers in assessing and refining the Integrated Advice Packages developed in WP1, and in trialling the design and delivery of advisory protocols to ensure flexible combinations of Integrated Advice Packages that deliver locally optimised balanced outcomes with improved level of uptake by farmers through taking account of farmer behavioural types.

Objective 3 - Design, develop and deliver flexible training courses for advisers: to train advisers in the approach to integration and its delivery to target farms using the protocols developed in WP2 in the three selected study zones.

Objective 4 - Monitoring and evaluation: to monitor and evaluate the proposed processes and outcomes to ensure improved environmental performance, including reduced emissions.

Objective 5 - Legacy: to sustain and broaden the value of the Pilot study and provide for a 'legacy' of more integrated policy advice that contributes towards Defra's strategic priorities, beyond the life of the pilot.

This pilot study focused on just nine Defra policy areas; farming competitiveness, resilience and performance; air quality; biodiversity; climate change adaptation; climate change mitigation; environmental stewardship; nutrient management; soil quality and water quality. Animal health and welfare was specifically left out as it was deemed to be

such a large and contentious area that it would increase the challenges of this project significantly to include it. However, given that farming competitiveness, performance and resilience and climate change all require herds and flocks to be healthy there is a need to ensure that flock and herd health is optimised in order to provide the greatest benefits to these policy areas.

What is Integrated Advice?

The first challenge that faced the project team was 'what is integrated advice?' And at what level should integration occur? There are a number of possible levels at which advice can be integrated, these are;

At the policy level – in order to be able to give completely clear guidance to farmers there is a potentially large benefit from getting clearer guidance from policy makers themselves. It was considered at the start of the project that policy makers tended to work on their specific aspect of policy, with each policy group considering that their policy area has the highest level of priority. However, if 9 different policy groups each say to a farmer that their policy is the number 1 priority on farm then how is a farmer supposed to decide what to do first. *Challenge – was there anything that could be done at policy making level that could help to reduce confusion at the farm level and to identify how to target policy requirements so that each is met, but possibly not by every farmer at the same time?*

At the advice giving level – there are a wide range of advisers, both private sector and Government funded, that are currently going out onto farm to give advice. Most advisers are specialist in technical, business or environmental aspects, with some able to advise across all areas. In order to integrate advice at this level what are we trying to achieve? Do we want a single adviser who is skilled in all aspects of policy advice delivery - probably a very rare individual given the vast range of information that they would need to know? Do we want a broad and shallow advisory landscape where the advisers know a little bit about everything, but are not specialist in any particular area? Or do we want specialist advisers who have an in depth knowledge of a certain aspect, but understand how this information fits into the broader advisory landscape. *Challenge - Is there a way to integrate the advice that these advisers are giving to ensure that the farmer is being given a clear steer towards what is best for them to do on their farm?*

At the measure / method level – during the process of collecting together methods for use in this project over 500 actions were identified that farmers are being asked to undertake for one reason or another. *Challenge – is it possible to reduce this list of actions down or combine actions to make the messages sent to farmers clearer and easier to prioritise?*

There are a number of other levels of integration that have appeared through the stakeholder consultation stages of this project. These indicate that there is considerable interest in the way that the advisory infrastructure is organised and distributed. However, it is the three areas above that have been targeted in the development of an integrated approach in this project.

Our Approach

In order for integration of advice to bring the desired results it needs to be understood by the individual farm business or holding. For this reason the integrated advice pilot study has worked with farmers and advisers as well as other stakeholders to develop an integrated advice approach. There are three physical outcomes that have been developed as part of this project;

- Integrated Advice Packages – developed with farmers and advisers to enable the prioritisation of on-farm actions that balance economic and environmental factors to deliver improved overall benefits to farm businesses
- Farmscoper – a detailed decision support tool that is able to show the environmental and cost implications of selecting certain measures for implementation on a farm, targeted at farm advisers.
- Integrated advice training course – targeted at advisers to enable them to gain a greater understanding of the wider policy goals that are driving a range of advice streams. This training also helps advisers understand how to motivate farmers to make changes that will help to meet these goals, and maintain profitability. In addition there are modules that introduce the Integrated Advice Packages and Farmscoper.

In addition to the physical outputs of this project success will only be assured if the industry as a whole sees the need and benefits of adopting a new approach. For this reason a legacy element that involves industry and government stakeholders working together is integral to its success. This legacy group is tasked with understanding and creating an environment within which integrated advice can be delivered in the future. They are working towards the start of integration at the policy level and the adviser level.

At all steps in the development of the integrated advisory approach our consultation with stakeholders has informed the development of the tools and the approach to ensure that the approach is supported by the industry and farmers.

There are already some organisations that already deliver advice across a wide range of subjects, in a potentially integrated way. However, the major difference with this pilot study is that is aimed to raise the awareness of the importance of integration across the whole of the advisory landscape, rather than one or two organisations providing integrated advice whilst others remain focused on a single outcome (e.g. improved water quality). Stakeholder engagement through out the project aimed to raise awareness of the importance of an integrated advisory approach and start organisations discussing the idea of integrating advice.

Development of Integrated Advice Packages

In this pilot study Integrated Advice Packages have been developed, in consultation with farmers (and their advisers), for three key farming types (sectors) – dairy, beef and sheep, and arable. The development of the advisory packages has involved four main elements including:

- an initial integration process to develop sector-specific matrix of measures
- the inclusion of local targeting and environmental priorities relevant to the three pilot catchments
- the development of packages which include measures that impact positively on key Defra policy areas for the delivery of desired outcomes
- reviewing the draft packages based on feedback from farmers, advisers and other stakeholders

Farmers (and their advisers) have played a central role in shaping the development of the Integrated Advice Packages, as part of an interactive process. Therefore, the approach taken to develop the advisory packages has evolved throughout the duration of the project based on farmer feedback received at a series of focus groups/workshops, in addition to feedback received from an extended network of advisers and stakeholders. By involving farmers, as the end users, in the development of the packages, it was hoped to encourage

buy-in to the rationale of integrated advice and promote longer term uptake of the measures included in the Integrated Advice Packages.

There are a vast number of measures that farmers could be asked to deliver on farm to meet a wide range of business or environmental objectives. As part of the integration process, more than 500 measures have been consolidated into 26 key measures which deliver for Defra policy areas and the environment. The menu of measures meets legislative, scheme and voluntary best practice requirements. They also meet local environmental priorities in the Yorkshire East Riding, Somerset Levels and Bridgwater Bay and Teme catchments, whilst tackling sector and farm-specific issues.

Each advisory package consists of 26 sector-catchment specific measures which are a suite of synergistic measures that deliver multiple benefits, to suit individual holdings. The detail for each measure captures the range of information which farmers and advisers at the workshops suggested would be most useful to them. This includes requirement (legal/part of a scheme/voluntary), implementation, business areas, desired outcomes, short description, business impacts, environmental benefits, practical issues, place in existing schemes and further sources of information and advice. By pulling together all of this information these packages enable advisers to prioritise on-farm actions that balance economic and environmental factors to deliver improved overall benefits to farm businesses.

The Integrated Advice Packages build on advisers' varying levels of awareness of the multitude of environmental issues that impact on farm competitiveness, performance and resilience and knowledge of practical solutions to those issues. These packages will also enable farmers to make effective use of integrated advice and ultimately help to build a financially healthy and environmentally sustainable farming industry.

Farmscoper

Farmscoper is a decision support tool designed to estimate diffuse pollution occurring on a farm and estimate the cost and effect of one or more mitigation methods. The original version of Farmscoper was enhanced within this project so that it now has: a more user friendly interface; greater help available; more flexibility for farm customisation; an increased library of mitigation methods and calculates potential consequences of mitigation on several sustainability indicators including biodiversity. The tool was trialled with farm advisers during the project, and was included within the training course developed. It is now freely available to download, currently from the ADAS website.

The Farmscoper decision support tool provides a greater level of choice of measures and integration for those farms that have already achieved a high level of best practice, or for those advisers who are well versed in the basic environmental benefits of the measures that are included in the integrated advice. Farmscoper can be used to identify where and what the main pollutant losses are from a particular type of farm. The tool is able to identify measures that will target the pollutants of interest, and is also able to show the impact of the selected measures on other pollutants, biodiversity, water use and energy use. Combining the impact of measures designed to target a specific pollutant, with their wider environmental benefits enables the adviser to better understand the overall impact of a proposed approach on the environment.

Integrated advice training course

An integrated advice training course for advisers was developed and piloted during the study period. The objectives of the course were to enable advisers from a wide range of

backgrounds to deliver integrated advice more effectively using the tools developed during the pilot study in combination with an understanding of farmer motivation. The 2 day pilot course was held at the end of November 2011 and was attended by 13 advisers. The advisers represented both Government and private sector advice sectors, and had experience in delivering technical, business or environmental advice to farmers on a 1:1 basis. The training was largely participative with a mix of presentations, exercises and plenary sessions. The course covered the background to the project, our approach to delivering integrated advice, sessions on developing advisory approach and farmer motivation, presentation and use of Integrated Advice Packages and Farmscoper. The course content including training materials (presentations, exercises and activities) was adapted following the pilot training course feedback and is available as part of the output of this project.

The concept, methodology and the tools were largely welcomed and the majority felt able to deliver integrated advice to their clients using the tools, however there were some key issues raised regarding the shape of Integrated Advice in the future. The main issues were whether integrated advice was something that was to be broad and shallow – increasing the awareness and knowledge of many advisers – or more in-depth and specialist; how it would be funded; drivers for farmers and advisers to take up integrated advice. These questions were highlighted for the Legacy Implementation Group.

Monitoring and Evaluation

Monitoring and evaluation plan consisted of formative and summative tasks. The formative tasks aimed at drawing out lessons for the consortium and Defra as the project unfolded. The summative tasks aimed to understand what the preliminary and likely impacts of integrated advice on farmers and advisers would be.

Overall, the integrated advice pilot project achieved the intended objectives. Much was learned about the approach, the context, the response of farmers and advisers to the approach, the challenges involved and the future needs of such an approach. The Integrated Advice Packages that have been developed provide an excellent blueprint for a wider adoption and roll-out of the scheme, should this be the policy direction that is adopted. The potential for the approach to increase profitability and economic viability of farm businesses, while simultaneously increasing the focus on government policy priorities makes this a valuable starting point for future work in this area.

Main findings were:

- The consortium delivered decision-support tools of good quality that were informed by farmers and farm advisers.
- The consortium held a successful training event for advisers that saw good engagement from farm advisers and received positive feedback.
- The consortium successfully engaged with a wide range of stakeholders to test the feasibility of the pilot, promote the acceptability of the pilot to the sector and potentially leave a legacy for the pilot.
- Those who participated in the pilot in some depth saw the potential benefits of the work.
- There is wide agreement among farmers and farms advisers that integration of advice would have benefits to the sector.

The Monitoring and evaluation plan also highlighted some challenges to the pilot going forward:

- A challenge for the pilot is to create awareness of the Integrated Advice Packages, make them more visible and available, and create a demand for integrated advice by engaging with farmers and farm advisers.
- The uptake of the integrated advice depends on how well it aligns with the established process of giving advice
- The uptake also depends on alignment with the motivations of farmers and farm advisers.
- The legacy of the project depends not just on whether stakeholders can be mobilised to support the project through specific actions but also on whether Defra sets out a clear policy direction for advice giving in the sector and will give support to the pilot (e.g. funding or other resources).

Legacy

The contract specification set out the requirement for a 'legacy' component, which would live on beyond the end of the Pilot. As the study has progressed, interim findings and ongoing feedback from a range of stakeholders has helped frame the problem and critically assess key components in the delivery of advice to farmers and landowners. The main forum for this discussion has been the Legacy Implementation Group (LIG).

The core function of the LIG was to help shape and deliver legacy aspects of the pilot study. Membership was drawn up by the consortium, in consultation with Defra. The Group was Chaired by John Lee, a beef and arable farmer from Devon. A list of membership organisations is given at Appendix 5. The remit of the Group was to:-

- Develop a legacy implementation strategy
- Consider a range of potential approaches to advice provision, and critique options presented
- Identify & provide advice on how to manage relevant risks, issues, & potential barriers
- Where appropriate, identify possible legacy roles, for their or other organisations
- Identify potential synergies & opportunities
- Recommend how progress can be measured & evaluated beyond the life of the Pilot
- Horizon scan future needs and priorities

Three meetings of the LIG were planned originally for the second half of the study, but as the work progressed, the group agreed to meet for a fourth time, in March 2012.

At the second LIG meeting, members had agreed to assist in scoping and developing further thinking on key aspects of integrating advice, and to bring these back to the table for wider discussion. This approach was endorsed at a Defra Project Board meeting in November 2011 and four topics, put forward by the consortium, were agreed as focal points for further deliberation by the LIG. Each topic was assigned to a LIG member, who agreed to act as a figurehead to pull together wider views within their sector, and feedback to the Group at the January meeting.

Q1. Can, or will, Defra and the delivery Agencies provide better signalling to balance objectives?

Defra presented a discussion document to the group setting out relevant policy developments, relating to commitments made under the Natural Environment White Paper, as well as ongoing reviews of advice and incentives, better regulation and greening of the

CAP. The paper also set out potential options on how national policy could be better targeted and implemented at local level, for example through local networks and industry structures. Although still work in progress, this paper was very helpful in setting out the evolving policy context.

Q2. How do Defra/Agency funded initiatives affect the market place and what is the necessary structure/funding of the delivery 'jigsaw'?

Natural England and Environment Agency presented an overview on the importance of incorporating environment sustainability objectives into land management policy. The paper did not fully scope approaches to local priority setting, on-the-ground delivery by the Agencies, or potential the interface/integration with industry led activities. However, work was going on behind the scenes, which it was hoped could be shared with the LIG on 6 March.

Q3. How to encourage advisers and consultants to think and act in a more integrated fashion?

BIAC led the response and reinforced the need to create better networking opportunities between advisers and for greater harmonisation in systems between Government and the commercial sector. Access to a one-stop-shop of information on schemes, regulation and initiatives relevant to industry was required. It was felt that the professional status of advisers, including existing mechanisms for CPD, needs greater recognition. There was a need to streamline activities and avoid duplication of effort including, wherever possible, the imposition of unnecessary induction courses as a prerequisite for delivery of Government advice. The advice given has got to be relevant to the farmer recipient, delivered by a competent adviser, and must have a value which should be remunerated. The challenge of transforming environmental advice, previously expected by farmers to be obtained, in most circumstances, free *gratis*, was also flagged.

Q4. What additional support, structures, training or tools are required for advisers and consultants to:- i) be aware/signpost & ii) deliver integrated advice?

AIC led the response and underlined that acceptance by industry was totally dependent on being able to demonstrate benefits to the farmer and adviser. This highlighted the need to fully understand, even formally segment, the advisory sector and the different roles and requirements. There was scope for further interaction between government and industry bodies, looking for gaps and opportunities to improve integrated advice delivery and provide greater consistency in the messages given. Training needed to build on, rather than duplicate existing structures (FACTS, BASIS registers etc). One deficit identified in the commercial sector, was technical expertise on feed management of livestock. It was also suggested that government advice needed to be checked for consistency and coherence of messaging. Locally relevant information, and data flow, was necessary to motivate and empower advisers and their clients. Improved networking, better provision of robust information, local examples of best practice, and cooperation between Government and industry in delivery of knowledge transfer events were seen as important.

NFU highlighted the degree of overlap between various industry initiatives (CFE, VI, CSF etc.), set against the current and emerging policy environment for agriculture. These initiatives had created infrastructure and delivery capacity. Valuable experience had been gained, which could now be expanded into a more ambitious project which pulled together a number of diverse, but related initiatives, with local or regional delivery capability, and which potentially could incorporate approaches for better integration developed within the Pilot.

Next Steps

Although beyond the official end-date for the project, the Legacy Implementation Group meet again on 6 March 2012. The purpose was to receive further feedback on policy developments, and delivery of policy advice by Defra and its agencies. The group was invited to consider a number of options in taking forward legacy outputs from the Pilot. Subject to agreement by the consortium these included:

- Continuing oversight of the refinement and further development of tools and approaches, as the policy agenda evolves.
- Consideration of a proposal to extend existing industry-led initiatives to cover broader geographical, sectoral and delivery capabilities, incorporating outputs from the integrated advice pilot into the proposed model.

The meeting was joined by the lead contractor delivering the new Farm Advice Service, and a representative from the LANDEX colleges, previously part of the expert group for the Pilot. A summary of the meeting is in section 6.1.1.

Conclusions

The integrated advice pilot study has worked with a wide range of stakeholders at the farmer level, through to advisers, industry and Government, to develop an integrated advice approach. This approach is summarised in the integrated advice training course that has been developed as part of the project, bringing together the tools for integrating advice (both the Integrated Advice Packages and the Farmscoper decision support tool) with an understanding of the Defra policy areas and the individual farmer behaviours that drive decision making.

Throughout the development of the project there has been support from industry for the concept of integrating advice, although this is matched with a level of challenge over who will pay for integrated advice in the future. These issues and concerns continue to be discussed and hopefully resolved through the ongoing work of the Legacy Implementation Group.

During various discussions, such as those held at the adviser training course, a number of advisers talked about whether they would go out to deliver integrated advice. The aim of this project and its legacy, was to provide advisers with an understanding that they need to integrate the advice they are already delivering, as opposed to delivering integrated advice as a new product to meet government objectives. Integrated advice is not a 'new' piece of advice; it is a different method for delivering existing advice that understands the balances required and multiple benefits which can be achieved through the selection of appropriate on-farm measures. In that respect there is not a direct need for advisers to go out specifically to deliver integrated advice. However, there is a need for advice to be more balanced and account for a wider range of specific subjects, including and understanding the consequences of one action on other environmental outcomes. At its simplest this is signposting, through awareness and could ultimately be detailed 'integrated' advice. The signposting and awareness are generally desirable in the whole population of advisers although relatively few may offer fully advice on integration. The tools developed in this project should be seen as an aid to this integration, or balancing, and understanding the process. The Integrated Advice Packages can help advisers and farmers make the initial steps to delivering multiple mitigation methods on farm for least cost and multiple benefits. Farmscoper allows for a more complex selection of measures with greater understanding of the wider impacts of the implementation of those measures. Each tool will be relevant a range of different types of advisers and can be used in a variety of ways to meet the

individual needs. The training course aims to educate advisers in the importance of integrating the advice that they deliver, putting it into context with the Defra policy areas. It also explains an approach to integrating advice and the tools that have been developed to aid this integration process.

It is recognised by the Integrated Advice Pilot Study that there are already organisations that are delivering a wide range of advice that meets many of the Defra policy objectives covered in this pilot. The major difference with the Integrated Advisory approach delivered in this pilot study is that it is aimed at raising awareness of the importance of integrating advice across the whole adviser network, rather than being developed by one organisation for one organisation. The Integrated Advice Pilot Study has brought together stakeholders from a wide range of agricultural advice delivery sources and started the initial thought processes with in these organisations in relation to the delivery to integrated advice. These organisations may not take up the 'whole' of the integrated advice project, tools and all, but they may start to think about how the specific advice that they deliver fits into the wider advisory landscape and the implications of one piece of advice on other environmental outcomes.

Collectively, the Legacy Implementation Group has provided a forum to discuss and to visualise how better ways of working might be achieved. A key ingredient is that it has brought together representation at each stage of the advisory chain. In debating the issues, the group has developed a better understanding of the possibilities, constraints and opportunities involved. Given that further thinking and development is required, before the provision of fully integrated advice is realised, the group could continue to make a valuable contribution. Indeed the group has tentatively signalled its willingness to remain engaged as a sounding board for ongoing discussion on Defra's policy options, in relation to recommendations and commitments following on from the Natural Environment White Paper.

A key issue that remains to be resolved is the way in which government delivered and procured advice is integrated. The response to legacy question 2 was addressed by the Environment Agency and Natural England during the final legacy meeting after the end of this project. This will both send significant signals to advisers and farmers but also impacts on the efficiency of delivery. The Pilot project notes the internal discussions on this, however it also needs to be stressed that correctly resolved this could signal and unlock more integrated behaviours in the whole advisory network.

Individual members of the Legacy Implementation Group are potential routes to market for results and products arising from the Pilot. Outcomes from the project are likely to be incorporated into existing plans and activities by AHDB, EA and Natural England. Although understandably cautious at this stage, organisations with professional status and existing CPD schemes, such as RICS and CAAV, are considering how outputs from the Pilot could be subsumed into future plans. NFU has put forward an explicit proposal to develop further industry-led initiatives to build on the experience and successes of the Voluntary Initiative on Pesticides, Campaign for the Farmed Environment etc.

In terms of specific tools, the three Integrated Advice Packages produced during the Pilot provide a high level framework for prioritising and balancing options on farm. Farmscoper is a mechanism to drill down into the specific options identified and provide more quantitative information. Arguably the greatest value in developing these tools may be to convey the concepts involved in identifying options, balancing priorities, and weighing up trade-offs, rather than the specific content. These are 'living' tools, which will require ongoing refinement and technical upgrading. The three sample packages provided by the Pilot will need to expand to cover other sectors and farming systems.

There is considerable value in allowing a range of end-users and service providers to take these packages and customise them to suit their particular clientele and business models. There is also the need to ensure this adaptation can maintain the quality and consistency of messages being delivered. The pilot IHub being funded by AHDB, NFU and AIC could provide a mechanism to host and curate technical content and quality.

Training course material has been developed and pilot tested during the study. Course materials are included with this report. In addition to these tangible outputs, the course brought about the interaction of a range of advisers with a range of skills, experience and prior subject knowledge. A significant observation in feedback was the benefit of this interaction, which increased understanding not only of technical elements but also what was involved in optimising the delivery of integrated advice. The Legacy Implementation Group identified the need for better networking and connectivity between commercial advisers and between the commercial sector and Government delivery agencies, to provide the breadth and depth of advice needed.

Implications for further development

There are a number of recommendations that have arisen as a result of this project these are summarised in the section below. Some may be developed further through the final legacy implementation group meeting March 2012.

- **Developing market pull** - It is all very well developing integrated advice but there needs to be a market pull for this advice if advisers are to continue delivering it and maintain the profitability of their business. If there is no demand for 'environmental' or 'integrated advice' how are commercial advisers, in particular, supposed to fund the delivery of this type of advice.
- **Future support and funding for the delivery of Integrated Advice needs to be clarified and communicated to all stakeholders and those who engaged with the pilot.** This will ensure that the momentum that has been built up can be capitalised upon and maximum benefit made of the work done so far. The Legacy Implementation Group has given this area some consideration and is well placed to support work in this area.
- **Stakeholders who have committed to supporting this scheme need to be included in the next phase of this pilot, if it is to be rolled out.** This will allow for effective knowledge transfer in the area of advice delivery.
- **Defra's future plans in relation to the pilot scheme and how these plans integrate and overlap with other initiatives already underway should be communicated to all those who have engaged with the scheme or may be interested in the scheme.** This will ensure that appropriate planning and organisation can be put in place to reduce duplication of efforts across related schemes and future mechanisms.
- **As a blueprint for a wider roll-out of the integrated advice pilot, a plan for the necessary customisation of the Integrated Advice Packages needs to be made.** Considerable logistics need to be factored into this planning to ensure that the packages are relevant and useful for wider application. This includes the development of advisory packages for different sectors.
- **If the integrated advice packages are rolled out in the future** to extend to additional catchments, then the methodology that was used to identify local priorities to inform the targeting of measures in the pilot catchments should be applied. In some cases it was difficult to distil the information provided at the catchment-level into agreed local priorities due to conflicts in priorities and advice messages being delivered by the Government Agencies.

- **The Integrated Advice Packages need to be maintained.** In order for the links and information in the integrated advice packages to remain current and relevant it will be important that the documents are kept as live documents. Control of the packages will need to be taken on by appropriate organisations with the responsibility for maintaining their relevance. The packages will require updating to reflect any changes to legislation, Cross Compliance, ES, CSF and any other schemes. Where signposting to key guidance documents occurs there is a need to ensure that the latest editions are included. Emerging evidence and additional practical guidance could also be added to the packages over time, in addition to identifying additional measures that may be relevant.
- **The role of the Integrated Advice Training Course needs to be decided.** It needs to be decided whether or not there is demand in the industry for advisers to train to become Integrated Advice advisers or whether the training course is actually to raise the awareness of integrating advice in the current advice landscape. The role of the course will determine how it needs to fit into the training landscape.
- **The way government procures and delivers advice needs to become more integrated.** This will send significant signals to advisers and farmers and also impact on the efficiency of delivery. The Pilot project notes the internal discussions on this, however it also needs to be stressed that correctly resolved this could signal and unlock more integrated behaviours in the whole advisory network.
- **The Legacy Implementation Group should be encouraged to continue,** perhaps with the carrot of reducing some of the other stakeholder activities in this area, by pulling these also under the umbrella of the Legacy Implementation Group, where appropriate. Given the complexity of the subject matter, and of the delivery landscape it is important that incremental progress is maintained. With pressure on physical and financial resources a broad 'confederation' of like minded bodies, is more likely to be successful. Defra has both a leadership and enabling role to play, for example in using ongoing reviews of advice and incentives, better regulation, CAP reform, Green Food Project, to feed in to deliberations, and fuel the drive towards further progress.

ACKNOWLEDGEMENTS

The Integrated Advice Pilot Study was commissioned and funded by Defra.

Contributors to this report include; Richard Gooday, Susan Twining and Sarah Wynn (ADAS), Corrina Gibbs, David Castle and Joyce Tait (Innogen), Emily Scraggs and Christian van Stolk (RAND) and Ray Keatinge (AHDB).

Other consortium members that have participated in this project include;

From ADAS

James Clarke (Project Director)
Kate Phillips (beef & sheep sector expert),
Elwyn Rees (dairy sector expert)
Susan Twining (arable sector expert)
Helen Balshaw, Karen Wheeler, Sally Walker (catchment co-ordinators)
Richard Reynolds & Mary Whiting (Stakeholder consultation with training providers)

From AHDB

Liz Genever, EBLEX (beef and sheep sector expert)
Chris Coxon, DairyCo (dairy sector expert)
Chris Lloyd, EBLEX
Claire Sterling, HGCA (arable sector expert)
Helen Wetton DairyCo (Legacy support)

From Innogen

Anne Bruce

From RAND Europe

Ohid Yaqub
Lidia Villalba
Janice Pedersen

In addition through out the whole of this pilot study we have had engagement from a wide range of stakeholders including farmers, advisers and other industry representatives. These people have given up their time to help in the delivery of this pilot study. Their participation and feedback into all of the various aspects of the projects has been invaluable and was gratefully received by the project team.

Brian Angell of Brian Angell Consulting assisted in the development and delivery of the training course, whilst Paul Singleton of BASIS provided input and guidance into the structure and integration of the training course into a wider training landscape.

John Lee, Independent Chairman of the Legacy Implementation Group.

DISCLAIMER

The findings, conclusions and opinions of this report are wholly those of ADAS, Innogen RAND Europe and AHDB and not those of the funding organisation

CONTENTS

Executive summary	2
What is Integrated Advice?	3
Our Approach	3
Development of Integrated Advice Packages	4
Farmscoper	5
Integrated advice training course	5
Monitoring and Evaluation	6
Legacy	7
Conclusions	9
Implications for further development	11
Acknowledgements	13
Disclaimer	13
Contents	14
1. Introduction	17
1.1 Objectives	19
1.2 Stakeholder Engagement	24
1.2.1 Initial stakeholder workshops	24
1.2.2 Farmer and adviser workshops	25
1.2.3 Adviser consultation on Farmscoper	25
1.2.4 Developing the training approach	25
1.2.5 Training course and the use of Integrated Advice	25
1.2.6 Monitoring and evaluation expert panel	26
1.2.7 Legacy Implementation Group	26
1.2.8 Second stakeholder workshop	27
2. Integrated Advice Packages	27
2.1 Method	27
2.1.1 Development of the Integrated Advice Packages	27
2.1.2 Initial integration and development process	29
2.1.3 Development for second round of WP2 workshops	30
Dairy/Beef and Sheep categories	31
Arable categories	31
Land and crop management – crop management, land management, soil management and pesticides	31
Land and crop management – crop choice, harvest management, soil management, irrigation and timing	31
Fertiliser and slurry management – manure, slurry and nutrient management	31
Fertiliser management - manure, slurry and nutrient management	31
Managing animals - animal health, nutrition and stock management	31
Pesticide management – pesticide choice and management	31
Managing non-productive areas – stewardship and other environmental scheme options	31
Managing non-productive areas – buffer strips and non-productive areas, trees and woodland areas, hedges, ditches and wetlands	31
Managing energy and water inputs – climate change mitigation and adaptation, and energy	31
Managing energy and water inputs – renewable energy sources, water and energy audits and plans	31
2.1.4 Reviewing the draft advisory packages	32
2.2 Results	34
2.2.1 Farmer and adviser workshops	34
2.2.2 Farmer and adviser WP2 workshops (first round) – feedback	35
2.2.3 Farmer and adviser WP2 workshops (second round) - feedback	35

2.2.4	Other issues	36
2.2.5	Monitoring and evaluation of farmer workshops – RAND	38
2.2.6	Final proposed advisory packages - structure, content and navigation	41
2.3	How will the advisory packages be used and by whom?	46
2.3.1	Using the packages to deliver integrated advice	46
2.3.2	Feedback from stakeholders on Integrated Advice Packages	46
3.	Farmscoper	48
3.1	Development of Farmscoper	48
3.1.1	Adviser Workshop	48
3.1.2	Development common to all Farmscoper workbooks	49
3.1.3	Development of Farmscoper Create	50
3.1.4	Development of Farmscoper Evaluate	50
3.1.5	Development of Farmscoper Prioritise	51
3.2	How Farmscoper works	52
3.3	How will Farmscoper be used and by whom?	54
3.3.1	Feedback from adviser training on Farmscoper	55
4.	Design, develop and deliver flexible training courses for advisers	55
4.1	Developing and designing the training course	55
4.1.1	Stakeholder Consultation	55
4.1.2	Understanding how integrated advice might fit with BASIS	58
4.1.3	Training course objectives	61
4.1.4	Structure of course	61
4.1.5	Development of training material	61
4.1.6	Accreditation	62
4.2	The pilot training course	62
4.2.1	Course objectives	62
4.2.2	Course structure	63
4.2.3	Participants	63
4.2.4	Facilitation	65
4.2.5	Training methods	65
4.2.6	Training materials	65
4.2.7	Accreditation	66
4.3	Feedback from the training course	66
4.3.1	Feedback from advisers attending the training	66
4.3.2	Monitoring and evaluation of training course (RAND)	68
4.4	How will the training course look in the future?	71
4.4.1	Lessons from the pilot training course	71
4.4.2	Considerations for rolling out the training course	72
4.4.3	Links with legacy	74
5.	Monitoring and evaluation	76
5.1	Expert Panel	76
5.1.1	Specific themes arising	76
5.1.2	Overall conclusions	78
5.2	Farmer survey	78
5.2.1	Characteristics of farmers	79
5.2.2	Farmers experience of advice	80
5.2.3	Sector specific findings	80
5.2.4	Conclusions	83
5.3	Monitoring and evaluation of advisers post-training (RAND)	84
5.3.1	Introduction and context	84
5.3.2	Characteristics of farm advisers	84
5.3.3	Experience of giving advice	85
5.3.4	Perceptions of integrated advice	86
5.3.5	Perceptions of farm advisers who attended the training event	87
5.3.6	Conclusions	91

6.	Legacy.....	92
6.1	Legacy Implementation Group	92
6.1.1	LIG meetings.....	92
6.2	Stakeholder Group	98
6.2.1	Stakeholder meeting (20 September 2011)	99
6.3	Conclusions in relation to legacy	99
6.4	Recommendations for maximising legacy	101
6.5	Next steps	101
7.	Implications for further development.....	101
	Appendix 1	104
	Specific feedback from farmer and adviser workshops	104
	Farmer and adviser WP2 workshops (first round) - feedback	104
	Farmer and adviser WP2 workshops (second round) - feedback	111
	Appendix 2	115
	Feedback from advisers at training course	115
	Feedback on Integrated Advice Packages	115
	Feedback on Farmscoper	116
	Feedback on the training course itself	118
	Appendix 3	122
1.	Overall Evaluation	122
1.1	Methodologies.....	122
1.2	Overall evaluation	123
1.2.1	What is the quality of the integrated advice?	123
1.2.2	Will advice lead to better communication of Defra policies?	124
1.2.3	Are farmers likely to improve farm management on the basis of the advice given?	125
1.2.4	Ensuring a legacy.....	125
1.3	Some key themes	126
1.3.1	The impact of advice	126
1.3.2	The demand for integrated advice	126
1.3.3	The quality and consistency of advice	127
1.3.4	Aligning integrated advice with the motivations of farmers and farm advisers	127
1.3.5	Aligning integrated advice with the process of getting and giving advice	128
1.3.6	Sustaining integrated advice	128
1.4	Conclusions	128
1.5	Recommendations	129
	Appendix 4	130
	Agenda of expert panel meeting	130
	Appendix 5	132
	Stakeholder participants	132
	Appendix 6	134
	Stakeholder Workshop Feedback.....	134
	Appendix 7	137
	Integrated Advice Packages	137

1. INTRODUCTION

Defra is committed to the provision of a robust system of advice delivery that is capable of meeting the needs of the wider society in terms of improved environmental performance and food security, whilst also allowing farmers to maintain profitability and competitiveness. There are a wide range of policy areas that impact upon the farming industry some of these target improved health and welfare of the livestock, some target specific environmental pollutants (e.g. nitrate, phosphate, ammonia), others tackle wider issues such as greenhouse gas emissions. All of these Defra policy areas have important deliverables and targets to meet that have wider benefits to society in terms of improved drinking water quality, improved air quality (and associated impacts on improving human health), reducing greenhouse gas emissions, increasing biodiversity and protecting the natural environment and of course maintaining a profitable and resilient farming community that can meet the food and fuel requirements of a growing population. These policy areas and targets are not all in synergy with one another and in many cases there are conflicts, or perceived conflicts, between these policy targets.

The conflicts that occur between policy areas themselves, and between the policy requirements and the farmer's need to achieve a profitable business provide challenges in terms of the uptake of actions or mitigation measures by farmers which help reduce the impact of their operations on the wider community. In the past much of the government led advice has tended to focus on specific targets within one or a narrow selection of policy areas, e.g. the Catchment Sensitive Farming program focuses on improving water quality, ELS and Natural England advice tends to focus on biodiversity, and commercial advisers have a need to focus on the profitability of the farm business. This means that there is a fragmentation of some of the delivery landscape. Although there are some organisations such as LEAF that do start to bring together more than one of these policy areas into the whole farm thinking approach. This fragmentation of the advisory landscape led Defra to investigate whether there is a better way of delivering advice in a more integrated way.

The aim To develop a novel farmer-focused approach to delivery of flexible, integrated advice that balances farm business objectives with Defra policy objectives and integrates measures to achieve multiple wins. From the outset it was determined by Defra that this pilot study would cover 9 policy areas;

- Farming competitiveness, performance and resilience
- Climate change mitigation
- Climate change adaptation
- Water quality
- Soil quality
- Air quality
- Nutrient management
- Biodiversity
- Environmental stewardship

There were a number of specific areas that were excluded from the pilot study, including animal health and welfare as these were considered to add an extra level of complexity to the project that would reduce the chances of success. From the outset this pilot study aimed to work across three main sectors of the agriculture industry arable, beef and sheep and dairy, using three specific catchments to pilot the process.

