



## Leadership and Management Development



Promar International  
response to:

AHDB

AgriLeader 2030

“Bridging the gap”

**AGRILEADER**

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## Abbreviations

AHDB	Agriculture and Horticultural Development Board
AL	Action Learning
BL	Blended Learning
CIPD	Chartered Institute of Personnel and Development
CRL	Challenge of Rural Leadership
DEFRA	Department of the Environment, Food and Rural Affairs
EFM	Effective Farm Manager
GL	Guided Learning
GVA	Gross Value Added
HRD	Human resource development
IIP	Investors In People
IAGRM	Institute of Agricultural Management
KE	Knowledge Exchange
KSA	Knowledge, skills, abilities
LMD	Leadership and management development
MOOC	Massive open online courses
ROI	Return on Investment
SDL	Self-Directed Learning
SME	Small and medium sized enterprises
TBE	Traditional Business Education
TFP	Total Factor Productivity
TIAH	The Institute of Agriculture and Horticulture

## Terms of Reference

This report is our response to AHDB's request "to conduct a review of Leadership & Management development in the UK (Farming Sector), best practice, traits, qualities, uptake, barriers and future needs".

The project was issued in the form of an open tender in which we outlined our approach and objectives as follows:

**Objective 1:** Rationale for LMD: We outline the need for developing the L&M ability of AHDB levy payers. Provide specific guidance on the management and leadership capabilities to focus on in the future.

**Objective 2:** Current Baseline: Understand the baseline for current L&M training in the land-based sector outside of formal learning channels (e.g. universities). Establish what uptake and outcomes are currently being achieved and what physical and psychological barriers limit adoption.

**Objective 3:** Future need: Project what L&M capabilities and skills will be needed post-Brexit and towards 2030. Establish what successfully meeting these needs will look like.

**Objective 4:** Gap analysis: Highlight the difference between the current L&M provision and future requirements.

**Objective 5:** Uptake and adoption: Recommend the best way to increase uptake of and engagement with L&M training and describe the delivery methods that will overcome participation barriers.

**Objective 6:** Support package: Give guidance on the role, tools, materials, methods and further research AHDB should undertake to meet its objectives for LMD. We will highlight the support systems and resources needed to deliver a programme and measure its success. The objectives were designed to be met through a series of six work packages. These are summarised in Appendix 1.

The tender was accepted by AHDB and the research took place from January to March 2021.

## Executive Summary

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Based on their own experiences and observations throughout their career, many people in the agriculture industry have strong, often conflicting, opinions on what Leadership and Management Development (LMD) should consist of. In this report we summarise an exercise consulting widely with LMD providers, the AHDB team and our own experience to answer this question. In addition, relatively uniquely to this report, where possible, we go beyond subjective experiences and opinions and place a strong emphasis on assessing the availability and quality of research and evidence regarding LMD and its potential and establish benefits.

In section 1 of this report we outline the available pertinent academic research from agriculture in the UK and Internationally as well as non-agriculture related studies. In general (not just agriculture), the research is lacking with many major gaps regarding the benefits of LMD. Despite this, the limited available research does provide evidence of six areas where LMD efforts should be focused on based on the available evidence. We find support from one small study for leadership (1) defined as the ability to inspire and guide 'individuals and a group, leading by example and arousing enthusiasm for a shared vision' as being strongly associated with farm performance. The same study also highlighted the role of 'Detail Consciousness' (2) as an even better predictor of farm performance. Similar to attention to detail, a high scorer was described as a farmer that 'focuses on detail, likes being methodical, organised and systematic'. We further find associations between farm performance and farmer: resilience / emotional stability (3); decision making - strategic vision/clarity (4); Growth mindset - the belief that people, including oneself can improve with concerted effort (5); and finally, Entrepreneurial and profit focused mindset - viewing the farm as a business and viewing profitability a key objective (6). This informs a discussion of the rationale behind LMD and how it could improve farm performance measures such as competitiveness and productivity. Finally, in section 1, how the limited evidence base can be improved, and, where AHDB can play a role in improving this evidence base is discussed.