In order to develop this new concept of integrated advice it was decided that there needed to be a high level of stakeholder engagement with the process. This stakeholder engagement has taken place on a number of different levels. Workshops were conducted with farmers and advisers to get their input into the development of the Integrated Advice Packages, so that the tool that was developed would ultimately be a tool that farmers could accept and advisers could benefit from using. There has also been wider stakeholder consultation through stakeholder meetings, the creation of a legacy implementation group, the approach to training and accreditation and regular communication with wider industry influencers.

This project had three physical deliverables;

- Integrated Advice Packages – developed in consultation with farmers and advisers
- Farmscoper decision support tool, refined and improved version of the tool developed previously for policy use.
- Integrated advice training course (to be accredited) for advisers

In addition there are the intangible deliveries associated with the development of an integrated advisory approach and the legacy aspects of encouraging uptake of this approach in the wider industry.

This report sets out how we developed our approach, the feedback from stakeholders and the final outputs. The actual physical deliverables for the project are provided as separate annexes. In addition the project team have set out a number of recommendations for taking this project forwards and improvements to be made if the pilot study is to be rolled out on a larger scale.

1.1 Objectives

Below is a summary of the objectives set out in the proposal. Below each objective are the actions taken to meet the requirements of the objective and the tasks set out under the objectives, in addition there is a summary of the stakeholder engagement that has taken place and any areas of work that have been delivered in addition to the initial specification. This table also provides 'signposts' to the relevant sections of the report.

How the objectives have been met		Report section	Stakeholder engagement	Report section
<u>Objective 1</u> <i>Sector specific integrated advice (WP1): to build on previous research and decision support tools to define sector specific integrated advisory packages that balance Defra policies with economic and environmental factors to deliver improved overall benefits to farm businesses and to society more generally</i>				
<u>Catchment characterisation</u> - Catchment co-ordinators identified advisory organisations working in the sector in each of the three catchments, baseline farm data extracted from Defra Statistics - Matrix set up of Defra policy objectives, on farm measures and BASIS training courses			- Initial contacts made with the CSFOs and other advisers/farmers in the region - Initial focus group held in each region with 1-2 farmers and an adviser to test the initial thoughts relating to integrated advice - Consultation held with BASIS, LANTRA & City and Guilds with regards the training landscape for advisers	4.1.1
<u>Development of Integrated Advice Packages*</u> - Advisory packages have been developed for three key farming types (sectors) – dairy, beef and sheep, and arable - Each Integrated Advice Package consists of 26 sector-catchment specific measures derived from a list of on-farm measures derived from regulatory, best practice and incentive schemes, the diffuse pollution user guide and other recent research projects or user manuals. - The packages comprise of validated measures designed to mitigate the environmental impact of agriculture, in the context of the Defra policy areas - The selected measures deliver benefits to the environment and farm		Section 2		4.1.2

How the objectives have been met	Report section	Stakeholder engagement	Report section
businesses - The packages include a front-end to assist with the identification of priority measures for individual farms. - The Integrated Advice Packages are accessible to all as they are available in a common written format for printing, but for ease of use layering, using hyperlinks, is a key feature when the tools are accessed electronically. <u>Development of Farmscoper</u> - Greater detail in farm descriptions included to allow customisation - Addition of economic data to farm descriptions - Biodiversity indicator added - Sustainability indicator (in the form of energy use & water use) added - Mitigation measures list extended - Increased functionality allowing maximum implementation and offsetting against agri-environment schemes added - Development of prioritisation tool to help analyse output from Farmscoper. Tool available from http://www.adas.co.uk/Home/Projects/FARMSCOPER/tabid/345/Default.aspx - User guide updated to include changes	Section 3 3.1.3 3.1.4 3.1.5	- Meeting held with advisers to discuss how to improve the functionality of the tool and make it more user friendly. - Feedback from adviser training course	3.1.1 3.3.1

How the objectives have been met	Report section	Stakeholder engagement	Report section
<u>Objective 2</u> <i>Flexible advisory protocols (WP2): to involve farmers and advisers in assessing and refining the Integrated Advice Packages developed in WP1, and in trialling the design and delivery of advisory protocols to ensure flexible combinations of Integrated Advice Packages that deliver locally optimised balanced outcomes with improved level of uptake by farmers through taking account of farmer behavioural types</i>			
<u>Assessing, refining and 'trialling' the Integrated Advice Packages</u> - Workshops tested the level of agreement with the proposed advisory packages and identified potential synergies and conflicts. They were used as opportunities for farmers to 'trial' the packages and consider the practicality/appropriateness of individual measures in the context of specific farm types or farmer values and interests (behavioural types). The workshops were also used to provide a focus for buy-in to the rationale of the Integrated Advice Packages from end users and to promote long term uptake of them in farming systems by including measures which benefit farm business objectives - The feedback from the 'trialling' of the Integrated Advice Packages at the second round of workshops informed the final development of the advisory packages. - Integrated Advice Packages attached in	2.2.1 2.2.3 Appendix	- Four farmer and adviser workshops held in each of three catchments; two early in the project (June) and two later in the project (late September/October) - Feedback from stakeholder meeting - Feedback from legacy - Feedback from adviser training	2.2.1 2.3.2 2.3.2 2.3.2
<u>Objective 3</u> <i>Design, develop and deliver flexible training courses for advisers (WP3): to train advisers in the approach to integration and its delivery to target farms using the protocols developed in WP2 in the three selected study zones</i> <u>Development and delivery of adviser training course</u> - Training course delivered on 29-30 November to 13 advisers. - Consultation underway with BASIS regarding inclusion of this course in BASIS training courses - Training materials provided with final report	4.2 4.2.7	Stakeholder consultation held with BASIS, LANTRA, City and Guilds; Harper Adams University College with regards to fitting an	4.1.1

How the objectives have been met	Report section	Stakeholder engagement	Report section
		integrated advice training course into the current training landscape Feedback obtained from attendees for refinement and improvement of the course and materials	4.3.1
<u>Objective 4</u> <i>Monitoring and evaluation (WP4): to monitor and evaluate the proposed processes and outcomes to ensure improved environmental performance, including reduced emissions</i>			
<u>Process of monitoring and evaluation</u> - Attendance at sample of farmer workshops & providing feedback on them to consortium and Defra (June and October) - Farmer survey conducted of all farmers prior to participation in workshops (June and October) - Attendance at training course and providing feedback on the course to consortium and Defra (November) - Survey of all advisers who attended workshops or training (prior to training course) (completed early November) - Designed survey of advisers who attended training to follow up use of integrated advice (to be completed in February, 2012) - One to one meetings with consortium members held at start and end of project (April and January, 2012) - Participation in Legacy meetings (August, September, January, March [scheduled])			
	2.2.5 5.2 4.3.2 4.3.3 N/a Appendix 3 Appendix 3	Expert panel set up and discussions held (October)	5.1

How the objectives have been met	Report section	Stakeholder engagement	Report section
<u>Objective 5</u> <u>Legacy (WP5): to sustain and broaden the value of the Pilot study and provide for a ‘legacy’ of more integrated policy advice that contributes towards Defra’s strategic priorities, beyond the life of the pilot</u> <u>Creation of a Legacy Implementation Group</u>		- Three legacy meetings held during project, fourth meeting planned after the end of the project (August, September, January, March) - One stakeholder meeting held in the set up stages of the project (February) - One stakeholder meeting held in the middle of the project (September)	6.1.1 1.2.1 6.2.1

*In addition to the original proposal the following have been delivered:

- To meet the need for the delivery of environmental outcomes at the catchment scale, local targeting and environmental priorities relevant to the pilot catchments have been captured within the Integrated Advice Packages, as detailed in section 2.1.3
- Presentation of the advisory packages at a range of stakeholder meetings (including stakeholder workshops, Expert and Legacy meetings) where feedback was used to develop the packages further, in addition to the farmer consultation.

1.2 Stakeholder Engagement

Stakeholder engagement has taken place at a range of levels and for different purposes through out this project. This section summarises the stakeholder engagement that has taken place and where appropriate guides towards the section of the report in which the stakeholder engagement is reported in greater depth. All stakeholder organisations that have taken part in the various stages of this project are shown in Appendix 5.

1.2.1 Initial stakeholder workshops

This workshop took place on the 22nd February 2011 right at the inception of the project. All parties attending were invited by Defra to a meeting at the Horticultural Halls in London. The session was run by the consortium with the assistance of a professional facilitator. The aim of this session was to introduce the project to a wide stakeholder group and gain an understanding their thoughts and concerns relating to integrated advice, and gauge their interest in further involvement with the project.

The day consisted predominantly of workshop sessions designed to gain an understanding of the current advice landscape and how this project could interact with existing advice providers and provide additional benefits to both Defra and the farmers as end users of the advice. The day was structured to allow the delegates to provide feedback to the consortium on their views of how this project might work and to try and gain their buy in at this early stage of the project.

The first workshop session looked at what was good and bad about the current advice landscape. The overall opinion that appeared to come out of that session was that there is a large body of very good quality advice available, however the way that it is delivered and the actual messages that are given can be very fragmented and this can lead to confusion amongst farmers. There are often multiple advisers travelling down farm drives, all with slightly different agendas and potentially conflicting requirements to meet their goals.

The general feeling from the meeting was that there was a fair amount of support for the concept of integrated advice, but not all of the delegates were able to identify what the benefits of this project would be to them. It was agreed that the integrated advice pilot project needed to be clear that it was not about developing new advice, but aimed to integrate existing advice in such a way that it is more usable by farmers to achieve their objectives of farm profitability, whilst also meeting the wider Defra policy objectives. There were also concerns raised that the period of just one year was very short for developing a new advice strategy in such a complex area.

There were questions raised during the stakeholder workshop over how this integrated advice would be delivered in the future. How will it sit in the existing landscape of advice which is provided free of charge (through grant schemes) compared to that which is sold as part of a service, or that which is promoted by an organisation with a particular stance to promote? There were also concerns over the cost of CPD or accreditation as HEFCE funding of BASIS could be cut along with other budget cuts and therefore increase the cost of advisers gaining access to this information.

There was a strong view that there is a need to build farmer knowledge, without developing a dependency on advisers. Farmer engagement was considered to be needed early in this project to ensure that the development of the Integrated Advice Packages resulted in them being able to work on farm and provide sufficient benefits to farmers that they will be prepared to take up the advice.

The majority of delegates that were present at the initial stakeholder meeting indicated that they wanted to be kept informed of the project.

1.2.2 Farmer and adviser workshops

As part of the development of the Integrated Advice Packages a series of farmer and adviser workshops were held, four in each of three pilot catchment areas. These workshops allowed farmers and advisers from these individual catchments to contribute to the development of the Integrated Advice Packages. In total 57 farmers attended the workshops with 15 of these farmers attending at least 2 workshops. In total 32 advisers attended the workshops, plus 4 ADAS or AHDB advisers who also worked in the area but were part of the consortium. Of these advisers 16 attended more than one workshop.

Details of the farmer and adviser workshops are reported in section 2.2.1

1.2.3 Adviser consultation on Farmscoper

A small group of eight advisers were invited to comment on the original version of Farmscoper, developed as part of Defra Project WQ0106. The eight attendees came from a diversity of organisations, including Natural England, Farming and Wildlife Advisory Group (FWAG), Dairy Group, the Agriculture Industries Confederation (AIC) and ADAS. These advisers were able to provide information to the project team on how they would like to see Farmscoper modified in order to allow it to become more user friendly for advisers to use (see 3.1.1).

1.2.4 Developing the training approach

During the initial stages of developing the training approach stakeholder consultation was carried out with a range of training organisations including BASIS, Lantra, Harper Adams University College and City and Guilds. The summary of the feedback from these organisations is included in section 4.1.1.

1.2.5 Training course and the use of Integrated Advice

During the course of the project thirteen advisers participated in the pilot training course. These advisers covered a range of advice areas including specialist technical advice on dairy, beef and sheep and arable, veterinary advice, business advice and environmental advice. There was some overlap in knowledge areas but none covered the whole range, and even within a specialist area there were further specialisms such as fertilisers or livestock nutrition, or specific environmental aspects such as water protection, or environmental stewardship schemes. During the training course the advisers were introduced to the Integrated Advice Packages and the Farmscoper tool. At the end of the training course they were asked to fill in feedback forms for the course itself, the Integrated Advice Packages and Farmscoper. This feedback is captured in section 4.3. The overall feedback on the course concluded that it was well organised and met its objectives. The majority of the comments and scores were positive, where there were constructive comments that allowed for the improvement of the course or the tools these were taken on board during the process of finalising the course materials.

A couple of the advisers gave unsolicited feedback on their experiences of using the integrated advice approach and tools during the two months following the training. This feedback is summarised below;

The vet who attended the training course discussed the use of integrated advice with a number (unspecified) of his farmer clients. The general consensus from them was that they did not expect him to become fully conversant in the wider aspects of environmental advice to the point where he would replace a specialist adviser. One farmer stated that they did not want the vet to become a 'well meaning amateur [environmental] adviser',

however they did appreciate the vet having a greater awareness of the wider issues and having the ability to steer the farmer in the direction of people with appropriate expertise. What the farmers did not want to see was the vet trying to duplicate advice in areas that other specialists are already working in. Another farmer feedback to him that they did not want integrated advice to result in the vet becoming another policeman / inspector. Overall the vet felt that all the farmers that he spoke to saw the merit of keeping their livestock healthy as a way towards reducing the environmental impact of their farms – increased health means greater output in terms of food for less waste in terms of resources.

One of the livestock advisers that attended gave feedback that he had found the Integrated Advice Packages themselves to be useful as a checklist to aid in decision making. However, he found that Farmscoper was too complex and therefore time consuming to use for individual farms. He felt that commercially farmers would not be prepared to pay for the amount of time it takes to fill in Farmscoper, however he could see its potential for use in policy work. Given that this adviser was working in a commercial consultancy and driven by profit he felt that the main way in which the integrated advice would be used would be in checking that any change in farming practice (that is done for profit reasons) is checked or considered against the potential environmental impacts. This would ensure that the wider impacts of implementation are understood and mitigated against. This adviser is interested in getting more advisers in the consultancy trained in the Integrated Advice approach, especially in the use of the Integrated Advice Packages.

Following on from the training the advisers were asked to go out and use the integrated advice training that they have received to aid them in delivering advice on up to 4 farms. RAND have conducted an *ex-post* follow up survey of advisers to understand how they have used integrated advice since their training. This survey is reported in section 5.3.

1.2.6 Monitoring and evaluation expert panel

Members of the expert panel for monitoring and evaluation were as follows:

- Anthony Hyde, British Institute of Agricultural Consultants (BIAC);
- Peter Mills, Harper Adams University College;
- Caroline Drummond, Linking Environment and Farming (LEAF);
- Jamie Letts, Environmental Agency (EA);
- Nicola Dunn, National Farmers Union (NFU);
- Jane Salter, Agricultural Industries Confederation (AIC);
- Ceris Jones, National Farmers Union (NFU);
- Darren Moorcroft, Royal Society for the Protection of Birds (RSPB);
- Rob Macklin, The National Trust.

Section 5.1 expands on the role of the expert panel in this pilot.

1.2.7 Legacy Implementation Group

A Legacy Implementation Group (LIG) was drawn up from members of the original stakeholder meeting and other key industry representatives that the consortium identified. The LIG group met three times during the project to discuss and develop a legacy for the Integrated Advice Pilot project. There was a fourth LIG meeting that took place in March following on from the completion of the project. (See section 6.1.1 for further information on the LIG).

1.2.8 Second stakeholder workshop

A stakeholder group was reconvened to allow the opportunity for a wider group of industry participants to engage with the project. The objectives were to:-

- Follow up a previous 'advisers workshop' organised by Defra in February 2011, at the start of the project (1.2.1)
- Strengthen dialogue, and promote inclusion, in the ongoing work
- Provide an update on developments with the Pilot study, and how thinking has evolved since the February meeting
- Introduce Legacy Implementation Group activities
- Obtain feedback from Stakeholders on emerging issues identified by the LIG

Further details in section 6.2.1.

2. INTEGRATED ADVICE PACKAGES

2.1 Method

2.1.1 Development of the Integrated Advice Packages

The first objective of this pilot project was *'to build on previous research and decision support tools to define sector specific integrated advisory packages that balance identified Defra policies with economic and environmental factors to deliver improved overall benefits to farm businesses and to society more generally (WP1)'*.

To ensure that this objective is achieved farmers have played a central role in shaping the development of the Integrated Advice Packages, as part of an interactive process, originally pioneered in the TIBRE project¹. Therefore, the approach taken to develop the advisory packages has evolved throughout the duration of the project based on farmer feedback received at a series of focus groups/workshops, in addition to feedback received from an extended network of advisers and stakeholders.

Integrated Advice Packages have been developed for three key farming types (sectors) – dairy, beef and sheep, and arable. Each advisory package consists of 26 sector-catchment specific measures. These are presented as a 'Menu of integrated advice', a suite of synergistic measures that deliver multiple benefits, to suit individual holdings (Figure 1). These packages enable advisers to prioritise on-farm actions that balance economic and environmental factors to deliver improved overall benefits to farm businesses.

¹ Pitkin, P.H., Tait, E.J., Dawson, K.P., Cook, K.A., & Fish, N. (1996) Targeted inputs for a Better Rural Environment: Farmers views of new technology. *In Proceedings: Crop Protection in Northern Britain*, 1996. Tait, J & Pitkin, P. (1995) New Technology for Environmental Benefits: Opportunities for Industry. *In Proceedings: Brighton Crop Protection Conference – Weeds*. PP 593-602. Tait, J & Pitkin, P. (1995). The Role of New Technology in Promoting Sustainable Agricultural Development. In eds., R.G. McKinlay & D. Atkinson. *Integrated Crop Protection: Towards Sustainability*, British Crop Protection Council Symposium Proceedings No 63, pp 339-346.

MENU OF INTEGRATED ADVICE			
Measure title/business area	Desired outcomes	Required by law / part of a scheme / voluntarily	Implementation
SOIL AND WATER QUALITY			
Use minimum tillage systems	   		Low cost but specialist advice useful
EFFICIENT NUTRIENT MANAGEMENT			
Perform a soil test every five years	  	 	Low cost
CROP MANAGEMENT			
Use disease/pest resistant varieties	  		Low cost but some specialist advice useful
HABITATS			
Un-harvested cereal headlands and corners	   	 	Little cost to establish

Figure 1 Menu of integrated advice for the arable sector

The Integrated Advice Packages build on advisers' varying levels of awareness of the multitude of environmental issues that impact on farm competitiveness, performance and resilience, and knowledge of practical solutions to those issues. These packages will also enable farmers to make effective use of integrated advice and ultimately help to build a financially healthy and environmentally sustainable farming industry.

There are a vast number of measures that farmers could be asked to deliver on farm to meet a wide range of business or environmental objectives. As part of the integration process, more than 500 measures listed and annotated in a spreadsheet were consolidated into 26 key measures for each sector. The menu of measures meets legislative, scheme and voluntary best practice requirements. They also meet local environmental priorities in the Yorkshire East Riding, Somerset Levels and Bridgwater Bay and Teme catchments, whilst tackling sector and farm-specific issues.

The packages enable farmers to make informed decisions about environmental measures that can be adopted on their farms. As a result, the measures included deliver multiple benefits on-farm and for the environment, and they are associated with low or no cost or incentives that are available to cover the costs incurred.

The development of the advisory packages, shown in Figure 2, has involved various different elements:

- initial integration process to develop sector-specific matrix of measures
- inclusion of local targeting and environmental priorities relevant to the three pilot catchments
- development of packages which include measures that impact positively on key Defra policy areas for the delivery of desired outcomes
- reviewing the draft packages

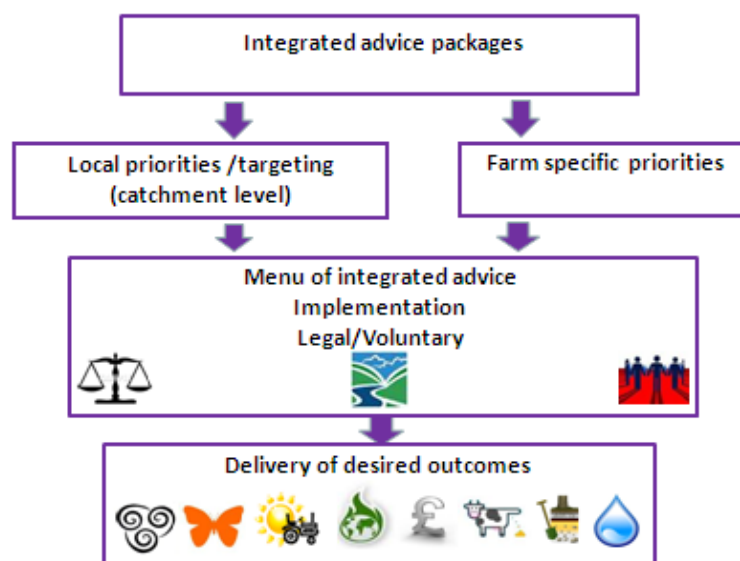


Figure 2 Development of the Integrated Advice Packages

2.1.2 Initial integration and development process

The initial development of the advisory packages focused on collating a matrix of measures, pulled together from the range of available advice, underpinned by research, across identified policy areas. The measures derived from a variety of sources including – current legislation, Cross Compliance requirements and best practice, Environmental Stewardship schemes², Catchment Sensitive Farming and the User Guide of Mitigation Methods³. All of these measures were saved in Excel format as a spreadsheet for refinement and integration process.

Development for WP1 Focus Groups

In preparation for testing at the WP1 focus groups (Section 2.1.4) refinement of the measures was undertaken by amalgamating similar or overlapping practices which were then grouped into farm business areas that were in line with farmers' thinking about their farm operations including:

- land and crop management
- soil management
- fertiliser and slurry management
- crop protection, pesticide use and application
- managing animals
- protecting watercourses and other non-productive areas
- managing productive areas
- managing energy and water inputs

Two categories of farmer (custodians; 23% of farmers, and modern family business; 41% of farmers) were targeted in the focus groups according to the Defra Farmer Segmentation

² Entry Level Stewardship: Environmental Stewardship handbook, third edition. Higher Level Stewardship: Environmental Stewardship handbook, third edition.

³ Newell Price J.P., Harris D., Taylor M., Lord E.I., Chamber B.J., Chadwick D.R., Misselbrook, T.H.M., Williams, J.R., Duethmann, D., Gooday, R.D. (2011) An inventory of mitigation methods and guide to their effects on diffuse water pollution, greenhouse gas emissions and ammonia emissions from agriculture

Model (2008)⁴. These were selected from the full range of segmentation categories as they covered the majority of farmers attending the focus groups and were seen to offer distinctly different perspectives in terms of attitudes to environmental issues, providing a useful basis for testing at the focus groups. Farmers in the 'pragmatist' category were expected to gravitate towards one or other of these categories, depending on their circumstances and characteristics of the measures. The remaining categories (Lifestyle Choice and Challenged Enterprises) were not considered given the low numbers of farmers in attendance that might fit these categories.

Development for first round of WP2 workshops

The findings from the WP1 focus groups (Section 2.2.2) informed the development of the packages further, and resulted in the focus on targeting the packages at the business oriented farmers (or the farmers in the modern family business category) by including measures where 'win-wins' can easily be identified in the advisory packages. During this phase of development measures relevant to each sector were grouped according to the management categories, as shown in Table 1, and were presented in word documents. These groups of measures formed menus to be used as an organised basis for discussion at the first round of workshops, regarding which measures farmers would be willing to adopt on their farm and how they might be integrated within their farming system.

2.1.3 Development for second round of WP2 workshops

The next phase of development for the second round of WP2 workshops was based on findings from the first round of workshops (as detailed in Section 2.2.2), alignment with local priorities (as detailed further down in this section) and liaison with sector and policy experts.

The key findings from these workshops led to the further refinement of packages for the WP2 farmer workshops. Measures which required significant capital investment or did not meet local priorities (for example; water management practices which would be applicable to catchments in the East of England) were no longer included as priority actions. This resulted in the selection of 26 measures for each sector specific package to be tested at the second and final round of WP2 workshops in September and October 2011 in preparation for the adviser training.

By involving farmers, as the end users, in the development of the packages, this hoped to encourage buy-in to the rationale of integrated advice and promote longer term uptake of the measures included in the Integrated Advice Packages.

⁴ Pike, T. (2008) Understanding behaviours in a farming context. *Defra Agricultural Change and Environmental Observations Discussion Paper*.

Table 1 Management categories for the grouping of measures

Dairy/Beef and Sheep categories	Arable categories
Land and crop management – crop management, land management, soil management and pesticides	Land and crop management – crop choice, harvest management, soil management, irrigation and timing
Fertiliser and slurry management – manure, slurry and nutrient management	Fertiliser management - manure, slurry and nutrient management
Managing animals - animal health, nutrition and stock management	Pesticide management – pesticide choice and management
Managing non-productive areas – stewardship and other environmental scheme options	Managing non-productive areas – buffer strips and non-productive areas, trees and woodland areas, hedges, ditches and wetlands
Managing energy and water inputs – climate change mitigation and adaptation, and energy	Managing energy and water inputs – renewable energy sources, water and energy audits and plans

Inclusion of local targeting

The Integrated Advice Packages capture local targeting and environmental priorities, to ensure through the delivery of advice through the packages, includes measures that are relevant to each of the pilot catchments (Somerset Levels and Bridgwater Bay, Yorkshire East Riding and the Teme).

Methodology

Liaison with government agencies, Natural England and the Environment Agency, at the catchment-level enabled the establishment of local environmental priorities and issues that are being targeted through their programmes of advice. The desired outcome was for these priorities to be embedded within each of the advisory packages.

During September 2011 interaction to discuss local targeting, relevant to the sector the package was being developed for, took place with the following representatives:

Environment Agency

- CSFO's (Catchment Sensitive Farming Officers)
- Senior Environment Officers, Agriculture (regional)
- Senior Specialist, Data Analysis and Modelling (regional)

Natural England

- Lead adviser, Landscape Scale Delivery (regional)
- Senior Specialist Analysis Monitoring lead (regional)
- Senior Specialist, Freshwater and Wetlands (regional)
- Lead adviser, Land management and conservation (regional)

The discussions covered the following issues which underpin the local targeting included in the Integrated Advice Packages:

Protected areas – Sites of Special Scientific Interest (SSSIs), Environmentally Sensitive Areas (ESAs), Areas of Outstanding Natural Beauty (AONBs)

Environmental Stewardship targeting – regional priorities for ELS/HLS option uptake
Water Framework Directive (WFD) and Catchment Sensitive Farming (CSF) priorities – siltation, pesticides, nitrates, phosphates

Aligning the advisory packages with catchment specific priorities and targeting enabled the selection of 'priority' measures to feature in the 'menu of integrated advice', selected from the lengthy list of measures developed in WP1 and further refined in WP2. Priority measures within the packages took account of the following elements, and these measures were discussed with each of the aforementioned representatives from the Environment Agency and Natural England:

- The evaluation of spatial data undertaken by Natural England to determine regional priorities for ELS option uptake to restore habitats and aid species recovery⁵
- The application of interactive catchment analysis (produced by Natural England and Environment Agency) using spatial data to look at issues with habitats and soils for targeting
- The identification of priority activities under the Capital Grant Scheme (CSF) funding priority statement (2011 – 2012)

Future considerations

If the Integrated Advice Packages are rolled out in the future to extend to additional catchments, then the methodology that was used to identify local priorities to inform the targeting of measures in the pilot catchments should be applied. In some cases it was difficult to distil the information provided at the catchment-level into agreed local priorities due to conflicts in priorities and advice messages being delivered by the Government Agencies.

Achieving desired outcomes

In the early stages of this project Defra policy leads identified the key policy areas⁶ to be captured within the advisory packages. Therefore, the advisory packages are comprised of validated measures designed to mitigate the environmental impact of agriculture, in the context of the Defra policy areas.

A key part of the development of the packages was to assess the impact of the adoption of a single measure on the range of Defra policy areas, and their potential for delivering desired outcomes on farms. This assessment was undertaken using the measures matrix; a scoring system whereby each measure was rated on a scale of impact from 0-3, which was validated by consortium experts and Defra policy leads.

The process of cross-checking the packages against policy objectives, has been ongoing throughout the project by experts within the consortium and Defra policy leads. This exercise has been useful in identifying the synergies where measures deliver benefits against multiple policy objectives. Many of the measures in the packages deliver such multiple benefits and highlighting this is one of the features in the 'Menu of integrated advice' (Figure 1).

2.1.4 Reviewing the draft advisory packages

The second objective of this project was to '*involve farmers and advisers in assessing and refining the advisory packages developed in WP1, and in 'trailing' the design and delivery of advisory protocols to ensure flexible combinations of advisory packages that deliver locally optimised balanced outcomes with improved level of uptake by farmers through taking account of farmer behavioural types (WP2)*'. This objective has been achieved through consulting with farmers (and advisers) to inform the development of the advisory packages at a series of workshops. Given that consultation with farmers was extended to

⁵ Natural England (2011) [Entry Level Stewardship regional priorities](#)

⁶ Air quality, biodiversity, climate change adaptation, climate change mitigation, farming competitiveness, performance and resilience, nutrient management, soil quality and water quality.

begin in WP1, the process of taking account of farmer behavioural types was also moved to WP1 and was achieved as indicated above in Section 2.1.2.

Initial focus groups

Initial focus groups for WP1 were held in each pilot catchment in March 2011 to obtain their feedback on the draft packages, as detailed in Section 2.1.2. For these focus groups the farmers were asked to consider only the measures related to the main farming activity in their catchment. Their feedback on these measures in terms of their appropriateness/practicality was then used to refine the packages further in preparation for testing at the first round of workshops with farmers and advisers as part of WP2.

First round of workshops

The first round of farmer and adviser workshops for WP2 was held in the pilot catchments in June and July 2011. These workshops were designed to introduce this larger number of farmers and advisers to the project and provide them with an insight into how integrated advice could benefit them. The menus of measures prepared for this initial testing were used as a basis for discussion, to identify measures that farmers would be willing to adopt on their farm and how they might be integrated within their farming system. The primary objective of this discussion was to determine how farmers classified the measures in terms of their ease of implementation and any practical issues with adopting the selection of measures.

These workshops were facilitated by two staff from the Innogen Centre and were supported by the Pilot Catchment Coordinators and sector experts (from ADAS and AHDB). The workshops began with a welcome and a presentation about the project, delivered by either the catchment coordinator or sector expert. This was then followed by an outline of the purpose and structure of the workshops by Innogen. Participants were asked to introduce themselves, before they moved onto the focused discussion covering the menus of measures arising from WP1 focus groups, considering whether they:

- Are already being adopted on farm
- Could be easily adopted, or only adopted with support/increased support
- Are not practical
- Could be modified to make them more appealing

Second round of workshops

By September 2011 the advisory packages for each sector had been developed into structured packages which enabled the setting of clear objectives for the second round of WP2 workshops (held at the end of September and the beginning of October) and their trialling with farmers and advisers. The trialling involved testing the packages including the menu of measures, in discussion with farmers and advisers, covering both feasibility and potential for uptake.

The objectives of these workshops were:

- Providing farmers and advisers unfamiliar with the project with an understanding of its purpose, and to improve the understanding of previous meeting participants
- Explaining the processes of package development and how they are intended to work for farmers and advisers
- Demonstrating how the choice of measures can benefit individual farm businesses and the environment, particularly measures identified as local priorities
- Obtaining feedback on how the advisory packages could be used, the structure and their content and identify any changes or improvements that could make them more useful.

These workshops were facilitated by two staff from the Innogen Centre and supported by the Pilot Catchment Coordinators and sector experts. They were generally around three hours in duration, including a meal for participants.

The first part of the workshops consisted of a slide presentation, delivered by a facilitator from Innogen, which outlined the background, purpose and development of the pilot study. Farmers and advisers introduced themselves and described their roles (farmer or farm adviser). They were invited to raise any queries about the project in general and discuss how the Integrated Advice Packages could be used as an advisory tool. The second part of the workshops focused on discussing a selection of measures included in the sector specific packages, as detailed in a hard-copy colour version of the advisory package that was circulated to all workshop participants. This document presented the model and content. Farmers and advisers were encouraged to feed back on the following:

- Are the measures practical to implement or could they be modified to make them more practical?
- Do they uphold environmental objectives?
- Are they revenue positive (or at least neutral)?

The workshops were also used as opportunities to seek guidance on the language used in packages, and to find out how farmers and advisers would prioritise the selection of measures using the 'menu of integrated advice' to help develop the front-end of the packages.

Sector experts played a key role in the second part of the workshops by supporting Innogen with the facilitation of the discussions. Whilst the sessions were structured, participants were encouraged to discuss measures and associated issues with a view to obtaining an insight into barriers or issues impacting on uptake.

2.2 Results

2.2.1 Farmer and adviser workshops

As detailed in section 2.1.3, in WP2 a series of focus groups/workshops were held in each of the three pilot catchments (participant numbers are given in Table 2).

Table 2 Participants in the farmer and adviser workshops

	WP1 Focus Groups	First round WP2 workshops	Second Round WP2 workshops	Total
<i>Total number of farmers attending</i>	10	31 (+3 farmer advisers)	31	72
<i>Number of new farmers attending</i>	10	26	21	57
<i>Total number of advisers attending</i>	6 (+2)	26 (+2)	16 (+4)	48 (+8)
<i>Number of new advisers</i>	6 (+2)	20 (+1)	6 (+1)	32 (+4)

() Numbers in brackets are consortium advisers who work in the catchment

A range of advisory organisations were represented at the focus groups including CSF, FWAG, NFU, Brown & Co, and consortium advisers from ADAS, EBLEX. Representatives from the local AONB, Dairy group, Leominster marches, vets, LEAF, CSF, FWAG, Natural England, Soils4Profit, The Dairy Group, Kingshay, Farm Consultancy Group, Promar,

NFU, CFE, UAP, and consortium advisers from ADAS, EBLEX and DairyCo, attended the first round of workshops. At the second round of workshops the Dairy Group, CSF, FWAG, Natural England, Farm Consultancy Group, Mole Valley Farmers, Duchy College/SWHLI, CFE, Environment Agency, Brown & Co, NFU, two independent advisers, and a consortium adviser from DairyCo were in attendance.

2.2.2 Farmer and adviser WP2 workshops (first round) – feedback

General observations

At the first round of WP2 workshops farmers in all three catchments expressed a need to know the reasons for adopting a measure, including whether it is legally required, and also how a measure can be usefully coupled with best practice approaches to deliver a 'win-win' for their holding. Farmers and advisers were keen that the advisory packages were developed with a focus on economic return and feasibility of input.

The following sections summarise the key findings and specific observations by workshop participants in each catchment under the headings used for the package description.

There is more detailed feedback on the individual measures included in Appendix 1.

2.2.3 Farmer and adviser WP2 workshops (second round) - feedback

General observations

The findings from the round 1 workshops (2.2.2 & Appendix 1) were used to refine the three catchment specific advisory packages to produce a clarified and reduced set of measures for the round 2 workshops. In each second round workshop, due to time limitations, specific measures were selected for discussion on the basis of their perceived importance or of remaining questions about their validity or appropriateness for the farming systems under discussion.

Key observations that emerged from the second round of workshops include comments on how the packages could be used and their structure and content; to inform the final stage of development. For each catchment there were some aspects where workshop participants felt that the measures had been over-refined and needed to re-introduce subdivisions.

Farmers and advisers agreed that the approach developed in the revised advisory packages for this round of workshops would enable farmers to have a choice of measures that work for their holding to enhance farming competitiveness, performance and resilience, whilst delivering environmental benefits. Given that the adoption of measures is farm-specific it was suggested that the front-end of each advisory package was developed to guide farmers in the selection of relevant measures from the 26 sector and catchment specific measures included in the packages.

The 'ease of implementation' score used in the packages, developed to assess how easy a measure is to implement, was highlighted as being farm specific and subjective. There was a general consensus that this serves a useful heuristic purpose for decision making for some advisers. It was suggested that the use of a scoring system was unnecessary and provided an additional layer of complexity. As a result, a short description of each measure's implications in terms of establishment and management was inserted into the front-end of the 'Menu of Integrated Advice' and for each measure included in the packages.

Attendees recommended that Cross Compliance requirements are highlighted more clearly where applicable in both the front-end of the packages and in the descriptive text for each measure. They also suggested that where a measure is required by Cross Compliance, as an alternative to signposting to Cross Compliance Guidance, the detail around these actions should be pulled out of the Guidance booklet and included in the measure description. Farmers and advisers at all of the workshops commented on the volume and length of key documents they are expected to read, so pulling out relevant pieces of guidance for them would be of value.

Across all of the workshops it emerged that the integration of measures and refinement process (post the first round of WP2 workshops) had resulted in the loss of specific measures that could have greater potential for adoption and ultimately the delivery of environmental benefits. Therefore, the measures in each of the packages were expanded after these workshops to include specific practices around soil and nutrient management.

Farmers and advisers at these workshops recommended that more structured detail is included in each of the measure descriptions that focused on business impacts, environmental benefits and practical issues of adoption.

More detailed feedback on the individual measures is included in Appendix 1

2.2.4 Other issues

Some reoccurring themes and issues emerged from discussions about the advisory packages relating to the delivery of Defra policy. A number of farmers collectively expressed views and shared opinions on policy integration, what drives them to adopt practices on farm that deliver environmental outcomes, and incentives on offer as part of environmental schemes.

Policy integration

Farmers and advisers at the workshops were pleased that this pilot project is integrating advice at the farm-level, but they did comment that if integration took place at the policy level too, then there would be a synergy between this top-level and the delivery of outcomes on the ground. Concerns were also raised about the impact of the upcoming CAP reform on integrating advice as this is likely to bring about changes to the legislative and policy landscape.

Drivers for farmers

Farmers expressed a number of views about their motivations for adopting practices that deliver environmental benefits. These ranged from practices that are easiest to adopt, as they fit within the farm business, to the availability of incentives to help fund these activities on their farms. Some farmers expressed concerns about an ever-changing policy landscape that does not encourage farmers to invest in and adopt measures, for example changes in the feed-in-tariff for energy generation. They also felt that there are disparities between central and local government priorities and the encouragement of the implementation of various measures. There was also often a long time lag between proposed grants and the grants becoming available. This could mean the measure was less appropriate than if it had been implemented more quickly. It was also felt that information about what grants are available is not readily accessible to farmers.

Hard to reach farmers

Farmers and advisers at the workshops suggested that the advisory packages might provide a way to engage with *hard to reach* farmers, particularly as the packages focus on improving farm competitiveness, performance and resilience and aim to be used by a

range of non-environmental advisers. They also provided an insight into defining *hard to reach* farmers including the following categories:

- Those who are proactive about their activities but are less responsive to external influences (advice) provided by on-farm events, workshops and other communications (literature and e-communications). These farmers may be less responsive because their holding has historically been managed in a certain way and they do not wish to change their practices.
- Those who are proactive and responsive in some areas but not others, depending on what they feel are key issues for their holding which may not align with Government and regulatory priorities.
- Farmers of smaller, isolated holdings, who are likely to be sole proprietors, therefore have reduced capacity and resources and are less inclined to attend workshops and meetings where best practice is debated and advice is provided. They are also less likely to have access to the Internet where increasing amounts of information is now shared. There are probably more upland/livestock/dairy farmers in this disengaged category as they can access non-assured schemes, best practice is not a key requirement and, unlike arable farmers, they do not have as much access to advice and support provided by agronomists.

Participants at the Teme Catchment workshop estimated that around 5 per cent of farmers in the UK may fall into the category of being *hard to reach*. They suggested that although, a lesser area of land is likely to be managed by such farmers, the lack of engagement in best farming practices is having a significant impact on on-farm efficiency, productivity and the environment. This in turn impacts on the development of legal requirements and frameworks that will affect all farmers. They suggested that, whilst it takes more effort to engage with *hard to reach* farmers, if an adviser builds up a trusted relationship with an individual farmer on issues that directly impact farm profitability this can then be linked in with adopting best practices that improve farm efficiency and benefit the environment.

Inspection overload

Farmers and advisers at the Yorkshire East Riding workshop in particular raised issues around inspection overload and the duplication of inspections by local authorities on farm management that is also inspected by the supply chain and for Environmental Schemes. The range of inspections that a farm can be subjected to includes Cross Compliance, Single Farm Payment, Environmental Stewardship Schemes, Uplands Transitional Payments, Energy Crop Scheme, English Woodland Grant Schemes, Farm Assurance Schemes, Cattle farm or Cattle Identification inspections, local authority inspections (for example health and safety, animal health), Foods Standards Agency inspection and RPA inspections.

Environmental schemes

Farmers at all of the workshops commented that the area of environmental management is increasingly confusing for them as the various schemes (including ELS, HLS, CSF and CFE) have expanded and developed over the past few years. They made reference specifically to changes to ELS prescriptions and the removal of certain options, where they asked for clearer communications to explain why these changes have been made. At the workshops a number of farmers made reference to particular options in ELS and the impact of some of the prescription requirements. They commented particularly on the cutting regimes for hedge management in ELS and asked for flexibility to cut their hedges according to their own farming systems, in addition to considering the location of hedgerows and the species included.

2.2.5 Monitoring and evaluation of farmer workshops – RAND

This section sets out a summary of the key observations and findings of the RAND Europe research team on the Work Package 2 second round workshops with farmers and farm advisers. The format and content of these observations builds upon the earlier observations and findings for the first round of workshops. The purpose of these six workshops was to present a refined version of the Integrated Advice Packages to farmers and farm advisers in order to gain further feedback on the Integrated Advice Packages, prior to the development of a training programme on the Integrated Advice Package. Three different forms of Integrated Advice Package were presented in line with the three types of farming under consideration (dairy, beef and sheep and arable). Two workshops were held in each catchment area.

RAND Europe researchers attended three out of the six workshops. This report is based upon data collected at those three sessions. At the workshops, the numbers of participants present at the sessions was as follows:

- Dairy farmer workshop (Somerset) on 29/9/11: 2 farmers; 5 advisers
- Arable farmer workshop (Yorkshire) on 4/10/11: 4 farmers; 3 advisers
- Beef and sheep farmer workshop (Shropshire) on 6/10/11: 2 farmers; 2 advisers

The following sections set out some of the key themes emerging during the observed workshops.

Workshop process and facilitation

Workshops were facilitated by Innogen with support provided by the relevant catchment coordinator. Each of the round 2 workshop sessions had a mix of farmers and farm advisers. This combination of participants seemed to work well and the interplay of views from the two perspectives provided a useful discussion.

Numbers of farmers in the sessions was overall lower than planned. It was noted by catchment coordinators and Innogen (who attended all of the six sessions) that the workshops conducted in evenings were generally better attended than those in the morning or afternoon. An agenda for the session was sent in advance to participating farmers and advisers.

Some of the main observations in relation to the process aspects of the workshops are as follows:

- **Introductions:** All participants introduced themselves at the beginning of the sessions. A slide presentation delivered by the facilitator from Innogen clearly set out the context and purpose of the pilot project. This ensured that all participants shared a similar understanding of the initiative. A brief reference was made to the format and timings of the meeting and to the presentation (in cases where one was being offered immediately afterwards).
- **Facilitation:** The facilitation of the workshops was relatively unstructured. The discussion was somewhat open-ended and it was possible for participants to make contributions as they saw fit. This built confidence among the participants that they would be listened to in their views and allowed for issues to be raised and inputs to be captured that may not otherwise have been. However, the purpose of the discussion was not always clear to the group.
- **Engagement:** The sessions demonstrated clearly the interest and engagement of farmers in the Integrated Advice Packages. Although numbers of participants were lower than hoped for, those farmers and advisers that did attend contributed actively and positively to the discussions.

- **Management of challenging discussion with participants:** In some workshops, participants (both farmers and advisers) made negative remarks and observations (e.g. that the Integrated Advice Package approach was too simple). In most cases, these were dealt with well by the facilitator who clearly indicated that they had listened to the comment and were noting it for the ongoing development of the Integrated Advice Packages. In some instances, workshops became somewhat dominated by particularly vocal individuals. In these cases, the management of these individual contributors resulted in some wasted time for the group as a whole.
- **Role of the farm advisers:** The role of the farm advisers in this round of workshops differed from round 1. There was more discussion than in the previous round about the actual practical use of the Integrated Advice Packages in a farm advice context and how the advisers would use the tool. Advisers in these workshops mentioned their fears about possible negative impacts of the Integrated Advice Packages on the advisory role as a whole (e.g. less training for advisers).

Integrated Advice Packages

A document was distributed to all participants which presented the Integrated Advice Package model and content. This was printed out in colour and was very clearly laid out. This provided a brief summary of the background, local priorities, summary of the measures (their objectives, legal standing and ease of implementation score), together with further detail on the objectives and on each specific measure. This document illustrated very well to participants the progress that has been made with the development of the Integrated Advice Packages and that their views were taken into account since the last session. A number of points were made in relation to the Integrated Advice Packages, as follows:

- **Regulation:**
 - The revised Integrated Advice Package document indicates whether or not each measure is a legal requirement. It was noted by participating farmers that some measures highlighted as a legal requirement were in fact part of the regulations of certain funding schemes (e.g. as a part of the Single Farm Payment scheme). Therefore, it was noted that it may be useful to provide further clarification in the document as to whether the particular measure is actually legally required or part of a requirement of a scheme.
- **Financial:**
 - It was raised by farmers a number of times in workshops that clarification on potential new funding streams to implement the measures in the Integrated Advice Package was needed. In one workshop, a useful discussion was raised as to whether costs associated with these measures should in fact be borne by farmers themselves as they related to the overall business model that they operate in.
- **Inclusion of measures in Integrated Advice Packages:**
 - As was the case in the last round of workshops, farmers again questioned the presence of some of the measures (e.g. 'Locate out-wintered stock and sacrifice areas away from water courses'), as they were largely done already. It was agreed that these measures should be positioned slightly differently to indicate that these approaches are best practice and already done by many farmers.
 - Farmers and advisers were pleased to see that evidence and links to evidence is now presented within the Integrated Advice Package. It was suggested that brief detail on the evidence base itself would be useful in all of the measures

and that additional references should be provided. In some cases, direct links to the most pertinent evidence was thought might be helpful (rather than general websites or home pages)

- **Clarity of measures within Integrated Advice Packages:**

- Farmers and advisers noted in workshops that there seemed to be some overlap between some of the measures, while other individual measures were very dense and could have been split into two or more measures. Therefore, these needed to be reviewed to ensure appropriate distribution of detail across the measures.
- The links between the Integrated Advice Packages in the three sectors was raised by farmers as an area to consider in order to ensure the streamlining of all the measures and the information within each one. For example, it was noted that there is relevant information within the arable Integrated Advice Package for each of the other two areas and these should be consistently applied to each one.

- **Format of Integrated Advice Packages:**

- The presentation of the Integrated Advice Packages, as detailed above, was in a hard-copy document provided to each of the participants. It was clear that this would ultimately be presented as a computer-based or paper-based tool. The logic and flow of the document made sense to participants. Discussion on format related to details within the structure and the overall model of the Integrated Advice Package was generally accepted as a good approach.
- A scoring system was presented within the Integrated Advice Packages to reflect the relative difficulty of implementing the relevant measure. Scores of an individual measure could be from 1-5 (easy to difficult). While it was generally felt that this was useful to provide some indication of the potential challenges of this measure, it was believed (by both farmers and farm advisers) that more transparency was needed to show how the score was ultimately derived. While a table setting out the logic of the scoring system was presented at the beginning of each Integrated Advice Package document, some further detail in the text on how scores were developed for measures may help understanding.

- **Other:**

- In two out of the three workshops attended by RAND Europe, a presentation on a specific topic of interest to farmers was planned. However, participants seemed less aware of this. It may have been the case that more attendees may have been attracted to the session if this had had particular promotion.

Specific issues arising

A number of more specific discussions took place about some topics within the Integrated Advice Packages. These were discussed for varying amounts of time and required some clarification or additional contextual information. These topics included the following areas:

- **Flooding risks and measures relating to watercourses:** There was discussion on the specificity of the measures in this area in relation to relevance to particular breeds of animals (i.e. if the measure applies equally to beef as well as sheep for example), to particular contexts (i.e. only refer to 'high-risk fields') and particular solutions for the issue at hand (i.e. a range of possible solutions should be considered and not just the obvious solution).

- **Buffer strips:** Participants had a range of views on this issue and it was apparent that the value of buffer strips was not consistent across different groups. It was proposed in one session that it would be useful to see the range of potential uses of buffer strips within the Integrated Advice Packages. It was also noted that there should be a consistent message on this issue across all three Integrated Advice Packages.
- **Nutrient management:** It was noted in one meeting that the implications of some of the measures should be made a little clearer within the documentation – e.g. ‘do soil testing’ because the difference in a PH level can affect a yield by up to 10%.
- **Sowing of small seed-bearing crops:** Discussion in this area focused on the need or not to include this area in the Integrated Advice Package. A wider discussion on the expected outcome of the measure took place.
- **Carbon footprint:** The information presented in the Dairy Integrated Advice Package on the carbon footprint of high versus low intensive dairy farming was considered by some participants to be somewhat misleading due to the way numbers are calculated. There should ideally be transparency on how this is calculated to ensure that users of the Integrated Advice Package understand the differences in ways of calculating.

2.2.6 Final proposed advisory packages - structure, content and navigation

This section describes factors that guided the final stage of development of the Integrated Advice Packages, including particularly how this related to the advice and inputs from the WP2 workshops.

Structure and content of the advisory packages

The structure of the Integrated Advice Packages has been developed to integrate the different elements of the packages and communicate the specific measures (or priority actions) that are available for the arable, dairy, and beef and sheep sectors. These different elements, shown in Figure 3, include introducing local environmental priorities in each of the three pilot catchments, presenting the menu of integrated advice, consisting of 26 measures, and a section on achieving desired outcomes and protecting the environment through regulatory, scheme or voluntary instruments.

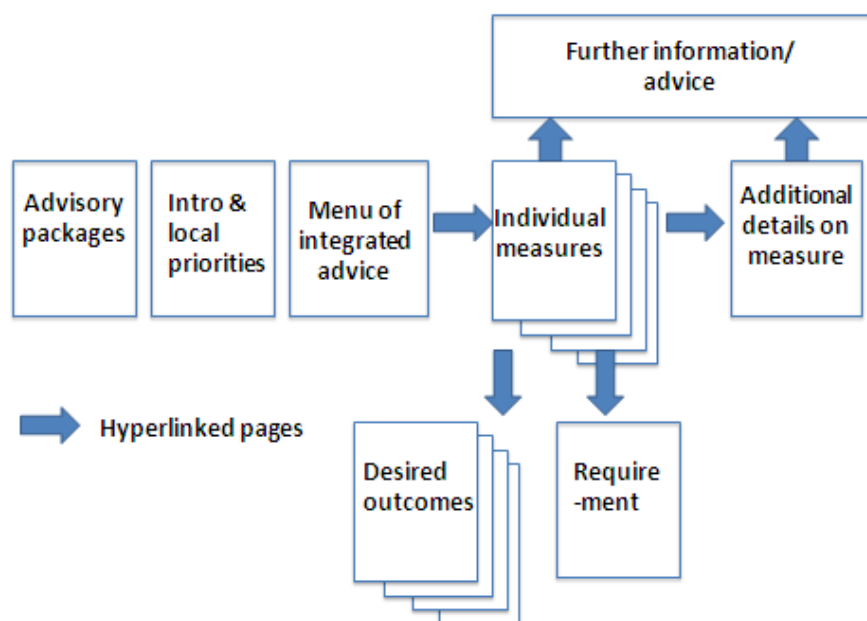


Figure 3. Structure of the advisory packages

The main content of each of the packages is the detail of the 26 measures identified in the workshops as being appropriate practices that enhance competitiveness, performance and resilience on arable, dairy, and beef and sheep units, in addition to delivering environmental benefits. These measures deliver desired outcomes that span a range of Defra policy areas and also help meet local priorities, by tackling issues identified at the catchment-level.

As shown in Figure 3 the detail for each measure captures the range of information which farmers and advisers at the workshops suggested would be most useful to them. This includes requirement (legal/part of a scheme/voluntary), implementation, business areas, desired outcomes, short description, business impacts, environmental benefits, practical issues, place in existing schemes and further sources of information and advice.

Requirement

Farmers and advisers at the workshops expressed confusion over where practices fit within schemes or where they are required by law. Liaison with Government and its agencies helped to establish which measures are required by law, as part of Cross Compliance, or voluntary through ES, CSF and other funded schemes, and also those that are completely voluntary, outside of funded schemes. This is now highlighted clearly in the packages.

Implementation

In the early stages of the development of the advisory packages farmers fed back that their priority is to ensure that their businesses are competitive and that they strive for ways to improve their performance and resilience. At the outset of the project an ease of implementation score was devised for each of the 500 measures in the original matrix. These scores helped in the narrowing down of the original list of measures to those that appeared in the final Integrated Advice Packages. The score was a complicated combination of skill level, cost, capital investment, practical issues, risk, technology/market/research availability and impact on business. The highest score for the individual criteria dictated the final 'ease of implementation score' using a scale ranging from easy/cheap to difficult/expensive, reflecting the economics of adopting a measure, a

key factor influencing farmer uptake of particular practices. It was decided that these scores may be useful to the farmers or advisers to help them understand how easy a measure would be to implement. This scoring system provided an indication of the potential impact of the measure on farming competitiveness performance and resilience. At the second round of workshops in WP2, farmers and advisers suggested that, without a lengthy explanation, the scoring system was too crude and did not provide sufficient information about the impact of adopting a measure. Going back to the final score for each measure it was possible to identify the key reason driving the score (for example 'little investment to establish with ongoing management'), and this has been used in the final menu of integrated advice to simply highlight the broad implications of adopting an individual measure.

Restrict livestock access to watercourses			
Requirement	Implementation	Business area	Desired outcome
	Capital investment and ongoing maintenance	Soil and water quality	
Measure description As good practice some farmers erect stock-proof fences in grazing fields and on track-ways adjoining rivers and streams to restrict livestock access to watercourses.			
Business impacts Restricting access to watercourses provides a health benefit to livestock, by reducing the spread of water borne diseases.			
Environmental benefits Livestock can cause severe damage to river and stream banks when attempting to gain access to drinking water.			
Practical issues Where vegetation grows around the fencing, this may look unsightly but it can provide additional biodiversity benefits. Although this measure requires capital investment and ongoing maintenance there is funding available to support fencing.			
Place in existing schemes The fencing of watercourses is supported by Higher Level Stewardship (HLS), where this option is included as part of a whole farm agreement.			
Further sources of information and advice Capital grant scheme – Teme			

Figure 4 Measure within an advisory package

Business areas

Farmers and advisers involved in the development of the advisory packages provided strong feedback that the selection of measures needs to be farm specific and will be highly dependent on a range of key issues that a particular farm faces. These have been captured as business areas within the 'Menu of integrated advice' and are detailed in Table 3. The business areas are intended to act as a guide for identifying priority areas on specific farms which a measure or suite of measures could address.

Table 3 Business areas

Business area	Issues addressed by measures
Soil and water quality	<i>Reducing sediments and pollutants in water bodies, and addressing soil erosion and compaction.</i>
Efficient nutrient management	<i>Improving nutrient/manure and fertiliser planning, application and storage.</i>
Efficient animals	<i>Improving feeding and breeding programmes, and grassland management.</i>
Efficient crop management	<i>Improving crop management practices</i>
Habitats	<i>Maintenance, restoration and enhancement of a matrix of habitats including corridors.</i>

Delivering desired outcomes

The initial matrix of measures developed in WP1 (2.1.2) was evaluated in terms of the potential impact on specific policy areas of widespread adoption of an individual measure. ADAS and AHDB sector experts undertook two rounds of revision to these evaluation scores. The scores were underpinned by scientific evidence and this exercise highlighted that many measures deliver multiple benefits for the environment, in addition to enhancing farm competitiveness, performance and resilience. For the purpose of the packages, simple presentation using icons reflects the multiple benefits that a measure delivers for the environment which means that the key policy areas that impact the farming industry are captured within the advisory packages (including farming competitiveness, performance and resilience, air quality, biodiversity, climate change adaptation, climate change mitigation, nutrient management, soil quality and water quality).

Business impacts

Both farmers and advisers highlighted that the most substantive influence on adopting measures is the impact on their farm business in terms of cost savings and effective use of resources. This detail was collated from sector experts and participants at the workshops. At the second round of WP2 workshops broad estimates of the costs per typical arable, dairy and beef and sheep units for each measure were presented. They also suggested that the main focus of the advisory packages should be to focus on low-cost or cost neutral measures, in which case the costs would serve less of a useful purpose.

Environmental benefits

For each measure description there is an explanation of the environmental benefits delivered, based on scientific evidence. The majority of the underpinning evidence has been sourced from the User Guide (Newell Price *et al.*, 2011), supported by recent scientific studies, including research undertaken by Consortium partners. Liaison with scientific experts in fields such as Environmental Stewardship (Natural England), water pollution (Environmental Agency) and forestry (Forestry Commission) helped to establish the environmental impacts of adopting the measures included in the advisory packages. This exercise also contributed to the process of identifying the multiple benefits that measures deliver.

Practical issues

At the second round of WP2 workshops farmers and advisers strongly recommended that the packages should capture the practical issues associated with the adoption of each measure. They were particularly keen on focusing on practical hints and management tips to overcome some of the issues with prescriptions under schemes and also to clarify some of the confusion around measures with a wider scope including buffer strips. This

information in the final version of the advisory packages was sourced from participants at the workshops, sector experts and Government agency advisers who specialise in delivering advice on particular measures and have an understanding of the challenges that farmers face.

Place in existing schemes

This section of the Integrated Advice Package expands on the use of icons in the menu of integrated advice for each measure to show where it fits within the legal, scheme or voluntary context. Detail on incentives and a summary of conditions are also provided. In some cases the incentive is specific to a region or catchment and this is identified within these measures.

Further sources of information and advice

This section has been developed to sign-post useful sources of additional information or advice for users of the advisory packages including websites, key publications or guidance notes, or contact details providing the extension of advice on a particular issue.

Navigating the advisory packages

The advisory packages can be printed to provide a hard copy and some of the advice specific to measures could be shared with farmers as print-outs, particularly practical management hints and tips, but they are most useful in their electronic form as a PDF document with hyperlinks. The information and advice in the packages is layered using internal hyperlinks to meet the varying needs of advisers requiring different levels of information. This ranges from meeting a requirement for simple advisory messages to more complex practical and technical guidance, one of the key findings that emerged from the WP2 workshops. The packages also have a signposting function where useful sources of further information and advice can be accessed using external hyperlinks to websites and other key publications.

The main feature of the advisory packages is the 'Menu of Integrated Advice' which contains the range of measures that were selected by workshop participants as being compatible for use on arable, dairy, or beef and sheep farms. The menu sets out the 26 measures included in the packages and the context in which they can be adopted (for example on a legal or voluntary basis). It also highlights issues around implementing these measures in terms of cost and management implications.

Icons are used to draw attention to the potential outcomes of measures, and additional detailed information is provided on these key policy areas (air quality, biodiversity, climate change adaptation, climate change mitigation, farming competitiveness, performance and resilience, nutrient management, soil quality and water quality). Icons are also used to highlight whether the measures are required on a legal or voluntary basis and extra information on these contexts is also included in the package.

These icons are used in the 'Menu of Integrated Advice' where users can navigate to three areas within the packages – 26 separate measure descriptions, desired outcomes (information on the policy areas) and requirement (explanation around legal, scheme and voluntary requirements). The advisory packages are presented in a simple format to aid navigation and also to help ensure that the selection of measures is as easy as possible using this tool.

2.3 How will the advisory packages be used and by whom?

2.3.1 Using the packages to deliver integrated advice

The advisory packages build on advisers varying levels of awareness and knowledge of the multiple environmental issues that impact on farm competitiveness, performance and resilience. The integration of advice for the three farming sectors/catchments into a menu driven approach provides advisers with a range of options to choose from. The 'menu of integrated advice' was developed as a result of feedback from farmers and advisers on how they would prioritise the selection of measures for adoption on individual farms.

The measures that form a central part of the packages can be used to meet certain legislative, scheme and voluntary best practice requirements. Therefore, this tool will help improve adviser's awareness and knowledge of regulations and national environmental policies that impact on farm businesses, in addition to highlighting local environmental priorities and issues for targeting in specific catchments.

The Integrated Advice Packages help communicate the positive environmental impact of some of the practices that advisers encourage farmers to undertake, where the impacts are often less well publicised. It also acts as a sign-posting tool for advisers who have a broader awareness and knowledge of environmental issues, and require information in more depth, which can be provided through key advice publications or a more specialist advice source.

The packages have been developed to help advisers identify measures that deliver multiple wins on farms, which will result in the delivery of effective integrated advice to farmers. By joining-up existing advice on key issues like climate change, biodiversity and farm competitiveness; this hopes to reduce the burden on farmers, whilst changing attitudes and practices for the better.

Whilst the packages for each sector consist of 26 measures that deliver on-farm and environmental benefits, the tool relies on the expertise of advisers to identify areas on-farm where performance can be improved and ensure that environmental issues are addressed in the most effective way possible. Based on this farm-specific knowledge, the packages can be applied to develop an action plan of a smaller number of measures that maximise on-farm performance and the delivery of environmental benefits.

Adoption of the measures in the advisory packages contribute to enhancing farm competitiveness, performance and resilience and also contribute to national targets with desired outcomes to improve water, air and soil quality, increase biodiversity, address the challenges presented by climate change, and improve the use of nutrients.

2.3.2 Feedback from stakeholders on Integrated Advice Packages

Users of the advisory packages

In addition to consulting with farmers in the development of the packages, a range of stakeholders have also played a role in this process, particularly when identifying who the packages could be used by. The advisory packages have been developed for use by all advisers who deliver advice on arable, dairy, and beef and sheep farms. However, the tool may be more suited to meet the needs of non-environmental specialist advisers, generalist advisers and other on farm influencers.

The range of stakeholders involved in discussions about the Integrated Advice Packages, (including farmers and advisers who participated in the WP2 workshops, members of the Legacy Implementation Group and the Expert Group, and advisers who took part in the

pilot training course), led to the suggestion that the tool is particularly suited to specific 'types' of advisers.

Where the remit of specialist advisers is not directly focused on environmental issues, the advisory packages can help them understand how the advice they are delivering in their specialist area fits into the wider environmental context, potentially providing information that can increase the value of specific measures to meet the needs of multiple environmental objectives. Stakeholders commented that the packages could also help generalist advisers, who are not a specialist in any specific area, but deliver a broad and shallow approach to farmers. For both types of adviser, this tool will help to improve their awareness, skills and competencies so that they can deliver high quality integrated advice that delivers multiple wins on-farm.

The advisory packages may also have a role to play in helping other on farm influencers (including local authority officers, business advisers, water companies, banks, planners, agricultural students, buyers and retailers) by increasing their awareness of the environmental requirements placed on farmers. Stakeholders also suggested that the users of the advisory packages could extend to farmers, particular those who demonstrate an interest in the environmental agenda. Some farmers expressed a desire for access to the packages independently and they suggested that it could be made available in alternative formats including a summary document or poster that highlights the front-end of the packages and provides details about the key measures on a sector basis. In any case, advisers using the packages could share advice specific to measures with farmers including print-outs of the practical management hints and tips.

Longevity of the advisory packages

Throughout many of the discussions with stakeholders, keeping the packages up to date and relevant emerged as a priority issue. Whilst the packages can be easily used as a live document, consideration needs to be given to ensure that web-links do not become broken over time and updates to the packages reflect any changes to Cross Compliance, ES, CSF and other schemes. Where signposting to key guidance publications occurs there is a need to ensure that the latest editions are included. Emerging evidence and additional practical guidance could also be added to the packages in the future. All of these issues require consideration by the Legacy Group.

Developing a sub-catchment approach

Stakeholders also suggested that developing sub-catchment packages of advice as an alternative to the catchment specific advisory packages may be a way forward in the future. They explained that this approach works very well for other focused, but limited streams of advice, as it enables an even more targeted approach utilising data from Natural England and the Environment Agency.

Feedback from the adviser training

During the course of the pilot adviser training course (discussed in section 4.2) the thirteen advisers present were given the opportunity to test out the Integrated Advice Packages through a series of exercises. At the end of the adviser training the advisers were asked to fill in feedback forms relating to the Integrated Advice Packages and how they might use them in the future. All feedback forms were completed anonymously so the answers can not be allocated to specific types of advisers. Nine out of the thirteen advisers completed forms and returned them to the project team. The answers to the questions in the feedback forms are summarised in

Appendix 2.

3. FARMSCOPER

Farmscoper was originally created as part of Defra project WQ0106 as a policy / research tool, with a Microsoft Excel user interface, to investigate the impacts of different mitigation methods on multiple pollutants, providing a way to assess policy schemes (groups of mitigation methods) and to optimise the selection of mitigation methods for multiple objectives. The tool is briefly described below, followed by a description of the further development of Farmscoper under this project.

A range of pollutant models were used to calculate the diffuse agricultural losses of nitrate, phosphorus, sediment, nitrous oxide, methane, ammonia and plant protection products. The models chosen for this were able to disaggregate the total pollution occurring, using to a series of coordinates, so that it would be possible to express, for example, the phosphorus lost in particulate form, occurring in surface runoff over arable land, or the nitrous oxide lost from application of dairy slurry to grass land. A mitigation method could then be expressed as a series of reductions (or possibly increases) in the pollution occurring through a set of coordinates. For example, a riparian buffer strip would reduce the losses of all pollutants in surface runoff, but may have a greater impact on particulate losses than dissolved losses.

The suite of models were used to create a database of unit export coefficients for all relevant pollutants and coordinates, which varied by local environment, and which could be scaled by factors such as the amount of nitrate in dairy slurry, or the area of arable land. A series of default farms were created, which could be modified given certain constraints within the tool. Once a farm and environment were selected, the unit coefficients and scalar factors determine the total pollution occurring on that farm.

The tool was able to calculate the cost and impact of the implementation of one or more mitigation methods, from a library of over 70 different methods, based on the latest Defra User Guide (Newell Price et al., 2011). It also included a genetic algorithm based optimisation routine, to aid the selection of methods from the library.

3.1 Development of Farmscoper

One of the primary aims of the development of Farmscoper under this project was to make it more suitable for use as a decision support tool for use by farm advisors. The development of Farmscoper has been focused on the specifications in the original proposal, combined with feedback from the farm adviser workshops arranged in May 2011 and feedback from Defra at meetings in April 2011 and September 2011.

3.1.1 Adviser Workshop

A workshop to obtain feedback and suggestions for development of the Farmscoper tool from advisers was held in May 2011. The eight attendees came from a diversity of organisations, including Natural England, Farming and Wildlife Advisory Group (FWAG), Dairy Group, the Agriculture Industries Confederation (AIC) and ADAS. Presentations provided the advisers with information on the Farmscoper tool and how to use them. The advisers were then assisted in using Farmscoper, and their comments and suggestions for improvement recorded on an evaluation form for each of the three workbooks.

The comments included:

- A simple method for inputting farm information is required

- The tool needs to be more flexible in accommodating a wider range of farm types
- The summary graphs need to be very clear with informative titles. Colour coding could be used to indicate levels of pollutants
- A much simpler interface is required. The tool should be easy to use
- The “Detailed Graphs” tab should not be included as it is complex and not easy to understand
- When evaluating combinations of measures, the tool should allow easy identification of the measures included within each combination.
- The evaluation should be summarised in a printable report. This report should highlight the most effective measures or combination of measures. For combinations of measures a list of the included measures should be provided in the report. These could be shown to farmers in situations where they did not want to use the tool in front of them and to document what they had done.

In addition to the comments on the specific components of the Farmscoper tool, the advisers indicated that they could see how the tool could be used to open up a discussion with a client, but that this would only be beneficial if the farm represented within the tool closely matched that of the client. They suggested that the tool should walk them through the process of creating a farm, evaluating measures and then ranking measures against environmental benefits, ideally by including instructions in each spreadsheet within the workbooks. This latter comment may reflect the limited time that was available for demonstrating the tool, and with an appropriate training package in place, it should not be necessary to have detailed instructions embedded within the tool. The advisers felt that the data entry required for the tool would repeat much of the data that had already been entered into a number of other computerised systems, such as PLANET, Entry Level Stewardship, Single Payment Scheme, Carbon Accounting for Land Managers and Farm Assurance, and wondered whether the data could be pulled into the tool from these systems.

3.1.2 Development common to all Farmscoper workbooks

Following the feedback from the adviser workshop, reporting functionality has been added to each of the workbooks, summarising the results of that workbook in a format suitable for printing.

The other major development, following feedback from all users was the incorporation of greater help within the workbooks. This has taken three forms:

1. Hyperlinked in-file help

Each workbook has detailed help for each worksheet it contains, accessed via hyperlinks on each worksheet. The help describes the purpose of the worksheet and explains the use of any buttons or options boxes on the worksheet. Although this within-file help has replaced the separate user guide that came with the first version of Farmscoper, it has been formatted so as to be suitable for printing.

2. Tool tips

The majority of column headers within the workbooks now contain information on the data contained in the columns. The main interface worksheets in each workbook now feature numbering for the buttons available, with the numbering used to guide the user through the process and to provide additional help.

3. Colour coding

Column headers across the workbooks have been colour coded to show whether columns are for data entry, fixed values or the results of calculations.

3.1.3 Development of Farmscoper Create

The main interface worksheet in the Create workbook has been simplified, and now includes a map to show the rainfall zones that can be selected.

Significant changes have been made to this workbook in order to allow greater customisation of the farming system (such as specification of the number of each livestock type and crop type; alteration of manure management; specification of manure applications). The original farm types have been retained as an option to allow a user to build from an existing template, rather than build a farm from scratch.

A new addition to the Create workbook is a section on farm economics, which can be used to assess the cost implications when comparing method implementation on different farms. The economics section is a whole farm gross margin calculation, based on the farm data already input into the tool along with a small amount of economics specific extra data (e.g. crop yield). The assumptions underlying the economics (e.g. input costs) are taken from the John Nix Farm Management Pocket Book (41st edition, 2011) and if desired may all be adjusted by the user. The economics section only provides a broad estimate of the total gross margin, and the use of it is entirely optional and not required for the rest of the tool to function. The gross margin does not take into account fixed costs and overheads (as these can vary significantly between farms) and so does not represent the profitability of a farm.

The reporting of pollutant losses within this workbook has been altered from the original large and cumbersome table format. The possibility to alter the pollutant loss values, and incorporate losses from additional coordinates, has been retained.

The pollutant loss uncertainty feature in this workbook has been removed in order to simplify farm creation. The feature has been moved to the Evaluate workbook, where it is initially hidden from view.

3.1.4 Development of Farmscoper Evaluate

The main interface worksheet in the Evaluate workbook has been simplified, partly through the removal of some original functionality that was deemed surplus to requirements and also through hiding the controls for the more complex functionality. This functionality can be unhidden through the selection of various options on the interface. Worksheets that are not immediately required by a user have also been hidden, but can also be unhidden through options on the interface. This has resulted in a much simpler interface and workbook initially being presented to the user.