Section 2 of the report details the findings of the consultation with LMD providers about what is currently available to farmers. We found a range of types of training from traditional 'sage on the stage' presentations to self-directed and action learning. Our survey of 17 LMD offerings found that approximately 831 people enrol in formal farmer LMD programs each year. This would indicate only 0.37% of farm holdings engage with such offers each year. 44% of these were in Scotland and Wales. If every farmer, manager or herd manager attended 1 LMD event every 20 years, we estimate that would equate to 10,000 LMD event enrolments per year – an order of magnitude more than our survey indicates is occurring. Looking at the content covered in these courses we find a significant gap from the areas highlighted in section 1 with relatively strong empirical basis and what is currently being offered. We therefore conclude that much of the content covered in LMD offerings to UK farmers lack strong empirical justification and that addressing this would likely result in improved LMD impact. This is discussed in relation to the cost of LMD provision and likely changes to the LMD needs of farmers up to 2030. The challenges of and guidelines for assessing the quality of LMD through routine evaluations are also discussed. We also find that assessing the returns on investment or similar measures of impact are not likely to be discernible through routine assessments. Appropriately resourced one-off studies building on those reported in section 1, preferably linked to quantifiable measures of farm performance (e.g. financial) are required at a minimum. Ideally, periodic studies using experimental designs such as a randomised controlled trial, comparing LMD offerings would provide the strongest form of causal proof of the value of LMD which is currently completely lacking in agriculture. Such evidence is also relatively rare in other sectors with a handful found in a search of the literature.

Section 3 explores the internal and external enablers and barriers to farmer engagement with LMD. The considerations of providing adult education and how this differs from children, adolescents and formal degree education for young adults are discussed along with the

importance of considering the role of the family in farmer LMD. How farmers progress and gain expertise and knowledge in LMD is discussed using the metaphor of a 'Leadership pipeline'. A key finding here is that readiness and orientation to learning is increased by social acceptability, convenience and relevance to perceived challenges and difficulties encountered. Therefore, making the activity relevant to farming scenarios is vitally important to increase participation in LMD. Furthermore, even though it will take a sustained effort, normalising LMD as part of the future farmers career path and as part of the social norm for farm managers will increase demand for activity and stimulate supply.

Section 4 delves further into considering the changing and future needs of farmers and how this should influence LMD provision. The increasing need for farmers to be socially and environmentally aware is discussed along with the role of generational changes. Up until 2030, we find that collaboration across LMD providers, supply chains, governments and farmers. Successful future leaders will need the competencies to appreciate and respond appropriately to a vast array of external drivers. Predicting these with certainty is impossible but the research highlights broad areas of change grouped as 5 major megatrends set out below.

- Technology and digitisation
- Population growth and increased demand for food
- The environment
- The marketplace & future support payments
- Social change and rise of the concerned consumer

In particular sustainability, productivity, and technology should be an increasingly prominent focus. Social change will influence consumer choice but also how individuals choose their future careers and workforce/employer interactions. All of these aforementioned challenges and the skills needed to address them can be built through a greater commitment to LMD. This could, and probably needs to be, the great enabler of the transformation required in UK agriculture.

Section 5 begins pulling together and aggregating the findings from the previous sections highlighting and prioritising how LMD should change and improve to better meet farmers needs. In particular, how these recommendations fit within the context of industry challenges and AHDB's existing conceptual frameworks for LMD are elaborated on. We find that focused and consistent delivery of few LMD topics would be advisable. This includes the role of growth mindset, resilience, inspirational leadership and detail consciousness identified in section 1. The figure below highlights the competencies to focus on and the favourable behavioural outcomes that should result from development activity.

Priorities	Leading Self		Leading Others		Leading Business	
Traits of effective farm leaders	Growth Mindset	Resilience	Inspirational Leadership	Decision Making	Entrepreneurial & profit focused mindset	Detail Consciousness
Desirable Behaviours	<ul style="list-style-type: none"> <li>• Embrace change</li> <li>• Persist in face of setbacks</li> <li>• See effort as the path to mastery</li> <li>• Love to learn</li> </ul>	<ul style="list-style-type: none"> <li>• Socially adaptive</li> <li>• Fearless</li> <li>• Recognise power is in your hands</li> <li>• Prioritises &amp; delegates</li> <li>• Recharge your battery</li> </ul>	<ul style="list-style-type: none"> <li>• Inspire a shared vision (for family &amp; workers)</li> <li>• Be trustworthy</li> <li>• Embrace diversity</li> <li>• Empathy</li> <li>• Gives and receives feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Strategically aligned</li> <li>• Evaluate risk and reward</li> <li>• Distinguish between facts and opinions</li> <li>• Decide without perfect information</li> </ul>	<ul style="list-style-type: none"> <li>• Ignite your passion</li> <li>• Cultivate your curiosity</li> <li>• Convert problems into solutions</li> <li>• Risk taking but will never run out of cash</li> </ul>	<ul style="list-style-type: none"> <li>• Critical questioner</li> <li>• Improves standards and routines</li> <li>• Builds better Habits</li> <li>• Uncovers blindspots</li> </ul>

Source: Promar International

Improving understanding, skills and behaviour across these six competency areas prime learners to increase their readiness and ability to address key future threats and opportunities presented by the aforementioned megatrends.

Section 6 provides detailed guidance on the implementation of future LMD programs. This includes the role of needs assessments, the differing forms of LMD including digital content and building on section 1 & 2, how LMD effectiveness should be assessed using the Kirkpatrick Evaluation Model. We then discuss the importance of LMD marketing and promotion along with the possible role of The Institute for Agriculture and Horticulture (TIAH).