The pollutant loss uncertainty feature has been moved from the Create workbook to the Evaluate workbook. Additional functionality has been incorporated to facilitate the selection of methods. It is also now possible to specify the maximum possible implementation of each mitigation method and to easily alter the costs of each method (to represent the offsetting of costs e.g. through scheme participation). For optimisation, a new graph has been added to show the frequency of method selection within the most optimal results. Over 20 methods have been added to the original list of methods. These new methods focus on components of the Entry Level Stewardship (ELS) scheme and water use, as well as other methods picked up under the Integrated Advice Packages.

The impacts of the original mitigation methods on pollutant losses have been reviewed, and the impacts also assessed for the new mitigation methods being included. For all mitigation methods it was necessary to assess the impacts on biodiversity, water use and energy use. Water and energy impacts were based upon the results of previous Defra projects, the updated User Guide of mitigation methods and expert opinion. The impacts

on biodiversity were assessed by extracting data and information from existing literature on the impacts of the ELS scheme. The key references used were:

Boatman, N., Willis, K., Garrod, G. & Powe, N. (2010) Estimating the wildlife and landscape benefits of Environmental Stewardship. Natural England Report RP0025.

CEH (2007) Comparison of new and existing agri-environment scheme options for biodiversity enhancement on arable land. Final report for Defra Project BD1624.

Boatman, N., Conyers, S., Parry, H., Pietravalle, S. & Ramwell, C. (2008) Estimating impacts of ELS on key biodiversity indicators and diffuse pollution of surface waters by nutrients. Final report for Defra Project MA01041.

Scott Wilson Ltd. (2009) Monitoring and evaluation of Agri-environment Schemes. Final report for the Scottish Government

Soil Association (2000) The Biodiversity Benefits of Organic Farming

Using the data collated from the literature, the benefits of each ELS option were defined on a number of different taxonomic groups using a scoring system. The overall score assigned to an ELS option was then calculated as the average of these taxonomic scores. Each mitigation method was cross-referenced with the ELS options to inform whether the mitigation method wholly or partially contributed to the option. The mitigation methods were then assigned biodiversity benefit scores by averaging the scores of the ELS options that they contributed to, weighted by the contributions to the options.

The costs of the new mitigation methods have been assessed and each method assigned separate fixed and variable costs where appropriate.

As well as enabling the printing of results, the reporting functionality added to the Evaluate workbook also allows for the easy identification of mitigation methods from the results sheet.

3.1.5 Development of Farmscoper Prioritise

A prioritisation workbook has been developed as part of this project to enable further assessment and ranking of the output from Evaluate worksheet. Two copies of the prioritisation tool have been developed, incorporating the comments from advisers on the initial versions shown at the workshops in May. The first copy ranks mitigation methods or combinations of mitigation methods for use within a single farm, whilst the second version allows the ranking to be performed across multiple farms. This latter version is designed for use by catchment officers who may need to make decisions about where to focus their efforts for pollution mitigation.

Both copies of the workbook incorporate simple and advanced options for the ranking of mitigation methods. The simple option requires the user to provide a value for the importance of each member of a set of environmental objectives. Each method is then scored against each environmental objective, where the score is weighted by the ratio of the importance assigned to the policy objective relative to the sum of the importance of all environmental objectives. The methods are then ranked by score. The advanced option uses Analytical Hierarchical Processing to rank the methods, with a set of sliders used to set the relative importance of each member of the set of environmental objectives.

The user is able to exclude individual or combinations of methods based on fixed costs, variable costs and the number of individual methods implemented in combinations of

methods. From the list of ranked methods the user is able to generate a report which details the environmental impact and cost of the methods. Where combinations of methods are reported, the individual methods making up that combination are listed in the report.

3.2 How Farmscoper works

Farmscoper can be used to estimate the baseline or current pollutant losses (N, P, sediment, GHGs, ammonia) on a farm, and then evaluate the impacts of one or more mitigation methods on the different pollutants. The tool allows for a variety of different farming systems to be created and modified - the results shown in Table 4 are for a dairy farm, a lowland grazing farm and an arable farm, chosen to reflect the different farming in the catchments selected for the workshops and development of the Integrated Advice Packages. Farmscoper contains over 100 different mitigation methods, but only 29 of these correspond to the methods eventually selected for the Integrated Advice Packages. Note that there are methods in the Integrated Advice Packages that are not in Farmscoper, generally because they attempt to reduce pollution by a change in the farming system (e.g. arable reversion) rather than attempting to reduce the losses from a specific component of the current farming system.

The pollutant losses for the different farm types (Table 4) show that sediment losses are considerably higher on the arable farm, due to the large areas of exposed soil over winter, whilst nitrate and phosphorus losses are lowest on the lowland grazing farm, as it is the least intensive system of the three. Ammonia, methane and nitrous oxide losses are all highest on the dairy farm, showing how important a source of pollution intensive livestock farming can be.

Table 4 Pollutant losses for the default farm types in Farmscoper, for an impermeable soil in 700-900 mm annual rainfall.

	Dairy	Lowland	Arable
Nitrate (kg ha^{-1})	33.4	16.0	31.8
Phosphorus (kg ha^{-1})	0.78	0.44	0.69
Sediment (kg ha^{-1})	107	74	520
Ammonia (kg ha^{-1})	40.1	12.7	14.0
Methane (kg ha^{-1})	189	71	0
Nitrous Oxide (kg ha^{-1})	12.0	8.5	5.9
Pesticides (units ha^{-1})	0.01	0.01	0.17

Farmscoper allows for the impacts of one or more mitigation methods to be evaluated. Table 5 shows the impacts of all of the Integrated Advice Package methods being applied to each of the farms, whilst Table 6 shows the impacts of each of the individual Integrated Advice Package methods on the dairy farm for a selection of pollutants, and also shows the additional consequences for biodiversity. It is important to note the sum of the individual impacts and costs (Table 6) is less than the impact and cost of all methods being applied together (Table 5), due to interaction between methods and because of diminishing returns as more and more methods are applied. On the dairy and lowland farms, implementation of all methods results in a saving to the farmer (Table 5). Table 6 shows that for the dairy farm this is due to the significant savings that are available from more efficient use of manures and increased use of clover, which would also be the case for the lowland grazing farm. These sources of savings are not available on the arable farm, so the cost of implementing all methods is over £26,000. The relative reductions in the different pollutants are broadly comparable across the different farm types (Table 5), with the biggest reductions being for sediment, and negligible reductions for ammonia and methane. However, it is important to note that the absolute reductions for sediment are far greater on the arable farm, because it is both larger in area and has a much higher initial

sediment loss. This emphasises the need to look at absolute values, as well as percentage values and results expressed per unit area.

The individual impacts for the dairy farm (Table 6) show the costs and benefits of the different Integrated Advice Package methods. Cover crops can be seen to have a 45% reduction on sediment losses, with a small variable cost. This can be compared with adopting reduced cultivation, which has a more limited reduction in sediment (9%), but should result in a financial saving, or planting areas of the farm with nectar mix or wild bird seed, which is the most expensive of these 3, but reduces sediment by 12% and is also likely to be quite beneficial for biodiversity. Reduced field stocking rates has a limited impact on sediment losses or biodiversity, but does reduce nitrous oxide losses by 2%. Thus the preferred choice of mitigation methods to implement would depend upon the financial situation of the farmer and the potential for additional funding, and the relative importance of the different pollutants and biodiversity.

Table 5 Reductions in pollutant loads (absolute values in kg, relative values as percentages) predicted using all methods within Farmscoper that are labelled as Integrated Advice Package methods. Reductions are for the default farms in Table 4.

	Absolute			Relative		
	Dairy	Lowland	Arable	Dairy	Lowland	Arable
Fixed Cost (£)	5,915	2,666	2,986	-	-	-
Variable Cost (£)	-21,604 ^a	-5,934 ^a	23,214	-	-	-
Total Cost (£)	-15,689 ^a	-3,268 ^a	26,200	-	-	-
Nitrate	544	218	1,430	14	13	23
Phosphorus	37	15	42	42	35	31
Sediment	7,227	2,733	40,276	59	37	39
Ammonia	-73 ^b	-16 ^b	276	-2 ^b	-1 ^b	10
Methane	-19 ^b	146	0	0	2	0
Nitrous Oxide	184	76	148	14	9	13
Pesticides	0.2	0.1	6.6	19	16	20

^a These are savings to the farmer

^b These are increases in pollution

Table 6 Reductions in sediment and nitrous oxide, and additional impacts on biodiversity, for the Integrated Advice Package methods within Farmscoper for the Dairy farm in Table 4 and Table 5. Note that only methods that impact on these pollutants are shown.

	Fixed Cost (£)	Variable Cost (£)	Sediment (%)	Nitrous Oxide (%)	Biodiversity
Establish cover crops in the autumn	0	630	44.9	0.3	0.2
Adopt reduced cultivation systems	0	-500	8.6	0.4	0.2
Establish in-field grass buffer strips	3	80	4.3	0.0	5.0
Establish riparian buffer strips	10	310	8.6	0.0	5.0
Loosen compacted soil layers in grassland fields	0	950	4.3	0.1	0.0
Make use of improved genetic resources in livestock	0	-6,490	0.0	0.7	0.0
Use a fertiliser recommendation system	0	-600	0.0	2.2	0.0
Integrate fertiliser and manure nutrient supply	0	-17,520	0.0	2.2	0.0
Use clover in place of fertiliser nitrogen	0	-5,700	0.0	2.0	1.0
Reduce field stocking rates when soils are wet	0	2,480	0.6	1.8	0.2
Do not apply manure to high-risk areas	0	190	0.0	0.1	0.0
Do not spread slurry or poultry manure at high-risk times	0	160	0.0	3.0	0.0
Do not spread FYM to fields at high-risk times	0	30	0.0	0.4	0.0
Fence off rivers and streams from livestock	950	0	0.0	0.3	0.0
Establish new hedges	130	0	0.2	0.0	1.0
Unintensive hedge and ditch management on arable land	0	250	1.0	-0.1	5.0
Plant areas of farm with wild bird seed / nectar flower mixtures	600	2,150	12.2	0.0	5.0
Beetle banks	4	80	1.7	0.0	5.0
Uncropped cultivated margins	0	310	1.7	0.0	5.0
Unfertilised cereal headlands	0	130	0.7	0.0	2.5
Unharvested cereal headlands	0	250	0.7	0.0	2.5
Locate out-wintered stock away from watercourses	0	190	0.6	0.7	0.0

3.3 How will Farmscoper be used and by whom?

Farmscoper can be used to quantify the likely economic and environmental impacts of mitigation methods for a range of farm types and farming systems. It is more sophisticated and dynamic than the Integrated Advice Packages, allowing a greater choice of mitigation methods and providing more detail on impacts. However, Farmscoper is more complex to use and requires a reasonable level of computer literacy. It is also important to know that Farmscoper does not take account of the practicality of the mitigation methods, and assumes they are being implemented in an ideal situation, – thus it is still important that the user of Farmscoper is aware of the finer aspects of the mitigation methods listed (such as is available in the detailed descriptions in the Integrated Advice Packages).

3.3.1 Feedback from adviser training on Farmscoper

During the course of the pilot adviser training course (discussed in chapter 0) thirteen advisers were given the opportunity to test out the Farmscoper decision support tool through a series of exercises. At the end of the adviser training the advisers were asked to fill in feedback forms relating to Farmscoper and how they might use the tool in the future. All feedback forms were completed anonymously so the answers can not be allocated to specific types of advisers. Eight out of the thirteen advisers completed forms and returned them to the project team. The answers to the questions in the feedback forms are summarised in Appendix 2

4. DESIGN, DEVELOP AND DELIVER FLEXIBLE TRAINING COURSES FOR ADVISERS

4.1 Developing and designing the training course

4.1.1 Stakeholder Consultation

Key stakeholders involved in the development, accreditation and delivery of advice namely LANTRA; LEAF; FWAG; AgriSkills Forum; Land Based City and Guilds; Harper Adams University College; DairyCo and CAAV, were consulted to gauge opinions on the development and delivery of a training course for advisors. The key points of these consultations, along with findings from the questionnaires completed by advisors, have been collated in the summary below. Findings are broadly organised into categories as per the semi-structured consultation guide.

Links to and coverage of the nine integrated advice pilot policy areas

The general opinion from advisers and stakeholders was that the integrated advice policy areas are well covered by current advice and training packages, however advice is fragmented, and varies in quality. Each agricultural sector approaches the delivery of advice differently.

Results from the consultations carried out for this project showed that amount and level of training received by advisers on the nine policy areas varies considerably. The majority of training seems to be delivered in-house and is paid for by the employer. Where external training was reported, BASIS and FACTS were by far the most commonly attended courses. There was no definitive trend between public and private sector bodies, as to the type of training. Technical expertise, budget, and legislative requirements were common underlying drivers for CPD for all advisors.

The consultation showed that links to and coverage of the nine policy areas is strongest regarding: nutrient management, biodiversity, environmental stewardship, and soil quality. FACTS and BASIS courses were the key means by which advisers received training on nutrient management, soil, and water quality.

Climate change was an area where further training needs were identified. Several advisers claimed to have a general understanding of climate change but required further training and information on the specific methodologies for mitigation and adaptation.

Regarding stakeholders, LEAF, FWAG and CAAV stated that their remit already covers the majority of the integrated advice policy areas, and is delivered in an integrated way. FWAG delivered on eight directly, and the ninth (farm competitiveness) indirectly. LEAF uses their integrated farm management model for delivery; this has strong links to Defra's

policy agenda, but is not specifically driven by it. CAAV consider that their advisers already deliver integrated advice on all of the policy areas as well as other topics. From their perspective, limiting their advice to the integrated advice topics would not meet their clients' requirements.

In addition to understanding the policy drivers, all consultees stressed that much of their delivery was concerned with the practical application of these in a farm/ rural business/ land management context.

Opinions on the industry's appetite for the accreditation of those who provide advice to farmers and growers.

It is considered more difficult to measure and assess the appetite for training in the agricultural sector than other industries, owing to its disparate nature (Land based City and Guilds).

It was generally thought that the appetite for accreditation will vary. Some resistance is anticipated especially from small/ independent advisers due to the additional costs of having to undertake accredited training. Some people could view training as patronising when they have already been delivering on a topic(s) for years (AgriSkills Forum).

Responses from advisers showed a strong correlation between the commercial basis for undertaking training and the desire to do so. Most advisers said they would only be interested in the integrated advice qualification if it was either directly relevant to the advice they deliver or to their career development.

With reference to the appetite for training within the farming community, it is thought that some farmers (particularly young professionals who have studied to degree level) will be in favour of further accreditation and training but others will consider it as a step closer to needing a license to farm and will resist (LANTRA, AgriSkills Forum). Observations by the AgriSkills Forum show differences between what farmers consider to be training (normally of a legislative nature) and what government and advisory bodies consider to be training.

Opinions on the notion that accreditation will engender greater trust, consistency of message and quality of advice.

Accreditation was generally viewed as an aid to improving the quality and consistency of advice delivered (all stakeholders). This was echoed by the majority of advisers who were in favour of a course that could deliver a coherent and long term approach to the nine policy areas. Advisers stated that they currently have to conduct their own research/ reading to keep abreast of policy developments.

There were mixed feelings on the engendering of greater trust: an integrated advice accreditation may not create more trust or confidence in advisers as these are already pre-requisites for farmers' choice of adviser (LEAF). Trust may actually be undermined by a feeling from recipients that integrated advice is pushing the government agenda rather than delivering independent advice (Harper Adams). There may be potential conflict between the delivery of advice and regulations (Agriskills Forum).

Opinions on the notion that the arable sector are more familiar with using accredited advisors, owing to schemes such as FACTS and BASIS, than the livestock sector.

The livestock sector is better served for accredited, standardised advice/ CPD schemes than it first appears. The pig industry now has the Pig Industry Professional Register; the poultry industry uses an electronic data base system to map skills and qualification requirements and attainment and; DairyCo is currently developing a next generation

farming CPD scheme which will be run on a points-based system and will hopefully synthesise new research partnerships. The BPEX CPD scheme is linked to C&G and based on the NRoSO model. DairyCo envisage that there is potential for overlap/ links between their CPD scheme and the integrated advice pilot (LANTRA, Harper Adams, Land based City and Guilds).

Vets are seen as an accreditation body/ standard within the livestock sector. Although the livestock sector does not have many accredited advisors, farmers do expect their advisers to update their CPD continually so they know the best solutions. Owing to costs, small scale livestock farmers are more likely to receive advice that is tagged on to merchants or feed reps for example, which is considered less impartial (LEAF).

Discussions around BASIS and other accredited training provisions

BASIS was generally seen as the best umbrella under which to place the course. The reasons given included: the current extent of its courses, course quality and industry reputation. Land Based City and Guilds suggested it may be prudent to consider the resources available to BASIS as it is a relatively small organisation. LEAF; Land Based City and Guilds, and LANTRA all have links to BASIS. LANTRA and Land Based City and Guilds both expressed an interest in being involved in the development/ execution/ accreditation of the course.

Awareness of other structured training and accreditation processes that cover different aspects of the integrated advice policies, and warrant further consideration.

The chartered environmentalist course and BASIS both have a lot of cross-over with the aims of the integrated advice professional qualification. There is a need to avoid duplication between the integrated advice course and existing professional qualifications. The integrated advice course/ qualification should be constructed in a way that dovetails with existing courses and qualifications rather than competing with them. (CAAV, Harper Adams, FWAG).

Other key points regarding the development and structure of accredited training.

Issues were raised regarding funding and costs. Organisations can not afford to contribute to industry developments for free. The nature of government support/ funding means that there is a need for intellectual property to be paid for (FWAG and LEAF).

Course costs may be a barrier to uptake for some, particularly smaller consultancies (general stakeholder opinion). Responses from individual advisers showed that employers currently pay for CPD in most instances.

The need to consider drivers to uptake was raised by most consultees. Individual advisers highlighted the need to get buy in from employers.

One course may not fit all. It could be desirable to have a tiered approach to the course, with different standards/ levels of detail depending on delivery requirements. Under such a system it is envisaged that general farm business consultants, environmental stewardship consultants, and land agents, would be fully trained in depth, where as sector specialists such as cereal agronomists could take a shorter, less in depth-course, which highlights the main points of integrated advice and enables them to appropriately sign post clients to further sources of help (FWAG and LEAF). It was also considered important to embed the integrated approach at a farmer level (LEAF).

LEAF recommended that the training course includes a practical/ demonstration element. The majority of advisers made similar requests, highlighting their need to be able to translate policy into practical, farm level advice.

There was a general feeling that the agriculture sector is already at risk of drowning in bureaucracy, an additional course should therefore avoid adding to this burden.

Messages for the project going forward

- The need to take account of the identified drivers and barriers for uptake, namely: customer requirements; legislative requirements and cost.
- There is most demand for a course which draws together the individual policy areas, focussing on practical and long term application.
- Avoid duplication with existing CPD courses and accreditations. Where possible dovetail with BASIS and potentially others such as the Chartered Environmentalist Course.
- There have been recent and on-going developments regarding CPD within the livestock sector which need to be considered in the development of the integrated advice approach and course.
- Vets are key training and advisory stakeholders within the livestock sector, how these can be built into the process needs further consideration.
- Further training and information is required for climate change adaptation and mitigation.
- One course may not be suitable for all advisors. The proposed pilot will provide further information on where a tiered approach is desirable or feasible.
- BASIS is generally considered the best umbrella, under which to place the course.

4.1.2 Understanding how integrated advice might fit with BASIS

As an organisation, BASIS runs a total of seven key courses (FACTS, Nutrient Management and Planning, Soil and Water, Conservation Management, Crop Protection, BETA and Integrated Crop Management) which can be completed individually or as part of the BASIS Diploma in Agronomy. Each course is independently accredited and regularly assessed to maintain the relevance of the course content.

Two analyses were conducted by ADAS to assess the relevance of the BASIS courses to Defra's nine policy objectives, and then establish the degree to which training for each of the recommended measures was covered within the course structure.

Matrix 1 – Policy

To confirm the relevance of BASIS as a technical partner, a matrix was developed to assess the degree to which the seven courses address each of Defra's nine policy objectives.

Each module was scored on a scale of 0 – 3 to indicate the depth and degree to which they address the Defra policy objectives, with scores from individual modules averaged by course to provide an overall assessment of cover.

Matrix 2 - Measures

The extent to which training is available for each of the advice measures was assessed by measures matrix. If a measure was covered in an individual course module, it scored 1 and if not, 0. This assessment produced a specific assessment of where advisers are able to receive training on specific advice measures.

This method was useful as it not only identified where measures are not currently covered by any course, but also the depth of cover for individual recommendations across a range of courses. This information can be used to improve the overall training provided for a measure over a number of different courses or target specific changes in content within a single module or course.

Validation of initial assessment

Matrix 1 – Policy

BASIS independently assessed the scores attributed in the ADAS policy matrix and recommended very few substantial changes. It was accepted that the methodology and scoring used to develop this matrix provided a good description of the content of the courses.

Matrix 2 - Measures

In a preliminary review of the conclusions from the ADAS measures matrix BASIS confirmed that they matched many of the trends that they had been aware of internally, though this presented them in a single review. The large list of measures was useful as they provided a common structure to compare the range of different courses and establish areas of common linkage (or difference) on topical issues. Traditionally the courses are reviewed and assessed individually rather than as a single project.

As many of the courses use a combination of formal structured training in course discussion and in-vivo assessment to deliver training, BASIS raised the concern that the discrete score adopted by ADAS could mask additional learning that was delivered by informal linking different aspects of training. Instead of using discreet (0-1) module based scoring, BASIS elected to assess each measure on a scale of 0–5 to describe the degree to which each measure was covered over the entire course offering. This concern was recognised, but as the informal discussions do not form a predictable aspect of the courses, it was felt that retention of the initial ADAS assessment was valid.

Conclusions from assessment process

Matrix 1 - Policy

As anticipated, the specialist courses typically scored highly for certain objectives but correspondingly less for others and thus had a lower overall score. It was not felt that this posed a significant issue none of the courses recorded an internal score of less than 40% per objective.

Table 7 Score of course against policy areas

Course	Score (%)
FACTS	73
Soil and Water	73
Conservation Management	69
Nutrient Management Planning	57
BETA	57
Integrated Crop Management	56
Crop Protection	53

It was interesting to note that while advisers indicate that they currently lack training in climate change adaption and mitigation, both issues scored well in the overall policy assessment.

As many of the advice measures relating to climate change and adaptation are refinements on current best practice (rather than completely new technologies) advisers do not always identify these specifically in the context on climate change. For example, selecting appropriate crop and varieties are generally seen as agronomic decisions, but are also strongly related to climate change adaptation and mitigation.

We shall be discussing with BASIS how greater emphasis can be placed on the implications for climate change when discussing existing advice measures as well as

complimentary new techniques and technologies. Where easy links are not possible, there may be scope to develop overview modules which underline the link between existing recommendations and climate change.

Table 8 Coverage of each of the policy areas in the BASIS courses

Policy	Score (%)
Climate Change – Mitigation	74
Climate Change – Adaption	73
Quality – Soil	71
Quality – Water	68
Farm Comp	61
Stewardship	58
Biodiversity	56
Nut. Man	55
Quality – Air	48

Overall, it is felt that the seven courses BASIS currently offers are well equipped to deliver appropriate and relevant training across the nine Defra policy objectives.

Matrix 2 - Measures

BASIS estimated that over 61% of the measures have a high or very high match to the measure described and primarily tend to be focused within the arable sector. While no total group of measures lacked any presence within the BASIS portfolio, 16% of the recommended measures were not covered in any of the courses, primarily associated with measures in the livestock sector.

Table 9 Percentage of measures (in the original list of 400) covered by BASIS courses – as assessed by BASIS

Match	Measure Group	Percentage
No Match (0)	-	16
Lowest (1)	Animal Health, Animal Nutrition and Stock Management	9
Lower (2)	Reducing Waste and Energy	7
Average (3)	Manure Management and Water	6
High (4)	Climate Change, Land Management, Stewardship	14
Very high (5)	Crop Management, Nutrients, Pesticides and Soil Management	47

The ADAS review of the data compliments the analysis conducted by BASIS, but provides an assessment of measures at a finer, module based scale. As with the first matrix, approximately 15% of measures are either never covered or covered only once, whilst over 60% of the measures are covered a minimum of four times within the courses.

Table 10 More detailed assessment of measures

Measure Group	No. Measures	Times cited	Degree of cover		
			Low (0-1)	Moderate (2-5)	High (6+)
Stock management	44	29	84	16	0
Animal Nutrition	14	17	57	43	0
Animal Health	12	31	33	58	8
Reducing Waste	6	24	0	100	0
Energy	12	39	0	100	0
Water	32	72	38	59	3
Manure Management	40	202	5	58	38
Stewardship	33	122	0	82	18
Land Management	103	484	4	65	31
Climate change Adaption	5	36	0	20	80
Soil Management	1	5	0	100	0
Pesticides	65	282	0	78	22
Crop Management	54	331	6	33	61
Nutrients	75	555	1	20	79

4.1.3 Training course objectives

The training course objectives were developed following the stakeholder consultation and in conjunction with other consortium members to ensure that all aspects of the project were covered including the Integrated Advice Packages (Innogen), Farmscoper (ADAS) and the Legacy Implementation Group (AHDB). BASIS Registration Ltd who are a member of the Legacy group were identified as partners in the training aspects to ensure that the course met their standards for full accreditation either in its own right, or as modules in part of other courses such as Certificate in Crop Protection.

4.1.4 Structure of course

The structure of the training course for advisers was devised to ensure active participation and maximum learning opportunities. It was important to achieve a balance between spending sufficient time to ensure objectives could be met while recognising the time commitment of participants. With this in mind, the pilot training course was held over 2 days.

The key considerations in the development of the course were that it would be:

- Suitable for all sectors and adaptable for specialist areas if required
- Suitable for a wide range of adviser backgrounds
- Flexibility to be delivered over different timescales/methods (e.g. computer tutorials) in the future
- Requirements for accreditation by BASIS Registration Ltd and suitability for CPD points.

4.1.5 Development of training material

A range of training materials and methods were used for the pilot training course to provide a variety of learning styles. This included:

- 9 information based presentations which were used to introduce topics or summarise findings.
- 3 buzz groups where small groups (2-3 delegates) worked on set questions before reporting back over a short time frame
- 7 group exercises (3-4 delegates) using information provided in practice such as case study exercises. The groups were identified by their catchment locations, place at the table, or randomly depending on the exercise and to provide variety.

- Individual exercises were used for Farmscoper where each delegate used a computer
- Questions and discussion were encouraged during and after each session.
- Course feedback and evaluation forms.

4.1.6 Accreditation

A key aspect of the development of an integrated advice training course is to achieve accreditation from BASIS Registration Ltd, so that it becomes a recognisable qualification. This was taken into account in the development of the pilot training course structure and training material to ensure that it would be compliant, but as it was a pilot, the course itself was not accredited at this stage.

4.2 The pilot training course

4.2.1 Course objectives

The overall aim of the training is for participants to be sufficiently confident to deliver Integrated Advice to up to 4 different farmers in the 2 months following the course.

Specific objectives were to:

- Be able to describe the competing business and environmental priorities and understand the need for on-farm action.
- Be familiar with our approach to delivering Integrated Advice and how it can be used on farm to prioritise actions for the particular farm
- Be able to identify on-farm actions that provide multiple benefits for the farm business and the environment using Integrated Advice Packages
- Be able to operate Farmscoper decision support tool for optimising and prioritising on-farm actions
- Develop knowledge and understanding of different ways of providing advice in different situations

The objectives were sent to participants as part of a pack (which also included agenda and arrangements for accommodation) prior to the start of the course.

Delivery team

The training delivery team was as follows:

Susan Twining - ADAS – Work Package leader, course director, principal facilitator and trainer Integrated Advice Package use

Sarah Wynn - ADAS – Trainer: policy areas, Farmscoper use

Corrina Gibbs - Innogen – Trainer: Integrated Advice Package development

Brian Angell – Independent – Trainer: Advisory Approaches and Behaviour Change, support to course director on course design

Richard Gooday – ADAS – Trainer: Farmscoper software operation

In addition two observers were present:

Emily Scraggs – RAND – Evaluator

Paul Singleton – BASIS Register Ltd (present first day)

4.2.2 Course structure

The course was held over 2 days at a central location (Coventry) for ease of access for participants from the three pilot study areas. As this course was a pilot, additional sessions were included to explain the project and to ensure a common understanding of integrated advice within the context of the project, however the remainder of the training was specifically aimed at achieving the course objectives.

Table 11 Outline agenda

		Day 1	Lead
9:30		Arrive – coffee and tea	
10:00	1hr	Introductions – Delegates, training leaders, project background	Susan Twining
11:00	2hr	Objectives and priorities for the farming industry –what are the main environmental and business priorities for farming?	Sarah Wynn
13:00		LUNCH	
13:15	1hr 15m	Developing and advisory approach – How can we deliver this advice?	Brian Angell
14:30	0hr 30m	What is integrated advice?	Susan Twining
15:00	0hr 45m	Integrated Advice Packages	Corrina Gibbs
15:45		Break	
16:00	1hr 0 m	Familiarisation with Integrated Advice Packages	Susan Twining
17:00	0hr 45m	Introduction to Farmscoper	Sarah Wynn
17:45	0hr 15m	Summary and close day 1	Susan Twining
19:30		DINNER	
		Day 2	
8:30	0hr 15m	Review of Day 1	Susan Twining
8:45	1hr	Inspiring change	Brian Angell
9:45		Break	
10:00	2hr 30m	Familiarisation with Farmscoper/Integrated Advice Packages	Sarah Wynn supported by Richard Gooday
12:30		LUNCH	
13:15	1hr 0m	Delivering integrated advice	Susan Twining supported by team
14:15	0hr 45m	Action plans	Susan Twining
15:00		Close	

4.2.3 Participants

The 13 advisers who attended the course were primarily, but not exclusively, invited from one of the 3 pilot catchment areas. They represented a range of advisory organisations Government advisers, supply trade, independent consultancy organisations, environmental advisers and land agencies. There was a range of advice areas including specialist technical advice on dairy, beef and sheep and arable, veterinary advice, business advice and environmental advice. There was some overlap in knowledge areas but none covered the whole range, and even within a specialist area there were further specialisms such as fertilisers or livestock nutrition, or specific environmental aspects such as water protection, or environmental stewardship schemes.

Most were experienced advisers in their field with more than 5 years advisory experience in the industry and some considerably more, although one had less than 5 years. The following Table 12 illustrates this breadth based on their introductions.

Table 12. Summary of adviser types and specialist areas covered by those attending the adviser training

	Advice organisation	Specialist areas				
		Dairy production	Beef and sheep	Crop production	Environmental advice	Business advice
1	Private consultancy organisation	Y				Y
2	Land agent				Y	Y
3	Environment Agency				Y	
4	Natural England				Y	
5	Private consultancy organisation	Y				Y
6	Private consultancy organisation		Y			Y
7	Supply trade	Y	Y	Y		
8	Supply trade			Y	Y	
9	Independent agronomist			Y		
10	Private consultancy organisation/farm assurance inspector					Y
11	Independent consultant					Y
12	Vet	Y	Y			
13	Independent environmental advice				Y	

The range of expertise within the group reflected the challenges of opening this training for wider participation. During the session on delivery of integrated advice the group were asked to consider which of the policy areas are covered by different organisations this is summarised in Table 13:

Table 13. Coverage of policy areas by different adviser organisations

	Climate change mitigation	Climate change adaptation	Nutrient management	Biodiversity	Environment Stewardship	Water protection	Air protection	Soil protection	Competitiveness
Agronomists	Y		Y	Some	Some	Y	Y	Y	Y
Land agents									Y
Business management	Y	Y	Y		Y			Y	Y
Feed sales	(y)								Y
Fertiliser sales	Y		Y						Y
NE	Y	Y	Y	Y	Y	Y	Y	Y	Y
EA	Y	Y	Y	Y	Y	Y	Y	Y	Y

4.2.4 Facilitation

The course organisers and trainers were part of the project team including ADAS and Innogen along with an external trainer covering the motivational aspects of delivering advice to farmers (see outline agenda above for areas covered by individuals).

The design of the course engendered a facilitation style which focused on stimulating participation from all participants in plenary sessions as well as in exercises and activities.

An important aspect of the facilitation process was the discussion of the objectives in the first session. The aim being to ensure a common understanding of the purpose of the training, and to enable participants to be engaged right from the start. This activity provides the opportunity for participants to air issues of importance to them early on which can then be dealt with so that the training content can be focused on.

During this process it was clear that the participants were interested in delivering integrated advice, but were unsure about what it meant to them and their business; and how it would be delivered across the industry. Particular concerns were raised about funding and access to the funding.

4.2.5 Training methods

A range of training tools were used to encourage active participation and learning. Group participation was a key feature with questions and discussions encouraged throughout.

Presentations

Presentations of varying length were used in most sessions either to introduce the topic or to summarise key findings and ensure participants had a common understanding. Participants were given copies of the presentations at the end of each session. Although there was some demand for these at the start of a session, this was avoided to ensure participants actively engaged in the material as it was presented. To have the material to hand would risk answers to issues and questions being available, rather than prompting discussion and independent thought.

Buzz groups

Buzz groups involved groups of 2 or 3 participants discussing a topic for a short time before reporting back. These were used to encourage discussion amongst participants and to facilitate a change of pace and active engagement in the issues.

Group Exercises

Group exercises in providing a focus for activity were used to embed material presented formally in sessions and to give experience in using the information and concepts delivered. The exercises thus enabled familiarisation as well as practical application exercises.

Exercise using computers

The familiarisation with Farmscoper exercise was conducted by the presenter leading the group through a presentation whilst concurrently each participant worked at their own computer, to ensure that all had an opportunity to actively use the programme.

4.2.6 Training materials

The training materials used in the pilot course and adapted following feedback are available. This includes the training structure, along with notes explaining the rationale and objectives for training, detailed programme and timing for each session, presentations

with notes, group exercises with notes and course evaluation forms. These training materials have been provided as separate files for use as a training course.

4.2.7 Accreditation

The intention is for the course to be accredited although it was not accredited for the pilot. Accreditation will require an assessment at the end of the course either a written test or viva. This was not conducted during the pilot but recommendations are provided. The ultimate approach will depend on the final form of the Integrated Advice delivery.

4.3 Feedback from the training course

4.3.1 Feedback from advisers attending the training

All participants were asked to return a course feedback form at the end of the training and 12 were returned. The full report can be found in

Appendix .2

Organisation

There was general consensus that the course was well organised including pre-course information, course administration, venue and visual aids.

Meeting course objectives

There was a general consensus that the course met its objectives. Respondents scored the course as good to fair for meeting the objectives. There were a high number of respondents marking 'good' for understanding of the competing priorities and understanding of our approach to delivering Integrated Advice. There were a higher proportion of 'fair' scores for use of Integrated Advice Packages and Farmscoper, and 1 'poor' rating for Farmscoper but this was qualified by a comment that it was their IT skills that were the problem.

Some insight to these ambivalent scores is provided by written comments which suggest confusion over the scope of Integrated Advice. These comments reflect the verbal comments participants made at the end of the course. The lack of clarity about the benefits of, how and why they might use these tools or get involved in the future were at the heart of these concerns.

Overall the course was rated as excellent by 1 participant, good by 8 participants and fair by 3 participants, with positive comments about the training topics and methods.

Assessment of individual sessions

The feedback on the individual sessions was informative and provides a useful basis for the future development of the course. Participants were asked about the value of information, length of session and method of training. In general the feedback was mainly 'good' with some 'excellent' and some 'fair'. There were no 'poor' ratings for any of the sessions other than the last session. Unfortunately this last session had to be shortened from its original planned timing owing to a failure by the hotel to serve lunch on time and to enable some participants to meet their transport commitments. Notable assessments were the comments on the length of the sessions which may reflect the level of individual knowledge and expertise.