The report concludes in section 7 with a summary of 15 recommendations. The most important of these is the need for more and better research because most of the findings outlined in this report must be considered tentative. This is because of the general lack of evidence and for the evidence that is available, its quality is generally insufficient for such an important topic. Without appropriate investment in research that establishes firmly what works or does not work, setting the direction for LMD programs, including AHDB's, will remain akin to navigating without a compass. We believe this report, despite the admitted significant limitations of the evidence it is based upon, at least provides an imperfect crude map in this crucial endeavour.

## Introduction

In a rapidly changing agricultural environment, farmers increasingly need to identify and implement innovative ways to create, deliver and capture value. These agricultural entrepreneurs will benefit from more targeted leadership development. Even without the changes unique to the current period, farm businesses are also becoming larger and more complex, underlining the increasing need for Leadership and Management Development (LMD).

LMD is widely studied, written about and advanced in general with varying numbers of studies in specific industries. As such, much of the advice is generic, assumed to be pertinent to all industries which creates a tendency to see it as something that can be applied in any industry regardless of context. As there is too much content to learn in LMD by most individuals, a key role of LMD providers and stakeholders is identify the most appropriate and pertinent content. For example, strategizing which might be a core activity for the CEO of a FTSE 100 company, might lead to neglect of more mundane skills that make smaller less complex businesses run well. Large organisations have middle and lower management to attend to the details but in a farm, this also falls to the CEO farmer or farm manager. The appropriate balance of macro- and (oft maligned) micromanaging may thus be quite different. In this report, we pose and answer the question, 'is the management of agriculture different from other industries. If so, should the management development activities offered to farmers also differ and how will this change by 2030?

LMD does not receive the same level of attention in small businesses with few employees as it does in bigger businesses with more layers of management, specialisation and larger workforce for obvious reasons. It may also be true that because farmers operate in isolation and within a different set of social norms to office and factory-based workers the supply of LMD resources is more restricted. Furthermore, as the value of LMD is hard to quantify and so uncertain, farmers demonstrate well-founded hesitancy when assessing whether it is worth their time and money. If the LMD offering is found to be less than the ideal – this would affirm farmers' current low uptake and potentially represent a market failure.

### Addressing the challenge of increasing LMD uptake

The objectives for this report set out on page 2 are to provide the evidence and guidance for effective LMD for UK farmers and the role that AHDB could play in enabling it. The flow of the report considers the empirical evidence supporting LMD followed by an assessment of what is delivered today. Within this a good deal of attention is paid to what is needed and what will have the greatest impact taking account of the predicted megatrends that will shape farming and food in the coming decades. Although difficult, consideration is then given to ascribing a value to LMD. Next, the barriers and drivers to increasing LMD uptake are discussed along with an assessment of the way in which current provision is developing to meet these challenges. The final stages of the report look to the future in terms of promoting and encouraging uptake by AHDB and other providers. At a strategic level, effective LMD should focus on maximising the potential of learners to achieve their goals. Achieving this entails assessing the training needs, designing and providing suitable content, ensuring deliverers are competent and effective, and making sure the delivery method works for the learner (rather than the trainer). The evidence gathered in the report inform the recommendations for an efficient and effective AHDB LMD program up until 2030. Among these recommendations, we prioritise achievable and high impact recommendations with the strongest supporting evidence.

# Section 1. Empirical evidence for LMD

## Purpose of this section

- Reflect on the differences between leadership and management
- Identify the strongest evidence linking LMD content to farmer success to inform LMD content prioritisation
- Demonstrate the underlying rationale for LMD
- Provide evidence that LMD is effective in agriculture and prioritize LMD content
- Recommend ways to improve/increase the evidence base

## 1.1 Leadership or management

Managers have to lead, and leaders have to manage to varying extents. A huge amount of academic and business literature exists regarding the topics of management and leadership, terms which in vernacular and in practice are often used interchangeably. The distinction used in the literature is that the term management is used for more hands on and goal orientated roles in relatively stable organisations while leadership is used during periods of change and transition where subordinates/ followers are motivated and led through change. The emphasis on people in the latter is also more pronounced.

Trying to sub-divide these topics and concentrate on one element is likely to be counterproductive and our view is that to do so misses the observation of Mintzberg that “you can’t lead without managing and you can’t manage without leading”. It logically follows that, even if the definitions are relevant, in order to be an effective leader or manager, improvement in both is necessary and unavoidable. In section 1.6 the balance between leadership and management is considered in more depth in relation to more senior roles and responsibility in a business.

## 1.2 Studies linking LMD content and farm performance

Various studies have investigated the relationship between the attributes of leaders and managers and the performance of businesses. This section considers a number of these in agriculture and in other sectors to identify the LMD content that should be prioritised in LMD development.