Concerns over the balance between the introductory sessions and the Integrated Advice Packages and Farmscoper sessions are being addressed through the re balancing of some of the material and the ability to shorten the introduction to the concepts once the infrastructure/legacy aspects become clearer and the work moves from its pilot phase.

Delivering integrated advice

Overall, participants appeared reasonably confident to deliver integrated advice to farmers with 6 in agreement, 4 neither agreeing nor disagreeing and only 1 disagreeing. There were constructive comments about the need for further refinement of both the Integrated Advice Packages and Farmscoper before they would feel completely comfortable. It is also likely that with greater clarity on the benefits and the role in the current advisory landscape would enhance the level of confidence.

With regard to their assessment of the use of the approaches on farm, 4 felt that Integrated Advice Packages would be useful on farm, while 5 felt that Farmscoper would be useful on farm. This was reflected in many of the verbal comments about the appropriateness for using these in front of farmers. There was however a view that the

Integrated Advice Packages may still be used by the advisers to inform discussions with farmers, either in preparation for a visit or in post visit reporting.

4.3.2 Monitoring and evaluation of training course (RAND)

This section sets out a summary of the key observations and findings of the RAND Europe research team on the Work Package 3 training of farm advisers, undertaken on 29th and 30th November 2011. The purpose of the two-day training session was to explore with farm advisers environmental and business priorities and to consider how advice might be integrated, using the Integrated Advice Packages. In addition, the current version of an advisory software tool – Farmscoper – was presented during the training session. The three different forms of Integrated Advice Package (dairy, beef and sheep and arable) were presented in hard-copy form to the relevant group of advisers within the group.

A RAND Europe researcher was in attendance throughout the training session. This memo is based upon data collected through observation and note taking at that session. The training was attended by 13 farm advisers, some of whom had previously attended farmer workshops in their catchment areas. These were from a variety of organisations⁷. The following sections set out some of the key themes emerging during the observed training session.

Delivery of training

Workshops were facilitated primarily by ADAS with support from Innogen and an external trainer. The number and specialist area of attendees at the training session was as planned. The advisory group in attendance was a mix of male and female advisers with a range of specialist experience. Members of the group were largely not known to one another. The training was held in Coventry in a central location. The meeting was conducted over one long day and one slightly shorter day. An agenda, objectives for the training and project background information were provided to participants in advance and this was reviewed at the beginning of the two-day meeting. Some of the main observations in relation to the process aspects of the training are as follows:

- **Facilitation:** The facilitation of the workshops by ADAS was relatively structured. This ensured that the timing of the meeting was kept to plan and that the pace of the two days progressed as intended. Although the meeting was relatively tightly structured, ample opportunity was provided to delegates to raise questions both during subject specific sessions and during specifically allocated time for questioning and discussion. In addition, the design of the training specifically featured a number of exercises or activities, to facilitate learning of concepts, knowledge, practice in the use of tools and to prompt debate. The facilitator ensured that; discussion was evenly spread across the group, all members were able to make their voices heard, quieter participants were drawn out and more dominant voices were managed, as needed.
- **Introductions:** All delegates were invited to introduce themselves and their organisations at the start of the meeting. They were also asked to share their expectations for the training and what they hoped to gain from their attendance at the meeting. These were noted by the facilitator and regularly returned to at appropriate points during the meeting. Brief introductory comments on the aims and objectives of the session were made. There was some assumption of prior knowledge of the context and purpose of the project. This assumption was based upon the attendance of some of the advisers at previous farmer workshops for this project in their catchment area.

⁷ The organisations represented at the training session were: BIAC, private consultancies, Natural England, Environment Agency and Dairy Group.

- **Make-up of the group:** The group was well mixed and did not present a homogenous response to either the Integrated Advice Packages or to Farmscoper. The nature of questioning and discussion was very diverse and clearly indicated the different backgrounds and contexts of each of the participants.

Overall shape and logic of training session

In relation to the overall flow of the two-day training, the following observations were made:

- **Objectives of the training:**
 - The overall objectives were briefly discussed at the start of the session and individual expectations considered in relation to these. Participants raised a number of questions about the Integrated Advice Packages, the process and the future use of the Integrated Advice Packages at this early stage of the meeting, a number of which remained unanswered. In particular, the potential for roll-out of the Integrated Advice Package's, how this would work and how ongoing development would be funded were raised as issues to consider. These issues relating to the advisory landscape, incentives and infrastructures while clearly of concern to the participants were not the main focus of the training (and were not possible to answer at this stage of the pilot project). Therefore, the discussion was steered towards the technical issues related to integration which were the focus of the training.
- **Flow and logic of the training:**
 - Prior to providing information on the Integrated Advice Packages or Farmscoper, considerable time was spent discussing the environment within which the integrated advice concept arose and the context within which the advice would be given. A further early session was conducted on how best to deliver advice. Both of these elements of the programme were relatively isolated from the Integrated Advice Packages and Farmscoper and were stand-alone elements of the programme. The value of spending time on these areas was that delegates potentially had a firmer understanding of the policy objectives driving the Defra priority areas, as well as an improved awareness of where there may be synergy or potential conflicts. Because of these early contextual sessions, presentation and discussion of the Integrated Advice Packages began relatively late in the first day of training. However, ample time for Q&A was provided and an exercise on the use of the Integrated Advice Packages was undertaken. At the end of the day, the last session introduced Farmscoper and set out the way the tool worked, along with the potential benefits of using it. Again, some time was allocated to Q&A and discussion of these.
 - In terms of assessing the flow and logic of this programme, it was clear that the approach was logical and each session sequentially built upon the understanding developed within each previous session. Within the group there were considerable gaps in understanding of the policy areas and of how they did or did not fit together. This approach facilitated a common understanding of these aspects. However, the challenge with this flow of delivery was that core elements of training that the delegates had attended the session to hear about were delivered quite late in the first day. By this stage, participants were perhaps less open to hearing about the conceptual aspects and the detailed elements of each tool.
- **Coherence of the training programme:**
 - Overall the training made sense to the participants and presented an overall approach and components of training that made up a coherent whole. While

the timing or order of delivery may have somewhat disturbed the flow of the delivery, the overall content made sense to those participating. The elements of the programme worked well together and were appropriately designed to be useful to delegates.

Engagement of participants

Participants were highly engaged in the meeting and were receptive to the topics raised and to the Integrated Advice Package and Farmscoper tools themselves. Throughout the two days, there was lively discussion across all of the modules of the programme. Diverse opinions were expressed on various aspects of the approach and it was clear that some advisers could immediately see the potential of the two tools while others were less convinced of their value for their advisory work. Throughout the training, numerous questions were asked of the facilitators. These fell into a number of themes including the following:

- What the future may be for integrated advice;
- How they would and could be used and by whom;
- The evidence base and drivers for the development of integrated advice;
- What is useful about the approaches;
- How provision of advice in this integrated way might be funded in the future.

Responses to these questions by facilitators were varied. Where answers were known by those leading the sessions, they were provided. Where they were not known, this was primarily due to the pilot nature of the initiative and the inevitable lack of clarity about the legacy of this project. However, the absence of clarity on some aspects – especially for example whether or not there would be a future for the Integrated Advice Packages – resulted in some undermining of the overall mission of the training.

Feedback was sought from participants on the usability of the tools presented during the training. Approximately half of those participating thought that they would potentially use one of the two tools. It was clear that the tools appealed to different audiences – the Integrated Advice Package offered the specialist provider the opportunity to provide a wider range of advice. Farmscoper offered advisers working with newer clients (with farms that they were less familiar with) the opportunity to provide rapid, insightful and relevant advice customised for each specific farm situation. A subset of the group believed that the Integrated Advice Package did not in fact represent a management tool but rather a checklist against which advisers could monitor the advice they provide.

Specific issues arising

A number of more specific discussions took place about some aspects of the Integrated Advice Packages. These were discussed for varying amounts of time and required some clarification or additional contextual information. These topics included the following areas:

- The level of 'integration' within the Integrated Advice Packages: The extent to which and the process by which measures were refined down from 500 to 26;
- The organisation of the Integrated Advice Package around catchments: The boundaries of the Integrated Advice Packages in these local regions were delineated through the Catchment Sensitive Farming Areas. It was raised by some participants that perhaps the alignment of the Integrated Advice Packages with catchments was lacking in some local detail and local prioritisation.
- The issue of changing policy priorities and how these will be reflected in the integrated advice was raised by some delegates. One of the potential challenges

with this link is that as the policy priorities change, the Integrated Advice Package may become dated and require further work to ensure that they remain current and relevant.

- The representation of some of the key policy areas through the use of icons was questioned by some delegates. The approach was considered by some to be relatively confusing while others recognised this as a heuristic approach to presenting the key issues involved.
- Within the Integrated Advice Package itself, the use of hyperlinks throughout resulted in a number of questions relating to how the information would be updated in the future. There was clear recognition of the workload involved in keeping these links up to date and ensuring that the Integrated Advice Package remains a relevant resource for advisers. Delegates were concerned to ensure that this investment was committed to the Integrated Advice Package. Since an implicit part of the training was an assumption that participants would use it in the future (or at least potentially try to incorporate the approach), the sustainability of the model and the content were important to those attending the session.

Issues for the future

In terms of next steps with the Integrated Advice Package and Farmscoper two key themes of discussion arose over the course of the two-day training session. These were as follows:

- The future funding of the Integrated Advice Package and Farmscoper were queried a number of times by participants. This was obviously important to delegates as their future use of these tools was to a certain extent dependent upon the regular updating of the tools and the funding of the provision of integrated advice. There were no clear answers to this question at the time of the delivery of training. Until the funding arrangements have progressed from a pilot to a fully-funded initiative, this question will remain open.
- The next steps for participants in the training session were discussed at length at the end of the two-day session. Delegates asked whether there was an expectation that they would trial the approaches presented over the two days and if so, how this would be done. This line of questioning and discussion reflect the need for clarity in the roll-out process (if any) and what their place should and could be in this. A number of participants mentioned their desire to be kept fully apprised of the direction that the Integrated Advice Package and Farmscoper were moving in.

4.4 How will the training course look in the future?

4.4.1 Lessons from the pilot training course

The feedback from participants, trainers and external evaluators (RAND) provide some recommendations about the organisation and structure of the training course itself. There are also key issues for future development of Integrated Advice which are reviewed under the legacy aspects (4.4.3.)

Length of course - Shortening of the introductory sections so that the core aspects of the training come earlier in the day – The introductory session was required in the pilot to ensure that all participants understood the background to the course and to ensure common objectives. It was important to deal with issues not covered by the training course, such as the delivery landscape and funding issues, so that there was a clear understanding of the content. The session on all the policy areas was essential as

understanding of the core priorities underpinned the delivery of advice using the tools presented later.

There is some potential for shortening the course, through changing the introduction session, however it is unlikely that the course could be completed in one day rather than two, particularly in light of the need for an assessment, either written and/or verbal, in order to achieve accreditation, which was not included in the pilot. There are options for the structure that could be considered such as segregation e.g. focussing only on Integrated Advice Packages or Farmscoper, or splitting the course over two separate days.

Group dynamics – The pilot course had a range of adviser types and specialisms. This was recognised as an advantage by many of the participants who commented that this was a valuable part of the training, drawing expertise from different people. There were some areas however where the broad ranging nature of the course may not be appropriate, for example identifying key messages for specific sectors.

All the participants were experienced advisers in their sectors. This greatly helped in the discussions and in the speed of understanding the issues and applications.

Content – Need to ensure that advisers can clearly see and understand the logic for, and the need to help, farmers change practice. It is important to highlight benefits to farmers as key reasons to make changes to current practice.

The current Integrated Advice Packages are focussed on particular sectors only and for particular catchments. Where advisers were not within those catchments questions were raised about how transferrable they were.

It was also noted that there are key areas such as animal health and welfare that are not included and the suggestion that these should at least be highlighted if not formally included.

4.4.2 Considerations for rolling out the training course

Clarity of purpose and objectives

There is a need for clarity in the purpose and objectives of the training course. During the early discussions with the participants there was uncertainty over whether the course was aimed at developing specialist advisers who would deliver 'Integrated Advice' which would be paid for by the farmer or funded by third parties, or if it was something that they were expected to deliver as part of their normal advisory activity due to inherent benefits for their clients and their business.

During the training this tended to be a recurring theme, which was acknowledged, but not fully answered due to the pilot nature of the course and the on-going deliberations of the Legacy Implementation Group.

Structure of course

The future structure of the course will depend on how Integrated Advice is to be taken forward. In particular whether it is a training course aimed at broadening the knowledge and awareness of a large number of advisers with sign-posting for specialist advice or whether it is an in-depth course to develop specialised registered Integrated Advisers.

Options include:

- Stand alone course in current format

- Identify aspects not already covered in existing courses and include as additional modules
- Adapt for specific adviser groups such as feed advisers, or fertiliser advisers; private sector advisers or Government agency advisers
- Adapt for specific geographic regions
- Adapt for different levels such as policy areas and Integrated Advice Packages only, with separate module for Farmscoper
- Adapt for a farmer audience for delivery through FATI, or the new Farming Advice Service for a more general approach.
- Development of different delivery mechanisms e.g. on-line training

The length of the course is an important function in ensuring the adequate time for effective training, but needs to be balanced with the costs to the participants.

Who should attend?

The course was developed to appeal to a wide range of farm advisers from different sectors. However, it was noted in a session on who would use Integrated Advice Packages that it may also appeal to a wider range of influencers: After using the Integrated Advice Packages, the group were asked who might use them. Their suggestions included students, trainees, Local Authority Officers, planners, banks, retailers, farmers, water companies, non-specialist environmental advisers, insurance companies.

Refinement and updating of content

The course primarily focused on how to use the tools so will be adaptable to any updates of the Integrated Advice Packages or Farmscoper to cover different sectors or catchment priorities. Change to the content may be required should new policy areas such as animal health and welfare be added.

Group size

For the participative training in the pilot course a group size of 12-15 is optimum. Any more than this would lead to reduced interactions and loss of impact.

Entry standards

All the advisers who attended the pilot training course were experienced advisers in their area of expertise. The training course is suitable for all levels of knowledge and experience, and the tools provide support in less specialist areas. With this in mind there is no need for a minimum entry standard. However in order to deliver highly effective integrated advice that engenders changes in farm practice, some previous farm advice experience may be advantageous.

Training of trainers

It is anticipated that in order to be able to deliver this course any new trainers would also need to be trained. Any training for trainers will need to be a longer course to ensure that background details to the policy areas and tools are properly covered and to allow time to explore different ways of presenting the material. It would also be necessary to get any trainers fully up to speed with the use of Farmscoper so that they are capable of answering questions that come back to them during the workshop sessions and to help people who get stuck during the exercise.

Accreditation

Consideration of accreditation is not straightforward as the course is designed to develop skills and expertise rather than technical knowledge per se. Many of the advisers will already have some qualifications such as university degrees, FACTS, BASIS course (Crop

Protection, Biodiversity and Environmental Training for Advisers, Soil and Water Management Certificate) and others.

On the basis that the primary purpose of the training is to create awareness of issues, conflicts and synergies, identify on-farm actions and give guidance on influencing change then development of a meaningful assessment may be complex and time consuming for the candidates.

The simplest option would be a multi-choice exam at the end of the course to test understanding of issues and knowledge of benefits.

Continuing Professional Development

There is a strong movement across the UK to include CPD in areas where advice is given. This is to ensure that advice is current and takes account of new developments. This could be developed as part of the legacy programme.

4.4.3 Links with legacy

Why would advisers go to the training – costs – benefits – drivers - funding?

One of the key issues raised by participants at the training course concerned the shape of the future delivery of integrated advice, including who delivers it, what are the expected/required outcomes and whether and how it will be funded.

Training is expensive for adviser businesses both in fees for the training and the time at the training course. For wide uptake there will need to be a clear benefit to business for attending, either for improved service to clients, increased clients, access to funding for advisory visits, or low cost, high quality training.

Some advisers who attended the pilot training course have seen a potential benefit of the training for their company in terms of improved service to clients, and are interested in adopting the training across the company, however others can see no immediate or direct benefit unless there was some funded visits or some demand for integrated advice from farmers.

To create demand for trained advisers, farmers could be required to have an Integrated Action plan for their farm. This could be a similar process to the requirements to have a Soil Protection Plan whereby farmers could undertake it themselves, or use a specialist adviser who had undertaken the Integrated Advice training. The requirement could be driven through various mechanisms such as through market requirements (Farm Assurance or supply chain/retailers), Cross Compliance or similar, which would then create a demand for training and delivery of advice. If this was the case then there would need to be a template for recording the discussions and actions.

A key issue is the level of expertise required by the advisers. Advisers have a range of expertise and specialist areas and while some feel comfortable discussing wider issues in general, they do not feel able to give detailed advice. It is not realistic to expect any one individual to be fully conversant, and with sufficient expertise, to cover all areas of government policy. It is likely therefore, that for effective implementation of Integrated Advice, there will need to be a networking structure which enables advisers to relate to and either seek advice from, or pass a contact on to another adviser. This already happens in some companies where specialist advice can be introduced through colleagues, and other informal networks between non-competing businesses.

How could it work?

Network

Informal networks already operate in some advisory sectors, whereby different companies with different specialist areas work together with the same client, but these could be strengthened locally. Similarly, many larger advisory companies offer in-house specialist advice. For example some agronomy companies also have environmental advisers available.

A formalised network structure could be set up as a sub-set of the BASIS Professional Register, which has the following benefits:-

- It is already established and operating
- It has 4,350 members who are recorded individually and actively log CPD events all through each year, every year
- It is independent and has high data protection integrity
- It is widely accepted and recognised in UK agriculture (and some overseas countries)

An area of the Register could be established to contain those individuals who are eligible for inclusion as bona fide Integrated Advice advisers. There would be some cost to establish and run such a Network Register, but the benefits of integrating and coordinating advice would be very significant.

The concept is for an Integrated Advice Register which is on-line and shows each adviser and their area(s) of expertise, along with their geographic coverage area. Data such as address, age, etc, would not be disclosed on the Register and contact would be (initially) through the on-line Integrated Advice Register.

Integrated Advice register

The high level of variability in the current standards of advisers is a concern in that any Integrated Advice given must be at a professional quality level. If this aspect is not addressed then the whole concept of Integrated Advice could be undermined by instances of poor advice. It would also be seen by farmers as lacking value or credibility.

Therefore, Integrated Advice Register membership criteria need to have some substance to try to ensure the professionalism and expertise is at the right level for good quality advice.

IAR (Integrated Advice Register) membership criteria could include the following:

- Identifiable and established area(s) of expertise
- Ideally, qualification(s) to endorse/reinforce the identified skill area
- At least three years on-farm adviser experience, which actively covers the identified area of expertise
- Integrated Advice training course attended

It may well be that BASIS would set out a framework of the expertise aspect required to enable them to log “who fits where”. This would also enable them to identify where particular skills exist and probably more importantly, where they don’t.

This would also be a mechanism for CPD recording.

5. MONITORING AND EVALUATION

Here, we discuss the findings from two work packages of the monitoring and evaluation plan: the expert panel and the farmer survey.

5.1 Expert Panel

This document sets out a summary of key themes arising during a convened meeting of the expert panel of the Defra Integrated Advice Packages (IAP) pilot project on October 27th 2011. This three-hour meeting was held at Defra's offices in central London. The meeting was attended by eight people in total, made up of five experts, one Innogen staff member and two RAND Europe research staff.

The overall aim of the meeting was to review the main aspects of the Integrated Advice Pilot Study and to consider the views of the group on the value and usefulness of the approach, areas of potential development and improvement and any questions or perceived challenges arising. The specific objective of the session was to gather expert views on the Integrated Advice approach in general and on the tools specifically in order to provide input into the ongoing development of the Integrated Advice packages. The agenda of the session is attached in Appendix .

The expert participants in the session are listed below with their organisational affiliation:

- Anthony Hyde, British Institute of Agricultural Consultants (BIAC);
- Peter Mills, Harper Adams University College;
- Caroline Drummond, Linking Environment and Farming (LEAF);
- Jamie Letts, Environmental Agency (EA);
- Nicola Dunn, National Farmers Union (NFU).⁸

The format of the meeting was in three main stages: the first part was an overall introduction to the project, an overview of progress to date and the current stage of the work. The next part of the session involved a presentation by Innogen on the Integrated Advice approach including a version of what the Integrated Advice Packages will look like (in terms of the measures and guidance included), how they will work, who will use them and what the evidence base for the document was made up of. The final part of the meeting was a semi-structured discussion involving direct comment and feedback from each of the experts on the potential benefits and developmental improvements that could be made to the Integrated Advice approach. The following section sets out some of the key themes that emerged during the course of the meeting.

5.1.1 Specific themes arising

A number of key issues were raised during the discussion on the Integrated Advice approach. These included the following areas:

- **Ambitious remit of the project:** The far-reaching aims and objectives of the Integrated Advice Pilot Study were discussed. Experts believed that it would be important for the longer term success of the project to have an ongoing dialogue with key stakeholders and those involved in relevant related organisations. The legacy

⁸ Other expert panel members were invited to attend but were unable to do so. These were: Jane Salter, Agricultural Industries Confederation (AIC); Ceris Jones, National Farmers Union (NFU); Darren Moorcroft, Royal Society for the Protection of Birds (RSPB); and Rob Macklin, The National Trust.

element of the project was considered to be an obvious focal point for this ongoing feedback and dialogue.

- **Aim of the project:** There was some discussion about whether integration of advice could happen in the absence of integration of delivery. Given the fragmentation of the landscape, those participating wondered if users would or could be encouraged (incentives; accredited training) to take up the approach to advice-giving given it may be unlikely that the delivery of advice will become more integrated over time. Such encouragement may be even more important given the Integrated Advice Packages were not specifically developed in light of a demand from the advice community.
- **Ultimate users of the Integrated Advice Packages:** The issue of who the Integrated Advice Packages were aimed at was raised and was considered to be a fundamentally important aspect of the tool. It was felt by the experts that it was possible that the Integrated Advice Packages could in fact be used by both farmers and advisers. Innogen confirmed that in general the Integrated Advice Packages are intended to be used by farm advisers in the course of delivering their work. Participants discussed which advisers would take up the Integrated Advice Packages. Most felt it was unlikely that specialist advisers such as feed representatives and vets would use the Integrated Advice Packages. However, most felt they would be of use to more generalist advisers who would use them with the farmer to see where the farmer could prioritise and perhaps seek more specialist advice. In terms of farmers, some more technically-oriented farmers may also wish to use them themselves and Innogen described an interest in this by some farmers at the farmer workshops. The issue of how to engage with hard-to-reach farmers was also raised for discussion. Expert participants questioned how the Integrated Advice Pilot Study would help to resolve the persistent lack of engagement by a small number of farmers. Some discussion on this issue concluded that this group will remain hard to engage in any meaningful way. While the Integrated Advice Pilot and tools may help to some extent it was felt that this was a difficult problem to resolve and is likely to remain.
- **Novelty of the approach:** The question of what is new about the Integrated Advice Pilot approach was raised and discussed fully during the session. It was suggested by experts that the information contained within the Integrated Advice Packages was not new (i.e. other schemes such as the LEAF Audit and Farm assurance schemes may contain similar information). However, the point was reinforced by Innogen that the purpose of the Integrated Advice Packages was not actually to develop new information but rather to organise and present it in a way that makes the range of information that currently exists easier to understand and access. This fact was thought by one expert to result in the Integrated Advice Packages effectively being a reference document rather than a management tool. However, others saw value in the Integrated Advice Packages as a potential route to navigate the many sources of information currently provided to farmers.
- **Promotion of use of the Integrated Advice Approach:** The 'route to market' with the Integrated Advice approach was discussed and various options considered. Participants felt strongly that all regulatory requirements should be part of the Integrated Advice packages aside from good practice. One suggestion considered by the group was to link the Integrated Advice Packages up with the Single Farm Payment (SFP) scheme (which the vast majority of farmers participate in). In this way, a value added of the Integrated Advice Packages would be to build upon the compliance requirements of the SFP. In addition, it could ensure wider interest in and take-up of the Integrated Advice Packages.
- **Farmscoper:** The Farmscoper tool has had continued development in parallel with the Integrated Advice Packages and is designed to provide farm-specific data that are consistent with the Integrated Advice Packages. A high level overview of the

Farmscoper tool was presented by RAND. One expert recalled a previous iteration of the Farmscoper tool and suggested that the early work with the Farmscoper had shown poor results. Others suggested that although the tool was quite specialised it could be useful in specific contexts, but that it wasn't yet clear how it connected with the Integrated Advice Pilot Study.

- **Training of advisers:** The planned training of a small group of advisers on the Integrated Advice approach was discussed at some length at the meeting. Experts saw it as somewhat challenging to have training on the Integrated Advice approach when the output itself is a pilot approach. As such, participants said the focus should be on familiarising the advisers with the Integrated Advice Packages and Farmscoper, rather than training them to give advice. The value of bringing advisers together to work through how the Integrated Advice approach could and would be delivered was considered to be of clear value. It was suggested by one expert participant that instead of a training day that the session should be considered a conference day during which advisers could learn about the Integrated Advice approach rather than being 'trained' to use the Integrated Advice approach.
- **Legacy:** While experts acknowledged the usefulness of the legacy strand of work within the project, it was noted that it was essential to have resources attached to the future development of the Integrated Advice approach. For example, it was noted that the updating of the document sourcing and links within the Integrated Advice Packages would require ongoing investment, as they would quickly become obsolete.

5.1.2 Overall conclusions

Experts had a range of views on the value and future of the Integrated Advice approach and tools developed within it. The majority saw some clear value in the development of the Integrated Advice Packages and believed that, if appropriately resourced, there could be positive impact for farmers and farm advisers. A minority saw less value in the approach and believed that it replicated existing advice schemes. As a pilot scheme, most believed that this had gone as far as possible in terms of development and progression of the idea. The future of the Integrated Advice approach was generally seen to be dependent upon: resourcing of the approach in order to develop it further; and finding a defined market for the advice product(s) in a crowded and fragmented advice landscape.

5.2 Farmer survey

This section sets out the key findings from a survey conducted of farmers participating in the two rounds of workshops (first round in June of 2011; and second round in October of 2011) in three catchment areas (Teme, Yorkshire, and Somerset) to inform the drafting of the Integrated Advice Packages in WP2 of the pilot. In total, 12 workshops took place. At the start of these workshops, all farmers participating were asked to fill out a short survey. This survey aims to capture some key information on the farmers participating (e.g. age, type of farming) and their experience of advice in the past. Capturing this information informs the pilot on the current farmers' experience of advice-giving and could allow further research in the future to see how the farmers' experience and perceptions have changed because of Integrated Advice approach.

In terms of the data collected at these workshops, the total sample in the first round of six workshops was 35 farmers. Of these, 12 came from the beef and sheep workshops; 12 from the arable workshops; and 11 from the dairy workshops. In the second round of six workshops, the total sample increased to 47 farmers. This means 12 farmers participated in these workshops who had not attended previously in the first round of workshops. We did not re-survey farmers who had previously participated in the first round. In terms of distribution, the 12 consisted of: 1 beef and sheep farmer; 8 dairy farmers; 3 arable farmers.

Overall, the survey sample consisted of:

- 13 beef and sheep farmers;
- 19 dairy farmers;
- 15 arable farmers.

This is a small number of farmers. Care needs to be taken in how these results are interpreted. A sample of 47 is unlikely to be representative of the wider farming community and probably insufficient to make wider generalisations. As such, these findings are indicative.

5.2.1 Characteristics of farmers

The first questions in the survey aim to capture information about farmers' personal characteristics. Areas explored in this context included background demographic information, farm size and farm type.

Table 14 shows that most farmers in the sample:

- are between 40-54;
- are owner-occupiers;
- have further qualifications; and
- own farm properties of about 100-499 acres.

Table 14 Characteristics of farmers

Age of farmer	Number	%
<40	3	6%
40-54	25	53%
55-64	12	26%
>65	7	15%

Land Tenure	Number	%
Mainly owner-occupied	34	79%
Mainly long-term tenanted	6	14%
Mainly short-term tenanted	3	7%
Mainly contract/ share farming	0	0%

Education level	Number	%
none	4	9%
GCSE/O level	9	19%
GCE/Alevel/NVQ/BTEC	5	11%
Further qual (higher national diploma)	14	30%
Higher qual (degree/post grad)	15	32%

Size of farm business

<20 ha	1	2%
20-49 ha	3	7%
50-99 ha	8	17%
100-499 ha	26	57%
500-999 ha	5	11%
over 1000 ha	3	7%

5.2.2 Farmers experience of advice

The survey aimed to capture to degree to which farmers received advice; whether farmers paid for advice; and farmers' perception on how influential the advice was.

Table 15 shows that:

- Farmers in the sample receive advice from a range of different providers, with several farmers receiving advice from 3-4 sources.
- Farmers in the sample receive more specialist advice than general advice, especially from suppliers and private vets.
- Farmers in the sample often pay for advice, with the highest probabilities of paying for advice from private sector advisers and private vets and lowest probabilities of paying for advice from government and public bodies followed by buyers and suppliers respectively.
- Most advice is perceived to be influential to some extent by farmers in the sample, with the most influential advice given by vets and private sector advisers and least influential advice given by government and public bodies followed by buyers and representative bodies respectively. About 8 percent of respondents also noted that advice from levy bodies was not influential.

Table 15 Aggregate data on experience of advice

	Number of respondents		% of respondents	
	General advice	Specialist advice	General advice	Specialist advice
Private sector advisors	12	19	34%	54%
Suppliers	14	25	40%	71%
Private vets	8	23	23%	66%
Govt/public sector bodies	18	17	51%	49%
Repres. Bodies	22	17	63%	49%
Levy bodies	23	22	66%	63%
Buyers	8	13	23%	37%
Other	0	4	0%	11%

Paying for advice-among respondents who received advice

	Pay	do not pay	%
Private sector advisors	22	4	85%
Suppliers	4	23	15%
Private vets	13	10	57%
Govt/public sector bodies	1	17	6%
Repres. Bodies	9	12	43%
Levy bodies	9	14	39%
Buyers	1	12	8%
Other	3	1	75%

Utility of advice-among respondents who received advice

				%		
	Influential	Neutral	Not-influential	Influential	Neutral	Not-influential
Private sector advisors	28	3	0	90%	10%	0%
Suppliers	25	12	2	64%	31%	5%
Private vets	32	1	0	97%	3%	0%
Govt/public sector bodies	22	15	3	55%	38%	8%
Repres. Bodies	22	13	1	61%	36%	3%
Levy bodies	25	12	3	63%	30%	8%
Buyers	13	9	1	57%	39%	4%
Other	2	1	0	67%	33%	0%

5.2.3 Sector specific findings

Given the importance of the different farming sectors to the integrated advice pilot project, we have disaggregated the data by main catchment area. This allows us to make some comparisons between the findings for catchment areas.

Some themes (for details see Table 16 & Table 17):

- Beef and sheep: Farmers in the sample receive specialist advice mostly from levy bodies followed by vets and suppliers; they mostly pay for advice from private sector advisers, representative bodies and levy bodies; they perceive advice from vets, private sector advisers and buyers to be the most influential; they see advice from levy bodies followed by government and public sector bodies as least influential.
- Arable: Farmers in the sample receive specialist advice mostly from private sector advisers followed by suppliers, levy bodies, and representative bodies; they mostly pay for advice from private sector advisers; they perceive advice from private sector advisers, representative bodies and levy bodies to be the most influential; they see advice from buyers as least influential.
- Dairy: Farmers in the sample receive specialist advice mostly from vets and suppliers; they mostly pay for advice from private sector advisers and vets; they perceive advice from vets, private sector advisers, and suppliers to be the most influential; they see advice from buyers and representative bodies as least influential.

Table 16 Experience of advice in beef and sheep catchment area (Teme)

Type of advice received

	Number of respondents		% of respondents	
	General advice	Specialist advice	General advice	Specialist advice
Private sector advisors	5	4	38%	31%
Suppliers	2	7	15%	54%
Private vets	1	8	8%	62%
Govt/public sector bodies	3	6	23%	46%
Repres. Bodies	5	6	38%	46%
Levy bodies	4	9	31%	69%
Buyers	1	7	8%	54%
Other	0	2	0%	15%

Paying for advice-among respondents who received advice

	Pay	do not pay	%
Private sector advisors	7	0	100%
Suppliers	1	6	14%
Private vets	5	4	56%
Govt/public sector bodies	0	5	0%
Repres. Bodies	5	1	83%
Levy bodies	5	3	63%
Buyers	1	5	17%
Other	0	0	#DIV/0!

Utility of advice-among respondents who received advice

				%		
	Influential	Neutral	Not-influential	Influential	Neutral	Not-influential
Private sector advisors	8	1	0	89%	11%	0%
Suppliers	6	5	0	55%	45%	0%
Private vets	11	1	0	92%	8%	0%
Govt/public sector bodies	6	6	0	50%	50%	0%
Repres. Bodies	6	5	0	55%	45%	0%
Levy bodies	6	6	1	46%	46%	8%
Buyers	7	2	0	78%	22%	0%
Other	0	1	0	0%	100%	0%

Table 17 Experience of advice in arable catchment area (Yorkshire)**Type of advice received**

	Number of respondents		% of respondents	
	General advice	Specialist advice	General advice	Specialist advice
Private sector advisors	2	8	13%	53%
Suppliers	5	7	33%	47%
Private vets	2	3	13%	20%
Govt/public sector bodies	8	5	53%	33%
Repres. Bodies	8	7	53%	47%
Levy bodies	10	6	67%	40%
Buyers	3	1	20%	7%
Other	0	1	0%	7%

Paying for advice-among respondents who received advice

	Pay	do not pay	%
Private sector advisors	8	2	80%
Suppliers	1	9	10%
Private vets	1	2	33%
Govt/public sector bodies	1	6	14%
Repres. Bodies	4	6	40%
Levy bodies	3	6	33%
Buyers	0	2	0%
Other	2	0	100%

Utility of advice-among respondents who received advice

				%		
	Influential	Neutral	Not-influential	Influential	Neutral	Not-influential
Private sector advisors	12	1	0	92%	8%	0%
Suppliers	8	3	1	67%	25%	8%
Private vets	5	0	0	100%	0%	0%
Govt/public sector bodies	7	3	3	54%	23%	23%
Repres. Bodies	10	2	0	83%	17%	0%
Levy bodies	10	3	0	77%	23%	0%
Buyers	1	2	0	33%	67%	0%
Other	1	0	0	100%	0%	0%

Table 18 Experience of advice in dairy catchment area (Somerset)**Type of advice received**

	Number of respondents		% of respondents	
	General advice	Specialist advice	General advice	Specialist advice
Private sector advisors	5	7	26%	37%
Suppliers	7	11	37%	58%
Private vets	5	12	26%	63%
Govt/public sector bodies	7	6	37%	32%
Repres. Bodies	9	4	47%	21%
Levy bodies	9	7	47%	37%
Buyers	4	5	21%	26%
Other	0	1	0%	5%

Paying for advice-among respondents who received advice

	Pay	do not pay	%
Private sector advisors	7	2	78%
Suppliers	2	8	20%
Private vets	7	4	64%
Govt/public sector bodies	0	6	0%
Repres. Bodies	0	5	0%
Levy bodies	1	5	17%
Buyers	0	5	0%
Other	1	1	50%

Utility of advice-among respondents who received advice

				%		
	Influential	Neutral	Not-influential	Influential	Neutral	Not-influential
Private sector advisors	8	1	0	89%	11%	0%
Suppliers	11	4	1	69%	25%	6%
Private vets	16	0	0	100%	0%	0%
Govt/public sector bodies	9	6	0	60%	40%	0%
Repres. Bodies	6	6	1	46%	46%	8%
Levy bodies	9	3	2	64%	21%	14%
Buyers	5	5	1	45%	45%	9%
Other	1	0	0	100%	0%	0%

5.2.4 Conclusions

In this section, we offer some conclusions that are based on summarising the descriptive statistics. These conclusions have not been verified through statistical analysis. The main points are:

- Farmers in the different catchment areas (sectors) use slightly different sources of advice and as such there are some differences in which types of advice are deemed influential.
- Advice from private sector advisors and vets is valued across the catchment areas (sectors).
- There appears to be an association between paying for advice and finding advice influential.
- However, the association between receiving specialist advice and paying for advice seems less pronounced.

These findings may not be surprising. It seems obvious that farmers in different sectors use different sources of advice and as such there are differences in terms of which advice is seen as influential. In addition, it is not surprising that farmers have a greater willingness to pay for influential advice. Indeed, the act of paying may make farmers value such advice differently from 'free' advice.

5.3 Monitoring and evaluation of advisers post-training (RAND)

5.3.1 Introduction and context

This document sets out the key findings from two farm adviser surveys. An initial survey was conducted of all farm advisers who participated in workshops (first round in June 2011; and second round in October 2011) to inform the drafting of the Integrated Advice Packages in WP2 of the pilot and those additional farm advisers who planned to participate in the farm adviser training event that took place on November 29. Subsequently, a follow-on second survey was sent to those farm advisers who took part in the farm adviser training event to gauge how their opinions had shifted after the training and to receive additional feedback on the training event.

The two surveys were distributed to the farm advisers by e-mail using the online platform SelectSurvey. RAND Europe hosted the survey. In the initial survey, 27 farm advisers responded. Eleven of these participated in the training event. In the follow-up survey, we sought the perspective of the 11 participants of the training on how they thought the integrated advice decision-support tools would and could be used. Nine out of 11 farm advisers who attended answered the survey.

The surveys contain a small number of farm advisers and therefore care needs to be taken in how these results are interpreted. Samples of 27 and 9 respectively are unlikely to be representative and probably insufficient to make wider generalisations. As such, these findings are indicative.

The following text sets out some of the key themes identified in the surveys. Initially these pertain to responses in the first survey, followed by the perspectives of farm advisers who attended the training event from the second survey.

5.3.2 Characteristics of farm advisers

The initial questions in the first survey aim to capture information about farm advisers' personal characteristics. Areas explored in this context included background demographic information such as age, education, and type of adviser. We have distinguished between those farm advisers who attended the training event and those who were consulted as part of drafting the Integrated Advice Packages.

Table 19 (first two answer columns are farm advisers who participated in the workshops but who were not invited to the training event; last two answer columns are farm advisers invited to the training event) shows that most farm advisers in the sample:

- Have a further qualification or higher qualification;
- Come from a range of age groups;
- Are private sector advisers; and
- Give advice on a range of farm types.

Table 19 Characteristics of farm advisers

Educational qualifications				
No formal qualification	0	0%	0	0%
GCSE/O-level	0	0%	0	0%
GCE/A-level/NVQ/BTEC	0	0%	0	0%
Further qualification (e.g. Higher National Diploma)	6	27%	2	15%
Higher qualification (degree or above)	16	73%	11	85%
Age				
Age (Under 40)	7	32%	4	31%
Age (40-54)	6	27%	5	38%
Age (55-64)	8	36%	4	31%
Age (65 and over)	1	5%	0	0%
What type of adviser are you?				
Private sector sole trader/small business	10	43%	5	38%
Private sector medium-large advisory business	8	35%	4	31%
Aligned with a supplier (e.g. feed or chemicals)	2	9%	1	8%
Vet	1	4%	1	8%
Adviser with government/public sector body	3	13%	2	15%
Adviser from sector body (such as NFU)	1	4%	0	0%
Adviser from levy board (e.g. HCGA, DairyCo, etc.)	0	0%	0	0%
Adviser from buyer (e.g. large retail)	0	0%	0	0%
Other type of adviser	1	4%	0	0%
What are the primary farm types that you provide advice on?				
Cereals and combinable break crops (e.g. OSR, peas)	13	59%	6	46%
Field scale vegetables and root crops (e.g. potato)	5	23%	1	8%
Dairy	15	68%	9	69%
Non-dairy grazing livestock (lowland)	9	41%	7	54%
Non-dairy grazing livestock (LFA)	3	14%	3	23%
Mixed (livestock only)	5	23%	3	23%
Mixed (livestock and arable)	13	59%	9	69%
Other type of farm advice (e.g. Pigs, poultry, other)	1	5%	1	8%

We did not find significant differences in profile between those planning to attend the training event and those who did not. As such, it appears the sample of those attending the training event is fairly representative compared to those more widely consulted as part of the pilot.

5.3.3 Experience of giving advice

The first survey aimed to capture how farm advisers gave advice. In particular, the survey asked what level and type of advice advisers give; whether farmers are charged for advice; how advice is given.

Table 20 shows that:

- The type and level of advice given tend to be a combination of generalist and specialist advice;
- Most advisers charge for advice;
- Most advisers give advice 1-5 times a year to each farmer with a significant group providing advice 6-10 times a year;
- Most advisers have a client body of between 21-50 farmers;
- There is no set way of giving advice, with advisers using computers, e-mail, written material, and telephone to assist the advice giving process.

Once more, we did not find significant differences in profile between those attending the training event and those who did not.

Table 20 Experience of giving advice

What level and type of advice do you currently provide to farmers?				
Technical advice;General advice (relevant to overall farm business)	2	10%	2	15%
Technical advice;Specialist advice (relevant to one specific part o	4	19%	3	23%
Technical advice;Combination of both general and specialist advice	10	48%	6	46%
Environmental advice;General advice (relevant to overall farm business)	4	19%	3	23%
Environmental advice;Specialist advice (relevant to one specific part o	3	14%	3	23%
Environmental advice;Combination of both general and specialist advice	7	33%	4	31%
Business advice;General advice (relevant to overall farm business)	2	10%	1	8%
Business advice;Specialist advice (relevant to one specific part o	2	10%	2	15%
Business advice;Combination of both general and specialist advice	6	29%	5	38%
A combination of these three types of advice;General advice (relevant to overall farm business)	3	14%	2	15%
A combination of these three types of advice;Specialist advice (relevant to one specific part o	2	10%	1	8%
A combination of these three types of advice;Combination of both general and specialist advice	12	57%	7	54%
Other ;General advice (relevant to overall farm business)	1	5%	1	8%
Other ;Specialist advice (relevant to one specific part o	0	0%	0	0%
Other ;Combination of both general and specialist advice	3	14%	0	0%
Do you charge farmers for the advice you provide?				
Yes	12	57%	8	62%
No (or it is included free with a product supply)	5	24%	3	23%
Sometimes	4	19%	2	15%
Typically, how often do you provide advice to each farmer per year (approximately)?				
Less than once a year	1	5%	1	8%
1-5 times per year	10	48%	6	46%
6-10 times per year	6	29%	4	31%
More than 10 times per year	3	14%	1	8%
Don't know	1	5%	1	8%
How many farmers do you give 1:1 advice to per year (approximately)?				
Less than 20	4	19%	3	23%
21-50	10	48%	6	46%
51-75	5	24%	3	23%
More than 76	2	10%	1	8%
Don't know	0	0%	0	0%
How do you primarily provide your advice to farmers?				
In person verbally only	7	33%	4	31%
In person with the aid of a computer (e.g. using a	11	52%	6	46%
In person with the aid of written materials (e.g.	9	43%	5	38%
Online/web-based	3	14%	1	8%
By telephone	4	19%	2	15%
Other	0	0%	0	0%

5.3.4 Perceptions of integrated advice

As part of the first survey, we asked farm advisers a number of Likert scale questions where they could express levels of agreement with statements on integrated advice. We highlight some themes below (see Table 21)

- Most farm advisers agree that the fragmentation of advice is problematic;
- A majority of farm advisers agree that farmers may not receive consistent advice;
- Increased integration is seen as a helpful way forward;
- Farm advisers agree that the integration of specific measures in on-farm advice would be helpful to farmers.

Again, we did not find significant differences in profile between those planning to attend the training event and those who did not.

We asked the farm advisers to explain their answers in an open response question. Their comments highlighted that:

- There are often competing sources of advice;
- Technical and business advice is well provided, but advice related to government initiatives is less well provided as aims are often unclear;

- Most advice tends to be integrated already to deal with competing priorities on the farm;
- The quality of advice giving matters more than integration per se;
- Some form of centralisation of advice giving would be helpful to set uniform standards and harmonise sources;
- Commercial advisers will always offer a narrow perspective as they are driven by their own objectives.

Table 21 Agreement with statement on integrated advice

To what extent do you agree with the following statements? The fragmentation of advice provision is an issue				
Strongly agree	5	24%	4	33%
Agree	9	43%	5	42%
Neither agree nor disagree	3	14%	2	17%
Disagree	3	14%	1	8%
Disagree strongly	0	0%	0	0%
Not relevant/don't know	0	0%	0	0%
To what extent do you agree with the following statements? Farmers find it difficult to get consistent advice				
Strongly agree	7	35%	5	42%
Agree	6	30%	4	33%
Neither agree nor disagree	4	20%	2	17%
Disagree	3	15%	1	8%
Disagree strongly	0	0%	0	0%
Not relevant/don't know	0	0%	0	0%
To what extent do you agree with the following statements? Increased integration of measures would help farms				
Strongly agree	2	10%	1	8%
Agree	11	55%	8	67%
Neither agree nor disagree	3	15%	0	0%
Disagree	2	10%	1	8%
Disagree strongly	1	5%	1	8%
Not relevant/don't know	1	5%	1	8%
To what extent do you agree with the following statements? Increased integration of specific measures within				
Strongly agree	3	15%	2	17%
Agree	12	60%	8	67%
Neither agree nor disagree	3	15%	0	0%
Disagree	1	5%	1	8%
Disagree strongly	0	0%	0	0%
Not relevant/don't know	1	5%	1	8%

5.3.5 Perceptions of farm advisers who attended the training event

In the second survey, we asked farm advisers about the quality of advice (ease of understanding and use), whether they understood the advice, whether it would change their way of giving advice, and whether it would change outcomes on the farms and farmers would use it. In each case, we asked farm advisers a number of Likert scale questions where they could express levels of agreement with statements on integrated advice.

On the topic of quality (ease of understanding and use), the survey findings in Table 22 suggest:

- Farm advisers in general agree that integrated advice packages are easy to understand and use but a considerable minority of the nine surveyed are ambivalent about how easy they are to understand and use.
- Farm advisers perceive Farmscoper more difficult to use than integrated advice packages.

Table 22 Perceived perception of ease of understanding and use among farm advisers**The integrated advice packages are easy to understand**

Strongly agree	1	11%
Agree	3	33%
Neither agree nor disagree	3	33%
Disagree	1	11%
Strongly disagree	1	11%
Not relevant/don't know	0	0%

The integrated advice packages are easy to use

Strongly agree	0	0%
Agree	3	33%
Neither agree nor disagree	4	44%
Disagree	1	11%
Strongly disagree	1	11%
Not relevant/don't know	0	0%

The outputs of the Farmscoper tool are easy to understand

Strongly agree	0	0%
Agree	0	0%
Neither agree nor disagree	4	44%
Disagree	4	44%
Strongly disagree	1	11%
Not relevant/don't know	0	0%

On the topic of whether the integrated advice tools would change the way of giving advice, the survey findings in Table 23 suggests:

- Farm advisers are generally happy to use the integrated advice tools and see how it would improve the way they give advice;
- However, farm advisers are less convinced that the integrated advice tools would change what they give advice on and who they give advice to.

Table 23 Perceptions of how integrated advice will change the way of giving advice**I have already used the integrated advice concept and tools in the course of my work**

Strongly agree	0	0%
Agree	5	56%
Neither agree nor disagree	2	22%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

I plan to use the integrated advice tools in giving advice to farmers

Strongly agree	0	0%
Agree	4	44%
Neither agree nor disagree	3	33%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

The integrated advice tools will change the way I give advice

Strongly agree	0	0%
Agree	1	11%
Neither agree nor disagree	6	67%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

The integrated advice tools will change what I give advice on

Strongly agree	0	0%
Agree	2	22%
Neither agree nor disagree	4	44%
Disagree	3	33%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

The integrated advice tools will change who I give advice to

Strongly agree	0	0%
Agree	0	0%
Neither agree nor disagree	6	67%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	1	11%

The integrated advice tools will improve the advice I give

Strongly agree	1	11%
Agree	5	56%
Neither agree nor disagree	1	11%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

On the topic of whether the integrated advice tools could change the way of giving advice in the future, the survey findings in Table 24 suggests:

- Farm advisers believe that advice may be better because of the integrated advice tools;
- However, farm advisers surveyed here are less convinced that farm advisers more widely will use the integrated advice tools.
- Their perceptions seem to suggest that the ease of use may be a hurdle in the wider take-up.

Table 24 Perceptions of how integrated advice could change the way of giving advice**Farmers will receive better advice as a result of integrated advice tools used by their advisers**

Strongly agree	0	0%
Agree	5	56%
Neither agree nor disagree	2	22%
Disagree	2	22%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

Farm advisers will find the integrated advice tools easy to use in the provision of advice to farmers

Strongly agree	0	0%
Agree	0	0%
Neither agree nor disagree	6	67%
Disagree	2	22%
Strongly disagree	1	11%
Not relevant/don't know	0	0%

Farm advisers will use the integrated advice tools

Strongly agree	0	0%
Agree	2	22%
Neither agree nor disagree	2	22%
Disagree	3	33%
Strongly disagree	1	11%
Not relevant/don't know	1	11%

The integrated advice tools will assist in optimising farm practices

Strongly agree	0	0%
Agree	3	33%
Neither agree nor disagree	4	44%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	1	11%

On the topic of whether the integrated advice tools may change the way of giving advice in the future, the survey findings in Table 25 suggests:

- Farm advisers tend to be positive that Farmscoper will have a positive farm business impact and lead to environmental initiatives taken up in a revenue-neutral way.
- Farm advisers tend to view that the integrated advice packages will support the take up of environmental initiatives in a revenue-neutral way. However, farm advisers surveyed here are less convinced that the integrated advice packages focus particularly on business impacts.
- Their perceptions suggest that local prioritisation is useful.

Table 25 Perceptions on the impact of integrated advice

The integrated advice packages capture business impacts and practical issues which are the most important for farmers and advisers

Strongly agree	0	0%
Agree	3	33%
Neither agree nor disagree	2	22%
Disagree	4	44%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

The way that integrated advice packages take the local priorities into account is useful

Strongly agree	0	0%
Agree	6	67%
Neither agree nor disagree	1	11%
Disagree	0	0%
Strongly disagree	1	11%
Not relevant/don't know	0	0%

The integrated advice packages approach will enable more environmental initiatives to be carried out in a revenue-neutral way

Strongly agree	0	0%
Agree	5	56%
Neither agree nor disagree	3	33%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

Farmscoper offers a useful approach to look at on-farm mitigation measures

Strongly agree	0	0%
Agree	4	44%
Neither agree nor disagree	4	44%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

Farmscoper allows me to prioritise mitigation measures better

Strongly agree	0	0%
Agree	6	67%
Neither agree nor disagree	1	11%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

Farmscoper takes the needs of farmers into account

Strongly agree	0	0%
Agree	1	11%
Neither agree nor disagree	7	78%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

Farmscoper enables farm advisers to demonstrate to farmers the business impacts of decisions

Strongly agree	0	0%
Agree	5	56%
Neither agree nor disagree	3	33%
Disagree	1	11%
Strongly disagree	0	0%
Not relevant/don't know	0	0%

5.3.6 Conclusions

In this section, we offer some conclusions that are based on summarising the descriptive statistics. These conclusions have not been verified through statistical analysis. The main points are:

- Our survey confirms the fragmented nature of advice giving and different ways in which advice is given;
- Farm advisers surveyed see the need for advice and the delivery for advice to become more integrated;
- Farm advisers who were involved with the training event suggest that the integrated advice tools could contribute to the take-up of environmental initiatives,

but the ease of use of the integrated advice tools may be a hurdle for wider take-up among farm advisers.

6. LEGACY

The contract specification set out the requirement for a 'legacy' component, which would live on beyond the end of the Pilot. As the study has progressed, interim findings and ongoing feedback from a range of stakeholders has helped frame the problem and critically assess key components in the delivery of advice to farmers and landowners. The main forum for this discussion has been the Legacy Implementation Group (LIG), convened under Work Package 5.

6.1 Legacy Implementation Group

The core function of the LIG was to help shape and deliver legacy aspects of the pilot study. Membership was drawn up by the consortium, in consultation with Defra. The Group was Chaired by John Lee, a beef and arable farmer from Devon. A list of membership organisations is given at Appendix . The remit of the Group was to:-

- Develop a legacy implementation strategy
- Consider a range of potential approaches to advice provision, and critique options presented
- Identify & provide advice on how to manage relevant risks, issues, & potential barriers
- Where appropriate, identify possible legacy roles, for their or other organisations
- Identify potential synergies & opportunities
- Recommend how progress can be measured & evaluated beyond the life of the Pilot
- Horizon scan future needs and priorities

6.1.1 LIG meetings

Three meetings of the LIG were planned originally for the second half of the study, but as the work progressed, the group agreed to meet for a fourth time, in March 2012.

Inaugural LIG meeting (31 August 2011)

The main objectives for the first meeting of the group were to secure buy-in to the project from participants, agree Terms of Reference, bring members up to speed on context, background and progress to date within the pilot, begin to scope definition and legacy options, identify practical, economic or attitudinal constraints; and advise on how to maximise the value of the stakeholder event on 20 September.

Second LIG meeting (26 September 2011)

The second meeting revisited actions and progress from the first meeting, and provided feedback obtained during the wider Stakeholders meeting. Presentations were made on the development and intended use of Integrated Advice Packages, and the Farmscoper decision support tool was demonstrated. A number of themes emerged from the subsequent discussion, in terms of the conditions and 'building blocks' necessary for more integrated advice delivery. These are summarised below.

Translation of national priorities to local level

Farm level decisions are driven by the needs of the business, as well the motivation and attitude of the farmer. Lack of direction in the relative prioritisation of policy objectives and the ability to customise to local circumstances, generates uncertainty and limits progress.

The impact of individual farms sum to the overall net impact within a locality or a catchment. An appreciation of the needs and priorities within the particular areas or catchment, by those living within it, could be a significant motivating factor.

Trade-offs exist in terms of national aggregate benefit. Examples were cited of schemes which had high impact but low penetration e.g. organic farming, contrasting with ELS which had good uptake, but with limited impact.

Rather than imposition at a national scale, the latitude to be able to narrow the range of priorities to a manageable number, and to customise to individual catchment or farm within-catchment, was seen as being of fundamental importance. To create the conditions for this to happen, strategic direction is needed from Defra and other delivery agencies, creating a simple narrative (strategic, temporal, spatial) on the translation of policy into action on the ground.

Gaining empathy and buy-in

In order to get farmers buy-in the tone of communication is important. Farmers need to understand the 'why', as much as the 'how'. Too often in the past the tone had been negative, in terms of a presumption of negative impact, rather than emphasising the positive, or constructive elements already in place. In terms of motivational factors, it was difficult to get away from the commercial imperatives of the farming business. However, it should also be recognised that there were factors other than monetary, which influenced the decisions farmers made.

A proportion of farmers, could be designated as 'hard to reach', and are likely to have little ongoing contact with advisory services. However, even this segment will interact with other groups, such as accountants and feed companies, which might provide a route in, to create awareness and or to signpost where further information may be obtained.

Appropriate decision support tools

While progress towards better economic and environmental performance could result in win:win situations, in many cases there would be tradeoffs. Providing a better mechanism to better understand and to quantify these relationships was important in getting action on farm. Decision support tools are available, covering a wide range of topics from soil nutrient management to livestock rationing. Farmscoper was developed within the Pilot to incorporate economic and biodiversity impacts. While useful to explore parameters around a particular decision, these tools have limitations, if too general or prescriptive in approach. Environmental benefit and economic benefit will not invariably result in win:win situations. Where trade-offs have to be examined the quality of data and associated analyses become even more critical. How a tool is constructed, who drives it, what level of farm specific data can be inputted, and how it links to economic impacts are critical features. It is rarely possible to build in all the factors necessary to support good decision-making, for example, use of tax breaks and succession planning which would be difficult to incorporate into a single tool. Setting boundaries appropriate to the correct interpretation of outputs from the tool, and recognising the need for additional analyses were important.

Gearing up the advisory sector

There was a good deal of discussion on the type, role and quality of advisers interacting with the farming industry. Distinction was drawn between government and commercial

advisers; the requirement for generalist advice, as well as being able to access specialist expertise. Harmonisation of advice was an issue, in a landscape often differentiated along competitive lines.

A key aspect is the future role of the professional adviser, and what new knowledge can be incorporated into existing activities. Some organisations have considerable numbers of rural members undertaking a range of activities, and are increasing the scope of advice offered, into more specialist topics. Several have mechanisms for CPD already in place. In terms of developing training, the fact that there will be widely different levels of existing knowledge must be recognised. Further development of professional codes of practice may be an option, to ensure that boundaries of competency are not exceeded.

Access to high quality technical information

While simple messages are often the main, or only requirement of many farmers, a robust evidence base underpinning the provenance of that information is viewed as important. This may be accessed by those farmers who wish to drill down into the detail necessary to make judgements on suitability and impacts in relation to their own circumstances. Alternatively, by advisers, who in addition to their keeping abreast of new research, tools or technological development, may wish to customise information and add value to their offering to farmer clients.

Integration of delivery

Although there is considerable activity, the delivery landscape in England is fragmented. In the NEWP (Natural England White Paper), Defra recognises the need to refresh the advisory services in England. However, there will be no resurrection of a national extension service. Therefore, it is a case of making better use of activity and capacity that is already available.

Farmers value highest advice which is perceived to be independent and of high quality. The commercial imperative for inputs sales, can be seen as a confounding factor. There was a feeling that for the time invested it was difficult for these types of adviser to recoup an adequate fee from the provision of environmental advice, which was not directly related to a scheme based financial incentive.

Upskilling farmers

Historically, agriculture was viewed as less a skilled profession. Meeting future challenges relies on technological awareness and increasing skill levels within the industry. The ability to receive, adapt and implement new management practices can be linked to the knowledge and expertise of the recipient. Where an overall vision can be created, linked to increasing skill sets (currently an objective within the pig industry), this approach is more likely to make progress. There is potentially a role for colleges and universities, not only in training the next generation of farmers, but also their advisers.

Business case for an integrated approach

To sell an alternative approach, a persuasive business case needs to be developed, capable of being bought into by the key users in the advice delivery chain. This needs to empathise with business needs and show benefits to each user. For the farmer, the incentives could be financial, but equally, non monetary motivating factors should be recognised. This could include risk management, improvement in wildlife habitat etc..

Communications/awareness

The LIG indicated that an acceptance that there was a need for a better way of accessing and implementing advice was a step forward. Recognising that the farming population could be segmented into different categories, a reasonable aspiration would be to try and

move everyone up a level from where they were currently, and to build on this, rather than try to bring all to a common high level. Motivation was required in two stages, to get farmers engaged in the first place, and once engaged to make further progress. The fact of creating greater awareness around the issues, could be a meaningful legacy output in its own right.

Third LIG meeting (24 January 2012)

At the previous LIG meeting, members had agreed to assist in scoping and developing further thinking on key aspects of integrating advice, and to bring these back to the table for wider discussion. This approach was endorsed at a Defra Project Board meeting in November 2011 and four topics, put forward by the consortium, were agreed as focal points for further deliberation by the LIG. Each topic was assigned to a LIG member, who agreed to act as a figurehead to pull together wider views within their sector, and feedback to the Group at the January meeting.

Q1. Can, or will, Defra and the delivery Agencies provide better signalling to balance objectives?

Defra presented a discussion document to the group setting out relevant policy developments, relating to commitments made under the Natural Environment White Paper, as well as ongoing reviews of advice and incentives, better regulation and greening of the CAP. The paper also set out potential options on how national policy could be better targeted and implemented at local level, for example through local networks and industry structures. Although still work in progress, this paper was very helpful in setting out the emerging policy context.

Q2. How do Defra/Agency funded initiatives affect the market place and what is the necessary structure/funding of the delivery 'jigsaw'?

Natural England and Environment Agency presented an overview on the importance of incorporating environment sustainability objectives into land management policy. The paper did not fully scope approaches to local priority setting, on- the- ground delivery by the Agencies, or potential interface/integration with industry led activities. However, work was going on behind the scenes, which it was hoped could be shared with the LIG on 6 March.

Q3. How to encourage advisers and consultants to think and act in a more integrated fashion ?

BIAC led this response and reinforced the need to create better networking opportunities between advisers, and for greater harmonisation in systems between Government and the commercial sector. Access to a one-stop-shop of information on schemes, regulation and initiatives relevant to industry was required. It was felt that the professional status of advisers, including existing mechanisms for CPD, needs greater recognition. There was a need to streamline activities and avoid duplication of effort including, wherever possible, the imposition of unnecessary induction courses as a prerequisite for delivery of Government advice. The advice given has got to be relevant to the farmer recipient, delivered by a competent adviser, and must have a value which should be to be remunerated. The challenge of transforming environmental advice, previously expected by the farmers to be obtained, in most circumstances, free *gratis*, was also flagged.

Q4. What additional support, structures, training or tools are required for advisers and consultants to:- i) be aware/signpost & ii) deliver integrated advice?

AIC led this response and underlined that acceptance by industry was totally dependent on being able to demonstrate benefits to the farmer and adviser. This highlighted the need to fully understand, even formally segment, the advisory sector and the different roles and requirements. There was scope for further interaction between government and industry

bodies, looking for gaps and opportunities to improve integrated advice delivery and provide greater consistency in the messages given. Training needed to build on, rather than duplicate existing structures (FACTS, BASIS registers etc). One deficit identified in the commercial sector, was technical expertise on feed management of livestock. It was also suggested that government advice needed to be checked for consistency and coherence of messaging. Locally relevant information, and data flow, was necessary to motivate and empower advisers and their clients. Improved networking, better provision of robust information, local examples of best practice, and cooperation between Government and industry in delivery of knowledge transfer events were seen as important.

NFU highlighted the degree of overlap between various industry initiatives (CFE, VI, CSF etc.), set against the current and emerging policy environment for agriculture. These initiatives had created infrastructure and delivery capacity. Valuable experience had been gained, which could now be expanded into a more ambitious project which pulled together a number of diverse, but related initiatives, with local or regional delivery capability, and which potentially could incorporate approaches for better integration developed within the Pilot.

Final project LIG meeting (6 March 2012)

Purpose of the meeting

The main aim of the meeting was to discuss the implementation of legacy outputs from the project, and to elicit commitment from LIG members as a follow on from the end of the pilot study.

Attendees

Represented at the meeting were:- Agricultural Industries Confederation (AIC), British Institute of Agricultural Consultants (BIAC), Environment Agency (EA), Natural England (NE), Royal Institute of Chartered Surveyors (RICS), Agriculture and Horticulture Development Board (AHDB), BASIS, ADAS, Farming Advice Service, and Innogen (Edinburgh University). Apologies were received from RSPB, CAAV, NFU, LEAF, Red Tractor, National Trust, Lantra, and City and Guilds. Of those unable to attend, written submissions in relation to legacy were received from RSPB, NFU and LEAF.

Presentations

A joint presentation was made to the meeting by NE and EA on integrating advice at a practical catchment level. AEA presented an introduction to the new Farming Advice Service.

Key points from the discussion

It was agreed that the pilot project had shown proof of principle that advice could be provided in a more integrated way. A considerable amount had been achieved in a relatively short period of time. However, there was a need to evaluate the potential to achieve impact at farm level, and to assess the application of integrated advice by advisers and consultants. This evaluation was essential to judge the overall success of the project.

Evaluation was not necessarily straightforward, given the likelihood of other influencing factors, in addition to the impact of the Pilot itself. Establishing an early 'baseline' might also be important. Focussing on feedback from intermediaries i.e. advisers and consultants delivering farm advice, could be a useful way forward.

The presentation from NE/EA had conveyed how priorities could be translated to a local level (national framework; local delivery), which would help simplify messages through local adaptation. When combined with local data and information, at appropriate levels of resolution, this could be a powerful way to engage and motivate at a local level. The group welcomed the progress that appeared to have been made in recent months in bringing NE and EA thinking closer together - particularly as the interaction of government delivery agencies and the commercial sector was critical to increasing overall impact and effectiveness.

The group felt that Defra should be prepared to take a highly visible, leadership role, setting out strategies and long term objectives for the agricultural sector. Global Foresight, Natural Environment White Paper and Green Food Project had set the high level agenda. The group accepted that ongoing reviews (Better Regulation, Advice and Incentives, CAP Reform etc) meant that thinking in this area was work-in-progress. However, the group was also looking for commitments from Defra as well as from fellow industry organisations. Through this Pilot, Defra had signalled intent to adapt ways in which things were currently being done, and to take on board advice and feedback from industry. The Group felt it was important for credibility, that this commitment was made visible to farmers and wider industry.

The integrated advice packages were generally well received, but would benefit from further development and/or extension to other sectors and geographical locations. Views on Farmscoper were more mixed, with BIAC voicing strong opinion that its use should not become 'mandatory' for the provision of integrated advice. While agreeing with the principles of integrated farm management and delivery of advice, LEAF was still unsure of the relevance of Pilot outputs to their activities.

The training course developed under the Pilot was perceived as extremely useful, even for experienced advisers - not least because it gave a good overall understanding of the different policy drivers. Discussion amongst participants from a diverse range of backgrounds and experiences at the training workshop was also highlighted as an advantage for networking and sharing information. AIC felt the option of a training course in modular form would give greater flexibility to tie in with existing structures, and that accreditation was not strictly necessary.

Members viewed the LIG as a very useful forum, having brought together a grouping of organisations which did not necessarily meet to discuss these issues. There was a general keenness to remain engaged, at some level. Given the ever increasing number of stakeholder meetings which were being convened, it was suggested that the FAS steering group might be a route to continue the involvement of members in shaping advice delivery.

Commitment from LIG members

AHDB

AHDB confirmed that it was partnering NFU and AIC in funding the development of a Pilot IHub which, if developed further, could act as a repository of consistent, centrally-curated, synthesised information on increasing production efficiency and reducing environmental impact. In addition, AHDB would evaluate the use and potential application of Integrated Advice Packages in the type of work it conducts, and convene a workshop on knowledge transfer which would draw from the results obtained during the Pilot study.

AIC

AIC will contribute to development of the IHub, and will promote and raise awareness of the benefits of integrated advice provision.

BASIS

BASIS will develop and provide accredited training courses on integrated advice provision, as well as developing a register of accredited practitioners.

BIAC

BIAC will promote awareness of concepts developed under the Pilot, many of which are consistent with an existing ethos of providing, good quality, business focussed advice, networking with and between government and commercial sector advisers, and CPD for advice professionals.

Defra

Subject to funding, and the collaboration of industry partners in reporting back on private sector experiences, Defra will develop a proposal to measure on-farm impacts. It will ask government funded advice initiatives to conduct further pilots, to implement and test integrated advice packages/ Farmscoper tools, to include systematically collating data on uptake of measures. In addition, Defra will consider the value of further developing the packages as part of the review of advice and incentives, and the need to update Farmscoper - both in conjunction with private sector partners.

FAS

FAS will incorporate tools and approaches developed under the Pilot into its interactions with advisers.

NE/EA

Both agreed to continue to work together, and to train their respective advisers in integrated advice provision, and to incorporate Farmscoper and the integrated advice packages into delivery e.g. of Catchment Sensitive Farming. Both would also collate feedback on the use of these tools and uptake of measures.

RSPB

RSPB will convene a training session for its advisers including Farmscoper, but would need to adapt the Integrated Advice Packages for its own use.

6.2 Stakeholder Group

A stakeholder group was convened to allow the opportunity for a wider group of industry participants to engage with the project. The objectives were to:-

- Follow up a previous 'advisers workshop' organised by Defra in February 2011, at the start of the project
- Strengthen dialogue, and promote inclusion, in the ongoing work
- Provide an update on developments with the Pilot study, and how thinking has evolved since the February meeting
- Introduce Legacy Implementation Group activities
- Obtain feedback from Stakeholders on emerging issues identified by the LIG

6.2.1 Stakeholder meeting (20 September 2011)

Attendees are listed at

Appendix . Although the overall number of industry representatives attending was less than expected, five commercial consultancies (Promar, Kite, Dairy Group, Masstock, Kingshay) participated, with a further two representative organisations (BIAC and IOTA) also present. No representatives from the large multiple retailers attended, but ASDA, Tesco and M&S specifically requested to be kept informed of progress.

Following a series of presentations, which covered the main elements of the work, participants at the meeting were asked to consider four topics, during breakout sessions:-

1. Is the advice currently being delivered 'balanced' across the different policy areas?
2. Do the Integrated Advice Packages (as presented) have utility?
3. In terms of the integration of advice, where this perceived to be working - what are the contributory factors? Where integration is not working, what are the limitations?
4. What are the drivers and barriers to better integration?

Following a brief presentation by Defra on the Natural Environment White Paper, participants were asked to consider:-

- A. What are the strengths and weaknesses of Government, private and third sector advice (and why)?
- B. What three actions could Government take to improve delivery of advice?

There was a high degree of consistency in the views expressed at both Stakeholder and LIG meetings. The collated responses obtained to each of the questions are given in Appendix .

The issues emerging from the stakeholder meeting are summarised below;

- Setting of priorities (relevant to business & scale)
- Co-ordination of delivery systems
- Cost of delivery (provider and recipient perspectives)
- Simple messages, signposted to supporting evidence
- Synthesis of information, contextualised to local situation
- Provision for local feedback to improve & refine prioritisation and delivery
- Relative merits of generalist vs. specialist adviser
- Networking (private and public)
- Role of supply chain in providing differentiation / market pull
- Raising awareness, as a potential benefit in its own right
- Motivation needed a) for initial farmer engagement, b) to move further from existing position
- Commercial imperative, but motivations other than money also need to be recognised
- Acid test = would advice provided command a commercial fee rate

6.3 Conclusions in relation to legacy

Although the Pilot has produced specific products such as Integrated Advice Packages, a Farmscoper update and adviser training materials, potentially its greatest legacy may be in terms of the conceptual and attitudinal shifts, which it has helped to bring about.

'Integrated advice' has entered the general vocabulary when discussing mechanisms for the delivery of management and technical information to farmers and landowners. The term has been picked up, mainly by Government and commercial extension agents, in contact with the Pilot, individually or at the level of their representative bodies. Lack of

profile at farmer level is not necessarily a disadvantage, if the approach becomes embedded naturally in how they access advice.

A key outcome of the study is proof of principle that it is feasible to provide advice which is better balanced in terms of messages given, and better integrated in how this is delivered to farmers. During the Pilot, the interaction of policy makers, delivery agencies, consultancy sector, training providers and industry representative bodies, has been fundamental to arriving at this consensus.

Collectively, the Legacy Implementation Group has provided a forum to discuss and to visualise how better ways of working might be achieved. A key ingredient is that it has brought together representation at each level in the advice delivery chain. In debating the issues, the group has developed a better understanding of the possibilities, constraints and opportunities involved. Given that further thinking and development is required, before the provision of fully integrated advice is realised, the group could continue to make a valuable contribution. Indeed the group has tentatively signalled its willingness to remain engaged as a sounding board for ongoing discussion on Defra's commitment in the Natural Environment White Paper, to undertake a detailed review of advice and incentives for farmers and land managers .

Individual members of the Legacy Implementation Group are potential routes to market for results and products arising from the Pilot. Outcomes from the project are likely to be incorporated into existing plans and activities by AHDB, EA and Natural England. Although understandably cautious at this stage, organisations with professional status and existing CPD schemes, such as RICS and CAAV, are considering how outputs from the Pilot could be subsumed into future plans. NFU has put forward an explicit proposal to develop further industry-led initiatives to build on the experience and successes of the Voluntary Initiative on Pesticides, Campaign for the Farmed Environment etc.

In terms of specific tools, the three Integrated Advice Packages produced during the Pilot provide a high level framework for prioritising and balancing options on farm. Farmscoper is a mechanism to drill down into the specific options identified and provide more quantitative information. Arguably the greatest value in developing these tools may be to convey the concepts involved in identifying options, balancing priorities, and weighing up trade-offs, rather than the specific content. These are 'living' tools, which will require ongoing refinement and technical upgrading. The three sample packages provided by the Pilot will need to expand to cover other sectors and farming systems.

There is considerable value in allowing a range of end-users and service providers to take these packages and customise them to suit their particular clientele and business models. There is also the need to ensure this adaptation can maintain the quality and consistency of messages being delivered. The pilot IHub being funded by AHDB, NFU and AIC could provide a mechanism to host and curate technical content and quality.

Training course material has been developed and pilot tested during the study. Course materials are included with this report. In addition to these tangible outputs, the course brought about the interaction of a range of advisers with a range of skills, experience and prior subject knowledge. A significant observation in feedback was the benefit of this interaction, which increased understanding not only of technical elements but also what was involved in optimising the delivery of integrated advice. The Legacy Implementation Group identified the need for better networking and connectivity between commercial advisers and between the commercial sector and Government delivery agencies, to provide the breadth and depth of advice needed.

6.4 Recommendations for maximising legacy

The Pilot has engaged in activities which have helped to shape approaches and provide prototype resources for greater integration in the delivery of advice to farmers. A degree of momentum has built which must be maintained if the true legacy of the Pilot is to be realised. Therefore, the Legacy Implementation Group should be encouraged to continue, perhaps with the carrot of reducing some of the other stakeholder activities in this area, by pulling these also under the umbrella of the Legacy Implementation Group, where appropriate.

Given the complexity of the subject matter, and of the delivery landscape it is important that incremental progress is maintained. With pressure on physical and financial resources a broad 'confederation' of like minded bodies, is more likely to be successful. Defra has both a leadership and enabling role to play, for example in using ongoing reviews of advice and incentives, better regulation, CAP reform, Green Food Project, to feed in to deliberations, and fuel the drive towards further progress.

Defra, Environment Agency and Natural England will be key contributors. In particular work in progress by Defra on how national policies can be translated and customised to local circumstances should be fed into the debate. How the main delivery agencies will affect the direction and capacity to deliver must be clarified if the commercial sector is to position itself correctly.

Further consideration should be given to the needs of different types of adviser, potentially even a segmentation exercise. This would also inform the best approaches for the delivery of training and CPD on integrated advice, which complements existing provision.

6.5 Next steps

Although beyond the official end-date for the project, the Legacy Implementation Group meet again on 6 March 2012. The purpose was to receive further feedback on policy developments, and delivery of policy advice by Defra and its agencies. The group was invited to consider a number of options in taking forward legacy outputs from the Pilot. Subject to agreement by the consortium, these could include:

- Continuing oversight of the refinement and further development of tools and approaches, as the policy agenda evolves.
- Consideration of a proposal to extend existing industry-led initiatives to cover broader geographical, sectoral and delivery capabilities, incorporating outputs from the integrated advice pilot into the proposed model.

The meeting was joined by the lead contractor delivering the new Farm Advice Service, and a representative from the LANDEX colleges, previously part of the evaluation expert group for the Pilot.

7. IMPLICATIONS FOR FURTHER DEVELOPMENT

There are a number of recommendations that have arisen as a result of this project these are summarised in the section below. Some of these have already been identified earlier in the report, and may be developed further through the final legacy implementation group meeting March 2012.

- **Developing market pull** - It is all very well developing integrated advice but there needs to be a market pull for this advice if advisers are to continue delivering it and

maintain the profitability of their business. If there is no demand for 'environmental' or 'integrated advice' how are commercial advisers, in particular, supposed to fund the delivery of this type of advice.

- **Future support and funding for the delivery of Integrated Advice needs to be clarified and communicated to all stakeholders and those who engaged with the pilot.** This will ensure that the momentum that has been built up can be capitalised upon and maximum benefit made of the work done so far. The Legacy Implementation Group has given this area some consideration and is well placed to support work in this area.
- **Stakeholders who have committed to supporting this scheme need to be included in the next phase of this pilot, if it is to be rolled out.** This will allow for effective knowledge transfer in the area of advice delivery.
- **Defra's future plans in relation to the pilot scheme and how these plans integrate and overlap with other initiatives already underway should be communicated to all those who have engaged with the scheme or may be interested in the scheme.** This will ensure that appropriate planning and organisation can be put in place to reduce duplication of efforts across related schemes and future mechanisms.
- **As a blueprint for a wider roll-out of the integrated advice pilot, a plan for the necessary customisation of the Integrated Advice Packages needs to be made.** Considerable logistics need to be factored into this planning to ensure that the packages are relevant and useful for wider application. This includes the development of advisory packages for different sectors.
- **If the integrated advice packages are rolled out in the future** to extend to additional catchments, then the methodology that was used to identify local priorities to inform the targeting of measures in the pilot catchments should be applied. In some cases it was difficult to distil the information provided at the catchment-level into agreed local priorities due to conflicts in priorities and advice messages being delivered by the Government Agencies.
- **The Integrated Advice Packages need to be maintained.** In order for the links and information in the integrated advice packages to remain current and relevant it will be important that the documents are kept as live documents. Control of the packages will need to be taken on by appropriate organisations with the responsibility for maintaining their relevance. The packages will require updating to reflect any changes to legislation, Cross Compliance, ES, CSF and any other schemes. Where signposting to key guidance documents occurs there is a need to ensure that the latest editions are included. Emerging evidence and additional practical guidance could also be added to the packages over time, in addition to identifying additional measures that may be relevant.
- **The role of the Integrated Advice Training Course needs to be decided.** It needs to be decided whether or not there is demand in the industry for advisers to train to become Integrated Advice advisers or whether the training course is actually to raise the awareness of integrating advice in the current advice landscape. The role of the course will determine how it needs to fit into the training landscape.
- **The way government procures and delivers advice needs to become more integrated.** This will send significant signals to advisers and farmers and also impact on the efficiency of delivery. The Pilot project notes the internal discussions on this, however it also needs to be stressed that correctly resolved this could signal and unlock more integrated behaviours in the whole advisory network.
- **The Legacy Implementation Group should be encouraged to continue,** perhaps with the carrot of reducing some of the other stakeholder activities in this

area, by pulling these also under the umbrella of the Legacy Implementation Group, where appropriate. Given the complexity of the subject matter, and of the delivery landscape it is important that incremental progress is maintained. With pressure on physical and financial resources a broad 'confederation' of like minded bodies, is more likely to be successful. Defra has both a leadership and enabling role to play, for example in using ongoing reviews of advice and incentives, better regulation, CAP reform, Green Food Project, to feed in to deliberations, and fuel the drive towards further progress.

APPENDIX 1

SPECIFIC FEEDBACK FROM FARMER AND ADVISER WORKSHOPS

Farmer and adviser WP2 workshops (first round) - feedback

Somerset Levels and Bridgwater Bay Catchment (Dairy)

(i) Land and crop management:

Crop/land use choice

Farmers and advisers commented that under Entry Level Stewardship (ELS) whole crop silage followed by over winter stubble is a viable option, particularly as this practice is rotational. Dairy farmers suggested that further encouragement through incentives and targeted advice is required to promote the use of a grass clover ley during the rotation, using clover in place of grass, and/or using crop varieties such as ryegrass in a grass ley to improve nitrogen use efficiency. There was little appetite at the workshops for growing biomass, even where there is a local market. Farmers expressed some difficulty with managing a grass crop that grows unpredictably. Converting arable land to extensive grassland to increase on-farm carbon stores also was not a popular option due to economic considerations, although the principle was supported. Farmers expressed a concern around animal welfare and agro-forestry as this can increase the risk of mastitis and the occurrence of flies. They also admitted to a lack of knowledge about grass varieties so requested increased training to understand the different varieties and for advice on the establishment and management of grass, as well managed grass is an asset to their businesses. Farmers and advisers commented that techniques are being adopted by dairy farmers to reduce compaction and poaching (advice is available from Catchment Sensitive Farming). It was suggested by advisers that the wording of the measure about cow tracks is changed to the 'use of well designed cow tracks' as little consideration is often given to planning cow tracks.

Crop management

Farmers highlighted that independent research on different maize varieties is required so they are able to make more informed choices when they come to select maize for their holding, with a view to reducing soil erosion. There was a comment that smaller dairy farms are unlikely to have chopper feed mechanisms on balers as it is costly. However, they agreed that it does make good sense in terms of efficiency. Funding for soil aerators is limited and increased incentives may further increase uptake. Using low ground pressure tyres/wheels on machinery to limit soil compaction was viewed as standard best practice by attendees at the workshops. Avoiding mechanical operations on grassland when the soil is waterlogged was also viewed as standard best practice because of the effect of compaction on yield. Decisions were made more difficult when the soil has varying moisture content levels. Farmers commented that some of the nutrient management tools are not easy to use and they expressed issues around the eligibility of measurements taken by them independently. Participants made some comments about advice on soils, as generic advice is worthless and they require, but struggle to get, local expert advice on soil nutrient availability. It was acknowledged that there are difficulties with getting trained experts in the practical aspects of soil science in farming.

(ii) Fertiliser, manure and slurry management

Fertiliser application

Manure management is a requirement for Farm Assurance Schemes, but nutrient management is not. Therefore, participants identified a need for simple nutrient management planning tools for grassland farmers. It was not always possible to purchase 'good quality fertiliser', as recommended by one measure, but it was important to know what they are buying.

Manure application

Dairy farmers commented that it is more realistic for manure and slurry to be incorporated into the soil within 24 – 48 hours (rather than within 12 hours as currently recommended) and there were issues around applying manure between cuts of silage. NVZs and fluctuating input prices mean that dairy farmers are taking the common-sense approach and are making use of manure and slurry. The 'whole farm' approach to applying manure should also be able to take into account organic processing waste produced on farm.

Manure/fertiliser storage

Farmers at the dairy workshops suggested that the fourteen measures in this section should be best practice across all farms. They fed back that grant schemes for slurry storage are lacking and more support is required. Contradictions were noted between the requirements of NVZs (store slurry) and carbon foot-printing (do not store slurry).

(iii) Managing animals

Livestock breeding

Farmers at these workshops thought that using improved genetic resources is common sense practice, already done by most farmers. They expressed a need for more advice on breeding and genetics at the practical farm level, but they were not clear about the specific information they require. More research is required to look at improvements in genetics which lead to improved protein digestion. Genomics is difficult for farmers to apply at the farm level and they need better predictive accuracy for advice to be taken seriously. Farmers were also concerned that the push on productivity has not always benefitted other parameters of animal health. They were also concerned that some advisers on animal genetics have commercial interests or are not present when the consequences of their advice take effect.

Livestock diets

Farmers stated that using improved feed characterisation and ration balancing, using more digestible feeds for better performance and adopting phase feeding of livestock makes practical sense but farmers do not always have access to the information that they need to make these decisions. Dairy farmers also suggested that they already seek a reasonable level of nutritional advice.

Protecting watercourses and other non-productive areas

Farmers thought that the eight measures in this section were already best practice that should be carried out on farms where possible and on the basis of risk assessment (e.g. if there is a risk of erosion). Many farmers rely on ditches to provide water to stock and fencing-off ditches should only be required when necessary. They commented that CSF provides grants for fencing but this is targeted and not accessible for all.

Animal health

Some farmers felt that not all farm health plans were managed as well as they could be and that more regular testing for diseases could be a benefit. Advisers are still finding that making farmers aware of what is required for health issues relating to animal housing should still be a priority. Considering the flow of animals through housing, farmers need instruction and guidance, and help particularly with the design of the buildings. There is

advice to help with modifications to housing to benefit the health of the herd but more grant schemes to help with making these modifications could be beneficial.

(iv) Managing non-productive areas

Buffer strips and non-cropped areas

Farmers and advisers at the dairy workshops agreed that the options under this heading make practical sense, especially if they form part of an ES agreement, where payment is received for an option that helps meet LERAP requirements for example. Public access and dog walking was cited as a serious issue impacting on these management options. Some felt that management of buffer strips; particularly with respect to soil quality was an important consideration in terms of their value for conservation.

Trees and woodland

Whilst there is funding available under HLS to create woodland, this is restricted to holdings targeted by the scheme and for the average dairy farm this is a less viable option. It was suggested that a scheme that would allow planting trees to offset e.g. removing specific hedges in small fields, would be attractive.

Hedge and boundary management

Farmers and advisers promoted the positive benefits of hedge management where they are a key feature on holdings. They also highlighted practical issues with the prescriptions to manage hedges under Entry Level Stewardship (ELS), and reported that the requirement to cut each hedgerow no more than once every three calendar years, cutting no more than a third of hedgerows each year, is not practical for many reasons. Apart from the aesthetics of an untidy appearance this cutting regime encourages woody growth that is more difficult to cut. Anecdotally they suggested that woody growth provides a less suitable wildlife habitat, although this has to be qualified by the species present and desired. Farmers asked for flexibility to cut hedges according to their own farming systems, in addition to considering the location and species of hedgerow. The farmers and advisers also commented that whilst they would be keen to plant new hedges there are few incentives available to encourage this kind of management, and no incentives are available to lay hedges.

Ditch and wetland management

Attendees had some issues with the ditch management option under ELS. It appeared that the classification of aquatic vegetation eligible for ditch management varies from adviser to adviser and there is a need for clarity on this issue as it may have an impact on farmers undertaking this management through ELS. Farmers also commented that the recommended timing of cutting ditch vegetation may not be possible due to flooding.

(v) Managing energy and water inputs

Farmers and advisers at these workshops spent some time discussing the value of electricity generation and water management on farm. Overall this area was viewed positively but it requires greater incentive (increased grants) and joined up advice as it is too costly for most farmers. Collecting water from roofs would raise potential disease management issues for dairy farmers. Attendees spoke about bio-digesters and the need for capital investment and also regional initiatives which can help subsidise and improve efficiency on farm. A distinction was made between large digesters for commercial purposes and small digesters for a farm's own energy production.

Yorkshire East Riding catchment (Arable)

(i) Managing productive areas

Crop Choice

Farmers at the arable workshops spoke about the lack of independent advice on seed varieties. Varieties are usually selected based on market demand, reviews in the farming

press, advice from seed merchants and recommendation from farming neighbours. The market leads farmer decision making processes and does not take into account the risk taken on by individual holdings if they select a specific variety. Varying seeding rates can minimise input costs without affecting yield but under-sowing can be difficult to manage in some areas e.g. due to water shortages. Farmers explained that they choose to grow and manage specific cover crop types based on their own needs. They added that cover crops could have an increasing application to help farmers meet NVZ requirements to try and alleviate nitrate leaching. Both farmers and advisers at the workshops viewed the conversion of arable land to extensive grassland as a non-starter; as stock is required to make use of the grass and most arable-based farms no longer have livestock. They also highlighted the lack of expertise and capital investment needed to support livestock farming systems.

Crop and soil management

Farmers and advisers commented that harvesting at optimum moisture content and the use of air drying if wet is common sense but the adoption of passive dryers would require considerable capital expenditure. Conditions in grain stores are requirements for Farm Assurance Schemes. Farmers also noted that, until two years ago, management plans were an option included in ELS which contributed 3 points per hectare to agreements. A lack of free independent expert advice on soil management was also mentioned. Advisers and farmers highlighted that low/no-tillage is a good practice but it might be useful to explain why and link to appropriate reference points. The use of low ground pressure tyres, was recognised as good practice under Cross Compliance, even though they are costly (average 4 tyres at £11, 000). Use of contractors was identified as an issue as they do not always stick to the tramlines. It was noted that appropriate management depended on soil type and that there was a fine distinction between soil consolidation and compaction.

Irrigation

Farmers noted that some holdings have outdated irrigation practices but the installation of effective, high-tech irrigation systems is not always viable for smaller arable farmers. Farmers spoke about delaying sowing times to help with grass weed problems (cover crops) and also about the need to take into account the carbon footprint of establishing winter crops on heavy soils and the potential for leaching from cover crops.

(ii) Fertiliser management

Manure and slurry management

Due to fluctuating input prices manure is used more by arable farmers, and the use of precision farming fits in well with manure planning and applications. Farmers at the workshops highlighted a concern about the research being carried out on nutrient availability and the fact that it does not tend to reach farmers in an understandable format. The importance of regular soil testing was also discussed as an action to promote to farmers. Although there are a range of computer-based and paper based tools to plan nutrient management many farmers still find them very complicated, especially as they are only used once a year. Concerns were also expressed that recommended levels of P & K are based on old varieties and may not take account of availability of nutrients. Farmers commented that better quality fertilisers tend to come at an increased cost and that different sources of advice suggest different optimum levels of fertiliser. The possibility of using combination drills to apply fertiliser to the crop using a more targeted approach was highlighted. Similarly, technology for flow-rate measurement when applying slurry and weighing cells on combines to link to specific nutrient balances can all contribute to better precision in fertiliser application.

(iii) Pesticide management

Apply pesticides using calibrated sprayers, avoiding drift; and reducing application rates and travelling speed

As pesticides are costly these practices make sense as it leads to reduction in wastage, but this measure is also a requirement of assurance schemes. In order to apply pesticides one of the requirements is to have an appropriate certificate of competence. Many sprayer operators are members of a central register of sprayer operators (National Register of Sprayer Operators) using Continuing Professional Development (CPD) as a means of ensuring ongoing professional training. Farmers said that by law there are storage practices for pesticides that should be observed and they explained that less toxic pesticides are more costly. In many cases cost is the main influence dictating farmer choice of pesticide products. Storing pesticides away from watercourses, boreholes, wells, springs, drains or flood routes is a requirement of assurance schemes and should be best practice. Farmers and advisers drew attention to the Crop Protection Management Plan, a well structured plan that has good uptake by farmers. It helps them address their farm's crop protection policy, details the water protection measures taken, indicates a commitment to improving standards and considers how the direct and indirect impact of plant protection products on non-target species can be mitigated. At an individual farm level, the planning process identifies the environmental risks to water, insects, plants and animals, and biodiversity on the farm, and seeks to relate subsequent crop protection practices to minimising these risks.

(iv) Managing non-productive areas

Buffer strips and non-productive areas

Farmers and advisers were very positive about the role of buffer strips in protecting watercourses. They highlighted that their contractors are more likely to plough up buffer strips and cross compliance margins as they are not always aware of the regulations. There was a feeling that the management of margins could be improved and provision of information would help.

Trees and woodland areas

Limited funding is available from the Forestry Commission through the Funding for Farm Woodlands Scheme. The Forestry Commission also offer grants for Woodland Creation but some farmers reported that the onerous application process discourages them from pursuing an application, even though they are interested.

Hedge and boundary management

Farmers and advisers also highlighted practical issues with the prescriptions to manage hedges under Entry Level Stewardship (ELS). They reported that the requirement to cut each hedgerow no more than once every three years, cutting no more than a third of hedgerows each year, is not practical for many reasons. They also questioned the wildlife value of this cutting regime.

Ditch and wetland management

Attendees expressed some issues with the ditch management option under ELS relating to the definition of aquatic vegetation, as highlighted in the dairy workshops. The requirement to clean ditches during a specified period was also seen as being rather restrictive.

(v) Managing energy and water inputs

Wind and solar energy

Attendees at the arable workshops commented on the capital investment required to even get these projects started, suggesting the projects are not accessible to all farmers. Planning permission was also raised as an issue, in particular for tenant farmers.

General comments

Whilst farmers indicated general interest in this area, the lack of incentives and knowledge for technologies and best practice was highlighted. Attendees identified the need for an independent guide to the economics of managing energy and water inputs.

Teme catchment (Beef and Sheep sector)**(i) Land and crop management***Crop/land use choice*

Farmers said that under-sowing using maize is not good practice amongst beef/sheep farmers but under sown spring barley is usually a popular alternative. They also highlighted that the grants for agro-forestry are not attractive enough. Farmers questioned the welfare benefits for livestock but suggested that the benefits for chickens are possibly greater. Farmers asked for improved communications as they feel they are lacking in knowledge to make decisions on crop varieties. They also highlighted that significant capital investment is required for efficient grazing systems to be adopted. If the markets were more favourable it would be more likely that livestock farmers would do this without support.

(ii) Soil management*Loosen compacted soil layers in grassland fields to promote aeration*

Soils for Profit in the South West provide grants for soil aerators, but it is only available in a particular region. Attendees at these workshops suggested that a wider ranging grant scheme for all would increase uptake. The use of low ground pressure tyres/wheels on machinery and avoiding mechanical operations on grassland when the soil is waterlogged to limit soil compaction was highlighted as being standard practice adopted by all farmers. At the workshops it was accepted that livestock farmers do insufficient soil testing. They require greater communication about free facilities and advice clearly promoting the benefits.

(iii) Crop protection, pesticide use and application*Use drift reduction methods*

Attendees at the workshops fed back that the use of drift reduction methods for pesticide application and avoiding application at high risk timings is common best practice required by Farm Assurance Schemes. Farmers at the workshops responded that environmentally friendly products are more costly and cannot be afforded by all livestock farmers. If incentives were provided or advice focused on the benefits to farm businesses, usage may increase. They also highlighted a need for independent advice on suitable products so they are more able to make more informed decisions.

(iv) Fertiliser, manure and slurry management*Fertiliser application*

Farmers said that the use of nutrient management plans and fertiliser recommendation systems is not a requirement for Farm Assurance Schemes, however they are encouraged to do this as best practice. This also applies to accurate spreading and timing of fertiliser applications as it makes sense to apply only what is required and not in high risk areas.

Manure application

When discussing this subject farmers and advisers commented that in general livestock farmers make less use of slurry but they do apply manures. They consider timings and do not apply in high risk areas as best practice. Farmers commented that they are aware of the need for soil testing for the application of manures and they identified that more research is required to explore effective spreading machinery. They also advised that assistance with costs of manure storage/cover is required.

(v) Managing animals*Livestock breeding*

Livestock farmers are less clear about the benefits of improved genetic resources and asked for clearer communication of this information. They also said that for them to change the breeds that they use they need to have confidence in the new ones to make that decision.

Protecting watercourses and other non-productive areas

Whilst protecting watercourses is good practice, limited grants are only available through CSF to help with the cost of fencing. Some farmers highlighted that there are some drawbacks associated with fencing. Where livestock access water at designated areas their impact is increased and there is a lifetime of fencing maintenance to consider with no help with the long term costs. Attendees commented that keeping livestock off wet soils where there is a risk of flooding and reducing field stocking rates when soils are wet should be highlighted as being standard best practice.

(vi) Animal health*Use farm health plans and performance monitoring*

Advisers said that farm health plans are a requirement for farm assurance schemes, but because active health planning is undertaken by few livestock farmers, engaging hard to reach farmers would make a big difference. Farmers at the workshops expressed a need to know from vets how active planning will save them money.

(vii) Managing non-productive areas*Buffers strips and uncropped areas*

For mixed farms with arable cropping as well as beef/sheep, this kind of management becomes less financially viable as the payment from ELS does not take into account changes in commodity and input prices. Farmers highlighted the technical skills required to establish and manage blocks of seed bearing crops and the need for expert advice.

Hedges and boundary management

Farmers and advisers highlighted practical issues with the prescriptions to manage hedges under Entry Level Stewardship (ELS). They reported that the requirement to cut each hedgerow no more than once every three years, cutting no more than a third of hedgerows each year, is not practical for many reasons. They commented that whilst they would be keen to plant new hedges there are few incentives available to encourage this activity.

Trees and woodland

Attendees at the workshops discussed the value of creating new woodland in areas not suitable for production. Grant schemes provide good incentives; however they are limited which restricts farmers undertaking this management.

Ditch and wetland management

Farmers expressed some issues with recent changes to ditch management that have not been communicated to them very clearly.

(viii) Managing energy and water inputs

Farmers fed back that they lack knowledge of where to go for advice on alternative energy; many are deterred by the substantial outlay required and lack of independent advice.

Farmer and adviser WP2 workshops (second round) - feedback

Somerset Levels and Bridgwater Bay catchment (Dairy)

(i) Loosen compacted soil layers in grassland fields

Farmers and advisers challenged the ease of implementation score of 3 (hard) as they commented that this measure is not hard technically. They did appreciate that for some of the technologies i.e. aerators, costs are involved which are likely to have influenced the score, and that this should be communicated in the description of this measure. Farmers at these workshops suggested that a score of 1 should represent easy and 5 should be hard as this was more logical to them.

There was discussion around this measure being a Cross Compliance requirement. Farmers and advisers suggested that the front-end of the advisory packages and the description measure distinguish between the legally required measures and those that are voluntary, either as part of Cross Compliance or other incentive based schemes.

It was recommended that the descriptive text for this measure should bring out some of the practical issues around loosening compacted soil layers including timing of this practice. An adviser also added that there is funding available for aerators for inclusion in the section on 'place in existing schemes'.

(ii) Nutrient management plan and fertiliser recommendation system Farmers and advisers recommended that as nutrient management is a key area for dairy farmers this package would have greater value if the umbrella measure was broken down into several different measures. Farmers highlighted the need for practical hints and guidelines on key areas including:

- Soil sampling and analysis – frequency, timing and location
- Calculating nutrient availability and requirements
- Manure spreader calibration

(iii) Restrict livestock access to watercourses

Farmers commented that in order for this measure to be adopted it requires funding, which is reflected in the low ease of implementation score. They also noted that there is a variety of different fencing techniques (temporary, electric fencing) and it may be worth highlighting this in the measure description. A farmer also mentioned that fencing changes the vegetation that grows along the watercourse bank and that there is a time lag in the establishment of a variety of species which is not always communicated and would be useful to include in the measure description to manage farmer expectations.

(iv) Efficient feeders and water troughs

Whilst farmers and advisers acknowledged that this is a relatively easy measure to implement there was a request for practical information about what efficient feeders and troughs are, including images of efficient equipment.

(v) Establishment/management of hedges

Some of the farmers at the workshops manage hedges under Environmental Stewardship (ES) agreements. The practical issues around cutting requirements as part of ES prescriptions were again criticised and for that reason some farmers have not or will not be renewing their agreements when they expire. Therefore, farmers questioned the ease of implementation score of 5 (easy) as the management prescriptions are impractical. They commented that managing hedges outside of ES agreements provides farmers with the flexibility to manage hedges according to their farm-site specific requirements.

Yorkshire East Riding catchment (Arable)

(i) Produce and use a Soil Management Plan

This measure, and the Soil Protection Review, was viewed by participants as being 'tick box' exercises. It was suggested that there would be more value in teasing out measures initially integrated to form this umbrella measure including soil testing. Farmers and advisers felt it would be important to address specifics around soil testing such as frequency and testing parameters.

(ii) Prepare and use a Crop Protection Management Plan

Participants noted that this measure is also only undertaken as a tick box exercise and that fewer farmers are completing CPMPs as they are no longer a requirement for ELS and the need to do this for the Voluntary Initiative appears to have diminished (according to both farmers and advisors). Again, it was suggested that the practical issues around using plant protection products should be broken down into separate measures for farmers to adopt including:

- Using calibrated sprayers
- Avoiding drift
- Reducing application rates and travelling speed

(iii) Use cover crops

Participants suggested that in order to balance the description of this measure, the issues associated with pests and diseases should be included. They also recommended that the different types of cover crops should be described including Agri-environment Cover Crop (specific prescription related to establishment) and Voluntary Cover Crop (flexible practice to mop up nutrients and improve soil structure and organic matter content).

(iv) Use high yielding varieties

Farmers highlighted that whilst this is a sensible, obvious practice, their buyers dictate what varieties they grow as part of their contracts.

(v) Use minimum tillage systems

The barriers to adopting this practice were discussed by farmers who noted that there is a time lag of over 3 years to see the benefit of minimum tillage systems. This could be highlighted in the measure description as farmers need to persevere to reap the rewards and this may act to manage their expectations.

(vi) Establish buffer strips

Farmers want to know 'how do I make buffer strips work on my farm' including practical issues and what needs to be done under different schemes – Cross Compliance, Environmental Stewardship or voluntary. Practical issues discussed included species selection, buffer strips for different soil types, and trespassing on buffers.

(vii) Sow 6m wide blocks or strips with a combination of small-seed bearing crops

Both farmers and advisers felt that this measure requires incentives as it demands a high level of technical skill to establish and manage. These blocks or strips tend to be located in poor crop yielding areas, however there needs to be better communication of the fact that managing these crops for wildlife requires as much attention as a food crop.

Teme catchment (Beef and Sheep sector)

(i) Keep livestock off wet soils where there is a risk of flooding

Both farmers and advisers suggested that this measure needs to consider local knowledge of field and weather conditions. While in theory this measure is easy enough to adopt. It could be complicated by different soil types, such as clay soils. Advisers also asked that

the benefits to water quality should be reinforced as farmers are less aware of this impact and also the impact that poaching and damage to swards has on yields.

(ii) Locate out-wintered stock and sacrifice areas away from watercourses

Farmers highlighted that this measure is undertaken as best practice, but accessibility to stock needs to be considered to ensure that feeding is practicable. Participants recommended that the text cover recommendations for the location of the sacrifice area to limit the generation of sediment loaded run-off with reference to slope, drainage and connectivity to watercourses.

(iii) Restrict livestock access to watercourses

Farmers and advisers suggested that the health benefit of restricting access to watercourses, in terms of reducing the spread of water borne diseases needs highlighting. This would be an important benefit to farmers and without incentives this measure is not likely to be implemented, as reflected in the ease of implementation score of 2.

(iv) Disposal of sheep dip

All of the farmers at the workshops commented that they use a mobile sheep dipping contractor who is responsible for ensuring that they comply with the legal conditions around disposal. They agreed that it is necessary to retain this measure as part of the package for the beef and sheep sector.

(v) Establish buffer strips

Opinions regarding this measure were divided as the ease of implementation varies according to buffer width/size and whether it is being undertaken as part of a scheme where funding is available to cover taking land out of production. Farmers commented that they would not manage buffer strips outside of a scheme as incentives are required. There was lengthy discussion about the environmental value of buffer strips to intercept run-off depending on species included in the mix and the structure of the vegetation, where specialist advice is required. Advisers and some farmers also noted that buffer strips for intercepting run-off should be the final step in mitigation as addressing the source and pathway of run-off should be the priority.

(vi) Minimise volume of dirty water produced

Farmers explained that this measure is a big issue for the dairy sector but it would still be relevant to include it in the beef and sheep advisory package.

(vii) Nutrient management plan and fertiliser recommendation system

Farmers and advisers recommended that this measure should consist of some practical actions which can be broken down into separate measures. They suggested that soil testing (pH etc) is included as a measure and that timing is referred to as they are lacking advice on this issue. There was a discussion about overcoming the perception that soil testing and correcting soil pH is costly and promoting the resulting increase in yields within the measure description. Farmers commented that the Fertiliser Manual (RB209) is very complicated for them to understand and that if the key facts could be pulled out of the booklet and included in the package that would be helpful.

(viii) Consider storage of manures/fertilisers

All of the farmers commented that this is common best practice but the measure does need to be included in the package as it is a legal requirement to meet the Control of Pollution Regulations, 1997.

(ix) Establish/manage hedges

Some of the farmers at the workshops managed hedges under Environmental Stewardship (ES) agreements. Practical issues around cutting requirements as part of ES

prescriptions were highlighted and for that reason some farmers have not or will not be renewing their agreements when they expire. Therefore, farmers questioned the ease of implementation score of 5 (easy) as the management prescriptions are impractical. Managing hedges outside of ES agreements provides farmers with the flexibility to manage hedges according to their farm-site specific requirements.

(x) Ditch management

Farmers agreed that ditch management is not easy to implement particularly under ES agreements, as the prescriptions are complicated and not practical. They commented that there are easier ways to obtain points for the ELS agreements, for example, low input grassland and mixed stocking. One farmer promoted the value of beetle banks on his holding as they are relatively easy to implement and fit in well with his farming business.

(xiii) Make use of improved genetic resources

Whilst farmers agreed that this measure is sensible they questioned the reliability of EBVs and they commented that recording systems tend to dictate breeding practices.

(xiv) Use improved feed characterisation and ration balancing

Farmers questioned the way in which greenhouse gas emissions per kg are calculated as there is a range of tools available using different methodologies. Advisers and farmers at the workshops asked that more attention is paid to grassland/forage management within the package for the beef and sheep sector, as it is only briefly mentioned in this measure. They asked that a specific measure on this topic is included in the advisory packages as it is important to the sector but would include measures to ensure a balanced focus across all business areas.

APPENDIX 2

FEEDBACK FROM ADVISERS AT TRAINING COURSE

Feedback on Integrated Advice Packages

Are there any of the aspects of the Integrated Advice Packages that you value?

The general consensus amongst the group was that they could see value in having all of the information relating to the policy areas and measures to implement to aid in meeting the targets in one area.

Advisers valued the;

- “good simple lists of measures for the different sectors”
- “single page summaries of each of the win:win measures”
- ability to show what environmental benefits each measure is able to assist with
- “clarification of policy areas and measures that will help deliver benefits to them”
- Coding system
- Two advisers commented that the tool is a “useful quick reference and checklist” possibly to aid in the section of environmental measures in an application. One adviser suggested that although the Integrated Advice Packages were useful, this would only be to a certain level, providing a baseline of advice.

Are there any aspects of the Integrated Advice Packages that you would change?

- At least two of the advisers at the training event thought that the list of actions might be too narrow to actually deliver policy benefits at the farm scale
- One adviser thought that a case study approach might have worked better.
- One adviser raised in the feedback form a concern that the Integrated Advice Packages had been targeted at specific catchment areas and therefore they were not sure how widely applicable they might be outside of that catchment.
- One adviser wanted the level of detail on costs and benefits that is included in Farmscoper, included in the Integrated Advice Packages.
- One environmental adviser struggled to find the logic behind the icons that had been used, and suggested that these should be made clearer to increase understanding
- One adviser noted that the achieving desired outcome and other detailed appendices appeared at the rear of the paper document. It was felt by this adviser that these should be given higher priority and sit at the front. By having this section at the front of the document it would help the adviser to understand the importance of looking for those failing aspects of the business.
- One environmental adviser took the packages back to their office and shared with a more experienced colleague. This colleague felt that greater depth in the overview of the catchment and its issues would be useful for farmers, to help them put into context the catchment issues and how they need to address them on their farm.

In your opinion who would find the Integrated Advice Package approach useful?

Suggestions from the advisers in relation to this question included;

- Industry as a whole
- Farmers and amateur environmentalists involved in giving or selling advice to farmers
- At least three advisers suggested that the packages would be useful for trainees or less experienced advisers. Although one adviser cautioned that if users don't understand the management options it may cause problems, although they did not specify what these might be.
- Environment officers
- One adviser suggested that you could actually print out relevant sections and leave them with the farmer.

Would this approach be useful for you and/or your organisation?

Yes x 7

No x 2

Are there any other aspects of the Integrated Advice Packages that you would like to comment on?

Only one adviser answered this question merely to state that the Integrated Advice Packages were not a business tool.

In addition to the actual feedback provided on the feedback forms there was a process of discussion throughout the training course. All of the information provided by the advisers during the training course was taken on board by the project team and used to help refine and develop the Integrated Advice Packages further.

Feedback on Farmscoper

Are there any aspects of Farmscoper that you value?

There were a number of parts of the Farmscoper tool that the advisers present at the training course thought were of value, these included:

- "The overview of environmental influences"
- One adviser valued the ability to produce a measures report that can "provide valuable science to back up advice"; another liked the level of "scientific information behind the standard models for N, P and ammonia outputs and the level of detail of the impact of different measures on these pollutants".
- One adviser stated that they liked "the apportionment of pollutants as a guide" and they found the "economic aspect useful too"
- The identification of possibly impacts, in terms of the impact on pollutant levels was seen to be useful for "discussion of the issues and impacts at the farm scale"
- At least two advisers particularly liked the ability to "quantify the environmental costs and benefits" or provide "cost benefit analysis of environmental options"
- The ability to compare the impacts of multiple different measures was also seen to be of value.

Are there any aspects of Farmscoper that you would change?

Farmscoper is an excel based tool and fairly complex in nature compared to the Integrated Advice Packages. The complexity of the tool meant that for those users that were not familiar with using computers and particularly excel in this way the training course was rather a steep learning curve. As a result some advisers felt that they needed a little more

time to play with Farmscoper, away from the training course, in order to understand the full benefits of the tool to them.

- This complexity led to one adviser asking for an even greater level of user interface improvement.
- Another adviser asked for a simple list of bullet points to be provided giving a step by step route through the tool (*this has since been developed and has been uploaded onto the same weblink as the tool*)
- One adviser suggested that for regular application on farm the level of complexity may be too great, and thought a simpler version might be more helpful to consultants in the field. (*In the training we have revised the initial training exercise to demonstrate a quick and easy route through the tool to show quick outcomes for use in the field*).
- One adviser asked that the buttons show (possibly in a different colour) when they are selected to aid the user in understanding what they have selected.
- The same user also asked for it to be possible to identify from the graph dots which measure they relate to. (This requires complex programming and would not be practicable to implement at this stage in the tool's design).

In your opinion who would find the Farmscoper approach useful?

- Policy makers or people involved with project development / catchment affairs
- There was a general consensus that Farmscoper was of value across a wide range of adviser types with at least five of the seven respondents giving answers along these lines. One suggested any adviser (including environmental, independents) "with an interest in developing knowledge and experience", another suggested that it could be used by "advisers to help substantiate any particular course of action recommended"
- It was also suggested that the tool could be valuable in group work / workshops to build awareness of issues / possible impacts and solutions
- One adviser suggested that they might use the tool to build a catchment picture of inputs from farms.
- Other areas of the industry that might benefit from the tool were mentioned by one adviser these included; government, advisers, farmers and students, allied trades, food buyers and the NFU.

Would this approach be useful to you and or your organisation?

Of the eight responses received seven said yes, and one missed this question, as they were unsure of the value of the tool in its current format.

Are there any aspects of Farmscoper that you would like to comment on?

There were a number of advisers present at the training course who were not familiar with the use of excel and therefore found the navigation of the tool challenging. They requested additional step by step assistance in the navigation of the tool. (*This has since been developed and placed on line with the tool*)

- Suggestion that some of the figures that are displayed give too great a level of accuracy given the level of assumptions made in the tool.
- Request for clearer indication of whether positive figures were good or bad, e.g. colouring cells green if good or red if bad.
- Request for case studies showing different farm types / cropping to allow key principles and outcomes to be extracted.
- Tool may need specific targeting to certain user groups (there was no clarification of why or how this might be done).

- One adviser thought that the tool would not be used on farm; it would be more likely that the tool would be used in the office having collected the data on farm. *The project team had not planned that the Farmscoper tool would necessarily be used on the farm; the thinking behind the printable reports was that these could be printed out to take onto the farm.*

Feedback on the training course itself

1. Organisation

Give your assessment of the course organisation							
Pre-course information	Excellent	2	Good	9	Fair	1	Poor
The overall course administration	Excellent	5	Good	7	Fair		Poor
Visual aids	Excellent	5	Good	6	Fair	1	Poor
Venue	Excellent	5	Good	7	Fair		Poor
Comments	Food service slow but quality good The days ran really smoothly						

2. Objectives

Give your assessment of how well the event objectives were met:							
To be able to describe the competing business and environmental priorities	Excellent	Good	11	Fair	1	Poor	
To gain an understanding of Integrated Advice	Excellent	Good	9	Fair	3	Poor	
To be able to use Integrated Advice Packages to identify on-farm actions that provide multiple benefits to farm business	Excellent	Good	5	Fair	7	Poor	
To be able to operate Farmscoper decision support tool	Excellent	Good	4	Fair	7	Poor 1	
To be able to adjust ways of giving advice in different situations	Excellent	Good	5	Fair	7	Poor	
Give your assessment of the training event as a whole	Excellent	1	Good	8	Fair	3	Poor
Comments	• I gave a Poor because of my IT skills • Good introduction. More time spent discussing technical measures would have helped • The scope of Integrated Advice needs to be defined. To me it is an environmental cost benefit tool, not a business tool • The presentations were interesting and interactive • The service in the food dept. left a bit to be desired						

3. Assessment of sessions

Give your assessment of each of the main sessions including value of information, time spent and method of training:			
	Value of information	Time spent	Method of training
Day 1			
Priorities for the farming industry Sarah Wynn	Excellent 1 Good 10 Fair 1 Poor	Too short About right 11 Too long 1	Excellent Good 11 Fair 1 Poor
Comments: Value of quiz?			
Developing and advisory approach Brian Angell	Excellent 2 Good 7 Fair 3 Poor	Too short About right 10 Too long 2	Excellent 2 Good 7 Fair 2 Poor
Comments:			
What is integrated advice? Susan Twining	Excellent Good 10 Fair 2 Poor	Too short About right 12 Too long	Excellent Good 11 Fair 1 Poor
Comments: More examples would have helped			
Integrated Advice Packages Corrina Gibbs	Excellent Good 8 Fair 4 Poor	Too short About right 11 Too long	Excellent Good 9 Fair 2 Poor
Comments:			
Familiarisation with integrate advice packages - practical Corrina Gibbs	Excellent Good 8 Fair 3 Poor	Too short About right 11 Too long	Excellent Good 7 Fair 2 Poor
Comments: It was not clear how the tool would be used. Some parts too detailed, some too shallow			
Introduction to Farmscoper Sarah Wynn	Excellent Good 10 Fair 2 Poor	Too short 3 About right 8 Too long 1	Excellent Good 9 Fair 2 Poor
Comments: Good overview			

A computer tool – a detailed understanding is required as answers were different between different delegates. Some checking is needed.

Give your assessment of each of the main sessions including value of information, time spent and method of training:

	Value of information	Time spent	Method of training
Day 2			
Inspiring Change Brian Angell	Excellent 4 Good 2 Fair 6 Poor	Too short About right 9 Too long 3	Excellent 3 Good 5 Fair 3 Poor
Comments: Rather too long			
Familiarisation with Farmscoper – practical	Excellent Good 8 Fair 4 Poor	Too short 5 About right 6 Too long 1	Excellent Good 7 Fair 4 Poor
Comments: Rather disjointed when computers do not work			
Delivering Integrated Advice – practical	Excellent Good 4 Fair 5 Poor 3	Too short 6 About right 6 Too long	Excellent Good 3 Fair 7 Poor 1
Comments: Too little time devoted to this section Practical “farm studies” ran with demonstrable benefit – financial and environmental To me it is not a business tool Some of the business descriptions could have had more info on environmental priorities for the farm			

4. Delivering Integrated Advice

Give your assessment of delivering integrated advice:					
I can confidently deliver integrated advice to farmer clients	Strongly Agree 3	Agree 3	Neither agree nor disagree 4	Disagree 1	Strongly disagree
The Integrated Advice Packages will be a useful tool on farm?	Strongly Agree 1	Agree 3	Neither agree nor disagree 5	Disagree 2	Strongly disagree
Farmscoper will be a useful tool on farm?	Strongly Agree	Agree 6	Neither agree nor disagree 3	Disagree 2	Strongly disagree

Do you have any further comments?	The approach and tools need packaging, refining and simplifying Need simpler navigation for basic use of Farmscoper Watch out for Animal Health and Welfare Integrated Advice Packages require some further development. Farmscoper could be more farmer friendly I'll give it a go. I think it is a more environmental tool so may not fit with normal consultancy approach I think it will need more trialling. I will look at using it for developing projects and broadening my knowledge
--	---

APPENDIX 3

1. OVERALL EVALUATION

As fully detailed in the Monitoring and Evaluation Plan for this work, the key issues and objectives for each work package were reviewed in order to derive the main questions that we aim to answer in the evaluation of this project. Evaluation table 1 below presents the high level and the specific evaluation questions that we aimed to answer in this project. Answers to these questions informed the process of drawing up advice, gave indications of an effect, as well as provided a baseline for further ex-post evaluative work beyond the scope of this project.

Evaluation table 1 Overview of evaluation questions

Overall questions	Specific evaluation questions for this pilot	Work packages
What is the quality of the integrated advice?	Q1: How complete is the advice?	WP1 Developing sector specific advice
	Q2: How easy is the advice to understand	WP2: Testing the best way of combining and communicating integrated advice
	Q3: How easy is the advice to use?	WP3: Designing, developing and piloting a training course
	Q4: Does the advice take the view of farmers into account?	
	Q5: Does the advice take the views of farm advisers into account?	
Will advice lead to better communication of Defra policies	Q6: Do farm advisers understand the advice?	WP2: Testing the best way of combining and communicating integrated advice
	Q7: Do farm advisers indicate they will use the advice?	WP3: Designing, developing and piloting a training course
	Q8: Do farm advisers perceive it will change the way they give advice?	
Are farmers likely to improve farm management on the basis of the advice given?	Q9: Do farmers understand the advice?	
	Q10: Do farmers indicate they will use the advice? Do they find it useful?	
	Q11: Do farmers perceive it will change their behaviour?	
Q12: What are the right structures and agreements to sustain the integrated advice pilot		WP5: Ensuring a legacy
Q13: Are there any likely unintended outcomes?		Across WP

1.1 Methodologies

The choice of methodologies had to take a number of factors into account and reflect:

- The aims of the monitoring and evaluation component of this project;
- A balance between formative and summative evaluation approaches;
- The constraints of the study;
- The need for a balanced relationship between the evaluator and other consortium members; and
- Consideration for the burden on stakeholders participating in the study.

To answer the evaluation questions, we used a range of research methods and data collection processes, as follows:

- Semi-structured interviews with experts (early in the project);
- Panel meeting with experts (late in the project);

- Self-evaluation workshops with consortium partners (twice – early and late in the project)
- Baseline survey of farmers prior to their involvement in the farmer workshops;
- Observational analysis during workshops with farmers (two rounds);
- Survey of farm advisers (ex-ante and ex-post of the farm adviser training);
- Observational analysis during farm adviser training;
- Observation of Legacy Implementation Group meetings and strategy planning.

This overall evaluation note consists of two parts. In the first part (section 1.2), we discuss how the work undertaken in the course of the integrated advice pilot addresses the evaluation questions. In the second part (section 1.3), we aim to draw out some key themes that shed light on how and where the Integrated Advice Packages may have an impact.

1.2 Overall evaluation

In terms of developing an overall assessment of the integrated advice pilot based on the evidence gathered through the data collection processes detailed above, this is structured in line with the overall questions for the evaluation. We have drawn together the data from each of the strands of evaluation work in order to answer these questions.

1.2.1 What is the quality of the integrated advice?

This area of assessment considers specifically the nature of the advice and the accessibility of this for all potential users.

Q1: How complete is the advice?

The Integrated Advice Packages that were developed for the pilot project were sector-specific (dairy, arable and beef and sheep) and catchment specific (Yorkshire East Riding, for arable, the River Teme catchment in the West Midlands for beef and sheep and the Somerset Levels and Bridgwater Bay for dairy). Therefore, the current output of the project is specifically focused on these sectors and regions and has been customised for the requirements in each of these areas. The Integrated Advice Packages include details of approximately 26 advisory measures, reduced from a total of 500 measures. This concentration was undertaken with the advice of sector experts and input from the farmer workshops, with the aim of prioritising those measures that offered multiple positive benefits (for example, for farmers' business priorities and for Defra's environmental priorities). The measures and the Integrated Advice Packages were reviewed by farmers, farm advisers and experts over the course of the project and ongoing improvements were made, based on feedback. The final versions of the Integrated Advice Packages that were utilised and applied in farm adviser training were overall well received by farm advisers who understood the approach taken and valued the focus on fewer measures that would benefit more people. Therefore, within the specific sectoral and regional context, the Integrated Advice Packages were complete.

Q2: How easy is the advice to understand?

The aim of the pilot project was to make advice giving and receiving a simpler, clearer and more streamlined process. Feedback from farmers during workshops indicated that they generally understood what was aimed to be done in the project and in the development of the packages. Based on their inputs and commentary on the early version of the Integrated Advice Packages used in the early workshops with farmers, the Integrated Advice Packages were significantly refined and improved. When attending the later, second round of farmer workshops there was clear recognition that their views had been taken into account and that the Integrated Advice Packages had been adjusted accordingly. There was an overall consensus from farmers that the Integrated Advice

Packages were easy to understand. Farm advisers engaged with the Integrated Advice Packages during the early workshops, alongside farmers and in farm adviser training. There was much discussion early in the process about whether the purpose of the Integrated Advice Packages was to integrate advice itself or to integrate the process of providing advice. Overall, farm advisers also found the Integrated Advice Packages easy to understand. Experts in the field had difficulty understanding the placing of the Integrated Advice Packages within the existing landscape of advice-giving. However, in relation to the Integrated Advice Packages themselves they could easily understand how they were structured to provide advice.

Q3: How easy is the advice to use?

The ease of use, in practice, has yet to be determined within the project. Following the training of advisers in November 2011, individual advisers were encouraged to utilise the Integrated Advice Packages tool within the advice they provide to farmers. The extent to which this has been done and the benefits (if any) of doing so, have yet to be measured.

Q4: Does the advice take the view of farmers into account?

Farmers were an integral part of the design process and participated in two rounds of workshops to gather views on the evolving Integrated Advice Packages. As the work progressed, these views were built into the next stage of design and development.

Q5: Does the advice take the views of farm advisers into account?

Farm advisers attended workshops alongside farmers and were therefore involved in the development of the Integrated Advice Packages tool. They also participated in training specifically on the use of the Integrated Advice Packages.

1.2.2 Will advice lead to better communication of Defra policies?

This area of evaluation concerns the use of the advice and how this may lead to improved understanding of Defra's policies.

Q6: Do farm advisers understand the advice?

Data on farm advisers' understanding of the advice included in the Integrated Advice Packages were collected during farmer workshops (which they also attended and contributed to) and during the training of farm advisers. The format, content and context of the Integrated Advice Packages became increasingly well-understood by advisers, as the work progressed. Their views of how best to present the packages and what else needed to be included was incorporated into the design and development process. Therefore, overall at the end of the development stage, most advisers appeared to understand the Integrated Advice Packages.

Q7: Do farm advisers indicate they will use the advice?

The question of who would use the Integrated Advice Packages and how they would be used was considered in some detail by all of those engaged with the project, including farm advisers. The types of adviser that would be most likely to use and get direct benefit from the use of the Integrated Advice Packages in the course of delivering their work was discussed at length at the adviser training session. The issue of whether specialist or generalist advisers would find the Integrated Advice Packages particularly useful was raised. Overall, the consensus was that both generalist and specialist advisers may find the packages useful in different ways (specialists may use it to expand their repertoire of advice areas; generalists as a reminder of additional aspects that they may not have considered in this specific context and also to illustrate the win-win aspects of some measures).

The extent to which they may actually use the advice has yet to be seen. It was clear from discussions at the adviser training that the question of funding the use of the approach would be important in adoption of the packages. Furthermore, the future investment in the ongoing updating of the tool was generally considered to be an important prerequisite to large scale take-up.

Q8: Do farm advisers perceive it will change the way they give advice?

One of the particularly valuable aspects of the Integrated Advice Packages is the presentation of a reduced number of measures, linked to Defra's policy areas. These are included in the packages because of their win-win characteristics, where there is clear benefit for all involved. Advisers could see the novelty in the format of this approach to advice giving. The extent of engagement with this aspect provides an indication of the potential of this approach to change the way advice is provided. As a pilot project, this has introduced a new perspective and a new approach to a fragmented landscape of advice provision. The perception among advisers was that Integrated Advice Packages offer a credible way of changing the advice delivery process.

1.2.3 Are farmers likely to improve farm management on the basis of the advice given?

This aspect of the review considers the extent to which farmers will change their management of their farm businesses on the basis of the advice given.

Q9: Do farmers understand the advice?

Data on the understanding of farmers of the advice potentially provided through the Integrated Advice Packages was collected during two workshops during which the format, content and context of the packages were discussed. As the pilot project progressed and the input of farmers was integrated into the design, their understanding of the approach grew. Although fewer farmers were involved overall than were originally envisaged, those that were involved indicated that the approach made sense to them.

Q10: Do farmers indicate they will use the advice? Do they find it useful?

The extent to which the Integrated Advice Packages will be used by farmers is not yet clear. This depends directly upon farm advisers taking up and adopting the approach in the course of delivering their advice to their clients. Farmers participating in workshops indicated that they would potentially find the advice useful. In particular, the reduced number of measures within the Integrated Advice Packages, the win-win aspect of inclusion of measures and guidance on regulatory versus voluntary requirements were all highlighted as very valuable and useful aspect of the packages. Some farmers indicated that they would be inclined to use the approach themselves (even without the support provided by an adviser).

Q11: Do farmers perceive it will change their behaviour?

The engagement with the Integrated Advice Packages provides a positive indication in this regard but it is, as yet, unclear if this is the case. The priorities of farmers are clearly unlikely to change but their approach to running their businesses may change.

1.2.4 Ensuring a legacy

This aspect of the evaluation considers the future of the Integrated Advice Packages.

Q12: What are the right structures and agreements to sustain the integrated advice pilot?

Throughout the pilot project, there has been a clear focus of work and a stream of project activity focused on the future of the Integrated Advice Packages. The work in this regard has a focus on building support amongst key stakeholders for the approach and developing a plan for bringing forward the packages into use by a wider group of advisers. The Legacy Implementation Group has performed these functions and has built momentum to facilitate the ongoing dialogue by all contributors and interested parties. The shape of the Integrated Advice Packages in the future depends to a large extent on the ongoing investment in the advisory approach. The integration of the pilot into the BASIS training schemes provides one potential route and this has been fully considered during the project.

Q13: Are there any likely unintended outcomes?

Stakeholder consultation has been high over the course of this pilot project. It is possible that ongoing collaboration between some of these stakeholders will continue beyond the initial project stage. Furthermore, the structuring of the Integrated Advice Packages along lines of win-win and positive benefit for all has been acknowledged by all to be a potentially beneficial approach. While these outcomes may have been predicted to some extent, it may also be the case that the extent of benefit may be more than anticipated.

1.3 Some key themes

In this section, we draw out six key themes from the monitoring and evaluation tasks of the integrated advice pilot. These themes have emerged as of particular significance based upon the evaluation data collected in the process of developing the Integrated Advice Packages. We have therefore used data from each of the strands of evaluation work to provide detail in relation to each of these themes.

1.3.1 The impact of advice

Prior to further roll-out of the Integrated Advice Packages, it is useful to reflect on and consider how any type of advice can achieve an impact. It is clear that those receiving advice or targeted by advice need to be able to engage with it. Engagement requires that they have to access the advice, understand the advice, use the advice and potentially adjust their behaviour having utilised the advice. Receiving the advice depends on awareness and availability of advice. The demand for the advice is also relevant here. The quality and consistency of advice is important in building the credibility of the approach for the users of the advice. We know from the baseline survey of farmers (undertaken prior to their engagement in the pilot) that farmers in particular sectors receive advice in particular ways and also that they find some of this advice more influential than others. The impact that the Integrated Advice Packages will have will depend to some extent upon the success of aligning the packages with existing ways of receiving advice.

1.3.2 The demand for integrated advice

One of the assumptions at the start of the integrated advice pilot was that the advice landscape is fragmented and that this fragmentation may be a problem for advisers and farmers. Farmers may not receive coherent and consistent advice which may result in them making sub-optimal decisions for their farm business and wider environmental objectives on the farm. The survey of farmers and farm advisers clearly shows evidence of this fragmentation of the landscape. Farmers receive and use the advice from a combination of vets, private sector advisers, buyers, representative bodies, levy bodies and suppliers. However, despite this fragmentation, the pilot did not reveal a great demand for integrated advice, at this stage. Farmers and farm advisers in the workshops initially found it difficult to identify the problem that integrated advice aimed to address and

to engage with the rather 'abstract' concept of integrated advice. However, many of those who participated in the pilot in some depth saw the potential benefits of the work. Farm advisers consulted for this study were broadly supportive of the aims of the project as was revealed in the expert panel and farm adviser survey.

Thus, the future challenge for the pilot is to create awareness of the Integrated Advice Packages, make them more visible and available, and create a demand for integrated advice by engaging with farmers and farm advisers.

1.3.3 The quality and consistency of advice

In the sections above, it was noted that the quality and consistency of advice are very important to farmers and advisers. Those farmers and farm advisers who participated in the pilot workshops largely understood the advice and provided constructive input into the ongoing design of the Integrated Advice Packages. Farm advisers in the training event saw a place for Integrated Advice Packages. The basic quality of the packages was acknowledged to be high and the process for identifying the key measures within them was recognised as robust. The challenge for the Integrated Advice Packages in the future is likely to be maintaining this quality. Since the current pilot has focused on three catchments and the Integrated Advice Packages are customised for these, future roll out will require customisation for other regions. In addition, the content of the measures within the Integrated Advice Packages will require ongoing updating. Participants in workshops, adviser training and expert panel meetings all pointed to this as the major challenge for this pilot. It is important that the measures within the packages remain evidence-based and relevant to the farming community in the future, as they are at present.

1.3.4 Aligning integrated advice with the motivations of farmers and farm advisers

The use of integrated advice by farmers and farm advisers also depends on whether the advice packages align with the motivations of farmers and farm advisers. It is clear from the workshops that farmers are unlikely to implement measures unless there is an economic reason for doing so. Ultimately, as businesses with financial priorities, farmers need to see and be able to measure the economic benefit of decisions that they make on their farm. In recognition of this, the Integrated Advice Packages ensure that the measures included focus on the win-wins between the economic objectives of the farmer and government's policy objectives.

Farm advisers also have motivations depending upon the type of adviser that they are. Government advisers aim to promote the government's objectives. Independent farm advisers may have different motivations than government advisers. It became apparent from the training event with farm advisers that some groups of farm advisers are unlikely to want to adopt new integrated approaches without clear financial incentives to do so.

For farmers and farm advisers to use integrated advice, it is clear that farmers want measures with some economic benefit and some groups of advisers may not use integrated advice without a clear incentive to do so. While this is an obvious generalisation, it is nonetheless important to note these differing engagements with the Integrated Advice Packages.

1.3.5 Aligning integrated advice with the process of getting and giving advice

The observations from Section 1.3.4 have to be seen within the context of the process of advice-giving. The indicative survey of farmers within the pilot shows that farmers have trusted relationships with sets of farm advisers. They trust advice from independent advisers more than government agencies. Farmers value advice the most from advisers they pay. The pilot does not allow us to say what types of advice are most likely to result in behaviour change. However, a problem with integrated advice is that those government advisers who are more likely at the outset to adopt the approach may not be the advisers that have the most influence. The challenge of the integrated advice pilot may be to engage with independent advisers who appear to have the most impact on the farm business.

In addition, the pilot clearly acknowledges through the development of Farmscoper and the Integrated Advice Packages that more than one decision-support tool may be necessary. The farm adviser survey shows that different groups of farm advisers may require different tools aimed at integration depending on how they give advice and what advice they give. Specialist advisers have different needs than more generalist advisers. Tools have to be targeted at different sets of advisers. The challenge for the integrated advice pilot is that aligning integrated advice with the different ways advice is given may require the development of further instruments.

1.3.6 Sustaining integrated advice

The uncertainty of the policy context means that farmers and farm advisers will be unlikely to commit to Integrated Advice Packages in the short term. The expert panel highlighted that the farming community is unlikely to commit to an approach if there is a chance this approach may be revisited or changed in the near future. The legacy of the project depends not just on whether stakeholders can be mobilised to support the project through specific actions but also on whether Defra sets out a clear policy direction for advice giving in the sector and will give support to the pilot (e.g. funding or other resources). This could involve subsuming some structures created in the integrated advice pilot in other Defra initiatives and creating the right conditions (consistency of policy context and incentives) for the legacy to continue.

Nonetheless, it is important to reflect on the successes of the integrated advice pilot. Engaging a wide range of stakeholders with the 'idea' of integrated advice as well as developing two decision-support tools are important accomplishments. The ongoing challenge will be how the concept of 'integrated advice' can start having a direct impact on decisions taken on the farm.

1.4 Conclusions

Overall, the integrated advice pilot project achieved the intended objectives. Much was learned about the approach, the context, the response of farmers and advisers to the approach, the challenges involved and the future needs of such an approach. The Integrated Advice Packages that have been developed provide an excellent blueprint for a wider adoption and roll-out of the scheme, should this be the policy direction that is adopted. The potential for the approach to increase profitability and economic viability of farm businesses, while simultaneously increasing the focus on government policy priorities makes this a valuable starting point for future work in this area.

1.5 Recommendations

- ***Future support and funding for the delivery of Integrated Advice Packages needs to be clarified and communicated to all stakeholders and those who engaged with the pilot.*** This will ensure that the momentum that has been built up can be capitalised upon and maximum benefit made of the work done so far. The Legacy Implementation Group has given this area some consideration and is well placed to support work in this area.
- ***Stakeholders who have committed to supporting this scheme need to be included in the next phase of this pilot, if it is to be rolled out.*** This will allow for effective knowledge transfer in the area.
- ***Defra's future plans in relation to the pilot scheme and how these plans integrate and overlap with other initiatives already underway should be communicated to all those who have engaged with the scheme or may be interested in the scheme.*** This will ensure that appropriate planning and organisation can be put in place to reduce duplication of efforts across related schemes and future mechanisms.
- ***As a blueprint for a wider roll-out of the integrated advice pilot, a plan for the necessary customisation of the Integrated Advice Packages needs to be made.*** Considerable logistics need to be factored into this planning to ensure that the packages are relevant and useful for a wider environment.

APPENDIX 4

AGENDA OF EXPERT PANEL MEETING

Integrated Advice Pilot October 27 Expert panel meeting, DEFRA, Noble House London 11-14.00				
	Item	Indicative questions	Time	Facilitation
1	-Introductions -Overview of structure and purpose of the meeting	What are your initial thoughts? Any other business?	11.00-11.10	RAND Europe
2	-Ice breaker on the context of advice giving	What do you think Integrated Advice packages should aim to do?	11.10-11.30	RAND Europe
3	-A basic overview of the development of decision-support tools 1) IAPs 2) Farmscoper	What is your view of the work so far?	11.30-12.00	RAND Europe and Innogen
4	-Break-out groups to discuss strengths and weaknesses of decision support tools in their current form.	-What are the strengths and weaknesses of current decision support tools? -Are current decision support tools acceptable to the community (farm advisers and farmers) and suitable to solve the perceived problem? Are they feasible given how advice is currently provided?	12.00-13.00	RAND Europe
5	-Lunch (provided in room)		13.00-13.15	
6	-Further development of decision support tools	What should be done to further develop the decision support tools? How do you think the tools relate to each other? What is realistic in terms of the positioning of the tools?	13.15-13.45	RAND Europe
7	-Next steps		13.45-14.00	
	Close		14.00	

APPENDIX 5

STAKEHOLDER PARTICIPANTS

Table 26. Other stakeholder organisations participating in pilot study

Organisation	Initial Stakeholder meeting	Second Stakeholder meeting	LIG	Workshops	Adviser training	Expert panel
AEA	☺					
Agricultural Industries Confederation	☺	☺	☺			☺
Areas of Outstanding Natural Beauty (ANOB)				☺		
Assured Food Standards (AFS)	☺		☺			
BASIS / FACTS	☺		☺		*☺	
Brown and Co				☺	☺	
British Retail Consortium (BRC)	☺					
British Institute of Agricultural Consultants (BIAC)	☺	☺	☺			☺
Campaign for the Farmed Environment (CFE)				☺		
Catchment Sensitive Farming (CSF)	☺			☺		
Conservation Area Advisory Committee (CAAC)			☺			
Central Association of Agricultural Valuers (CAAV)	☺					
City & Guilds			☺		*	
Cornwall Development Company	☺					
Countryside and Community Research Institute (Gloucester University)	☺					
Cumbria Rural Enterprise Agency	☺					
Dairy Group	☺	☺		☺	☺	
Dairy UK	☺					
Duchy College	☺					
Environment Agency (EA)	☺	☺		☺	☺	
Farm Consultancy Group				☺		
Farming and Wildlife Advisory Group (FWAG)	☺		☺	☺	☺	
Frontier Agriculture	☺					
Game and Wildlife Conservation Trust (GWCT)	☺					
Harper Adams University College	☺		☺		*	☺
Institute for Organic Training and Advice (IOTA)		☺				
Independent Advisers				☺	☺	
Kingshay		☺		☺		
Kite		☺				
Lantra			☺		*	
Laurence Gould Partnership Ltd	☺					
LEAF UK	☺		☺	☺		☺
Masstock Arable	☺			☺	☺	

Organisation

	Initial Stakeholder meeting	Second Stakeholder meeting	LIG	Workshops	Adviser training	Expert panel
National Farmers Union (NFU)	☺		☺			☺
National Trust	☺		☺			☺
Natural England (NE)	☺	☺	☺	☺	☺	
Newcastle University	☺					
Price Waterhouse Coopers (PWC)	☺					
Promar International	☺	☺				
RSPB	☺					☺
SKM Enviro		☺	☺			
Soils4Profit				☺		
South West Healthy Environment Initiative				☺		
UAP				☺		
Velcourt Research and Development	☺					
Waitrose	☺					
West Devon BIP	☺					
Vets				☺	☺	
Yara UK Ltd	☺					

* Participated in the consultation stage in preparation for the training but did not attend the training course itself.

APPENDIX 6

STAKEHOLDER WORKSHOP FEEDBACK

Is current advice provided ‘balanced’ in terms of addressing a number of priorities?

- Activities were often ‘focused’ on a particular initiative or priority at that time, rather than being ‘balanced’ across a wide number of priorities
- Examples were given of conflicts in the advice given, or instances where advice was given in isolation from the broader picture
- Priorities often pursued on basis of risk, financial incentive, or availability of advice to access scheme, rather than through any structured process
- HLS was cited as being reasonably balanced, pursuing a range of outcomes
- But ELS was given as example where balance is absent, the main objective of many participants being to accumulate sufficient qualifying points as expediently as possible for the particular farming system
- Competitiveness was perceived as the poor relation, in terms of government policy
- A trade off was recognized between ‘depth’ (singular impact e.g. organic farming) and ‘breadth’ (wider uptake e.g. ELS)
- The perceived trade off above, raised the question as to how to maximize overall national benefit (broad X high uptake vs deep X lower uptake)
- Priority setting (i.e. government, adviser, or farmer client) is critical
- Potential to set priorities at a number of scales - National vs. catchment vs. sub catchment
- Desire for local customisation (rather than national imposition)
- Can messages be translated into consumer choice, through retail communication ?

Q2 Do the Integrated Advice Packages as presented to the group, have utility?

- Overall consensus was yes.
- While there was support for the concept, there was scope for improvement
- In particular, tone and content must empathise with farming perspectives
- Simple messaging was important, but a facility was also essential to provide a more detailed evidence base to support provenance of information
- More engaging presentation required, elements which bring rationale to life
- Question as to what advisory material could be left on farm, as a follow up to the use of integrated advice packages
- Provision for dealing with ‘incidents’

Q3 In terms of the delivery of advice, is this integrated?

If so, what are the success factors?

- Independence and objectivity in advice given
- Confidence in adviser, or advisory brand
- Weighting given to end user needs, which also gives a competitive edge
- When integrated advice links to financial gain (e.g. Livestock North West)

- When project based (providing advice, funds, networks)
- Network of mentors & peers, rather than purely advisers

If not, what are the barriers or drivers of better integration?

- Single issue focus
- Not linking to economics / business needs
- Time allowance per visit
- Advisers attitude to integration
- Inconsistency / conflict in messages given
- Trade off between depth and breadth of adviser knowledge (specialist vs generalist)

Q4. Drivers and barriers to better integration

Perceived hooks/drivers

- For advisers, to be able to offer ‘added value’
- For farmers, to have more knowledgeable advisers
- Must link to economics
- Must be individually relevant for business & locality
- Potential attraction of ‘Earned recognition’

Barriers

- Organisations rarely ‘joined up’
- Multiplicity of priorities
- Time input by adviser disproportionate to fee recouped
- Access to specialist vs. generalist advice/information
- Inadequate resources to finance/facilitate
- Synthesis of academic research to translatable form
- Inadequate advisory contact

Q A What are the strengths, weaknesses of government, private & third sector advice (and why)?

	Perceived strengths	Perceived weaknesses
Government	• Funded • Authority levers • A long term focus • Controls budget & impose nationally • Access to evidence	• Policy motive/ disconnect • Brand image leading to lack of respect • Government seen to be the “stick” • Integration of depts. • Silo approach • Top down – one size fits all • Lack of understanding of farm businesses • Linked to regulation • Needs to present evidence better (make it more personal/local)
Private sector	• Good business • Quality • Understands client needs • Motivated • Commercially driven	• Variable quality • Short term focus • Age? • Information, access and infrastructure disengaged with policy aim

	Perceived strengths • Independence • Usually trustworthy • Loyalty & continuous advice	Perceived weaknesses • Breath of knowledge limited • Potentially isolated
Third sector	• Independence • Specialist expertise • Collective impetus/purpose • Business, environment & society • Independent • Trustworthy • Well informed	• Single issue • Independence • (Lack of) objectivity • Little resources • Not necessarily integrated/ holistic in advice • Could get stale • Potentially one off advice

QB Top 3 actions government could take to improve the effectiveness of advice that farmers and land managers receive and why?

- Incentives linked to priorities
- Clear and consistent balance of priorities both national and local scale
- Support policy with resources, training & co-ordination of advice/skills
- Network of specialist general advisers
- Use a broader range of “advisers” than the traditional set
- Better synthesis of research results / knowledge and translation for “advisory system” which is a continual / interactive process (incl. education)
- Invest in presenting evidence (to tell “the story”)
- Link in with industry qualifications.
- Earned recognition taking into account farmer competence/skills

Summary of emerging issues from the Stakeholders meeting:-

- Setting of priorities (relevant to business & scale)
- Co-ordination of delivery systems
- Cost of delivery (provider and recipient perspectives)
- Simple messages, signposted to supporting evidence
- Synthesis of information, contextualized to local situation
- Provision for local feedback to improve & refine prioritization and delivery
- Relative merits of generalist vs. specialist adviser
- Networking (private and public)
- Role of supply chain in providing differentiation / market pull
- Even raising awareness, is a benefit in its own right
- Motivation needed a) for initial farmer engagement, b) to move further from existing position
- Commercial imperative, but motivations other than money also need to be recognised
- Acid test = would advice provided command a commercial fee rate

APPENDIX 7

INTEGRATED ADVICE PACKAGES

Click on from page to open the Integrated Advice Package relevant to your sector.

Integrated advice package for the beef and sheep sector



INTEGRATED ADVICE



Integrated advice package for the dairy sector



INTEGRATED ADVICE



Integrated advice package for the arable sector



INTEGRATED ADVICE