### LMD content area definitions

**Resilience** - emotional stability

**Growth mindset** – the belief that people, including oneself can improve with concerted effort

**Inspirational leadership** - leading themselves and staff by example towards a shared vision

**Decision making** - strategic vision/clarity for the farm business

**Entrepreneurial- and profit focused mindset** – viewing the farm as a business and prioritising profitability a key objective

**Detail Consciousness**, attention to detail - methodical, systematic high standard implementation

### 1.2.1 UK studies in agriculture

In the UK, there are a couple of studies highlighting the link between LMD content areas and farm performance. O’Leary et al<sup>1</sup> found that 34% of dairy farm profitability variation could be predicted by the responses to 5 questions. If farmers stated goal was profit maximisation; they had a growth mindset; they were stress resilient or ambitious; then they were much more likely to be more profitable<sup>1</sup>. O’Leary et al<sup>2</sup> found that 40% of the variation in English farmers’

profitability could be predicted by just three behavioural competency measures. Leadership competence, 'detail consciousness' competence and how relaxed the farmer was.

This study is the only empirically available peer reviewed study linking farmer's leadership ability and farm economic performance and was highly correlated to profitability (Spearman's Rho = 0.46 / 23% of the variation in profit explained). Leadership in that study<sup>2</sup> was described as *'Inspiring and guiding individuals and a group, leading by example and arousing enthusiasm for a shared vision'*.

In the same O'Leary et al<sup>2</sup> study, Detail Consciousness was even more predictive of profitability (Spearman's Rho = 0.48 / ~24% of the variation in profit explained) than Leadership. A high scorer for 'Detail Consciousness' was described as a farmer that 'focuses on detail, likes being methodical, organised and systematic'. The farmers in the sample were less detail conscious than the general working population scoring on average 3.4 compared the population average of 5.5 on a scale of 1-10. This indicates that improving this apparent weak area for farmers have a major impact.

Furthermore, given the low baseline for detail consciousness among farmers, there is significant room for improvement and thus potential to improve profitability. In contrast, despite there being a similarly strong correlation with leadership, there is only less room for improvement as farmers scored similar to the general population on this measure.

LMD content addressing detail consciousness would target increasing farmers focus on detail and supporting them becoming more methodical, organised and systematic in managing their farm. If causation is confirmed, this would imply that improving dairy farmers detail consciousness to the general population average could increase profitability by 20%.

### 1.2.2 International agricultural studies

One of the most relevant studies relating to establishing the impact of agricultural extension comes from Ireland where farmer extension is dominated by Teagasc facilitated discussion groups. Using the Irish equivalent of the Farm Business Survey (National Farm Survey), Teagasc identified that those that participated in discussion groups had €314 higher gross margin per hectare<sup>8</sup>. Based on this a €1,000 subsidy was provided to farmers by the Irish government to encourage discussion group participation. However, those that joined discussion groups during the period of the subsidy did not discernibly improve their farm performance after 3 years of participation raising confounding expectations and raising question regarding the true benefit of the discussion groups<sup>9</sup>.

Makinen<sup>18</sup> reported that Finnish dairy farmers' 'entrepreneurial orientation' and a measure of 'strategic thinking' was strongly associated with farm performance much more so than specific technical activities such as financial management. In New Zealand, Nuthall<sup>5,6</sup> assessed farmers' self-rated ability in five specific areas: animals, plants and soils, labour, financial, marketing and strategic planning. He found a very strong relationship to a combined measure of performance including % change in profit, change in asset values and productivity ( $\beta = 0.51$ ). This self-assessment could form the basis of a needs assessment to guide student and farmer training and development, in particular, the labour and strategic planning measures. Of note was that participant farmers own general self-rated management ability was not associated with profitability indicating that specific self-ratings are useful<sup>6</sup>, while broad self-rating measures are not<sup>1</sup>.

### 1.2.3 Summary of studies within agriculture

Apart from leadership, LMD currently does not explicitly target improvement in the competencies identified above and doing so could potentially improve farmer performance. For example, dairy farmers' detail consciousness competence was highly correlated to

profitability ( $R^2=25\%$ ). These findings indicate much stronger relationships than previously reported in agriculture.

#### 1.2.4 Studies undertaken outside agriculture

Outside of agriculture, the role of consciousness (related to Detail Conscious competencies, dutifulness, attention to detail, willingness to work and follow norms) and intelligence in predicting job performance has been well established for decades<sup>12-14</sup>. Recent research has demonstrated the potential to improve levels of conscientiousness using app based training<sup>3</sup> which could form the basis of a low-cost high-impact intervention to improve farmer competencies.

Another study of start-ups also found that entrepreneurial decision making can be improved through teaching entrepreneurs to use 'a scientific approach' to data collection and decision making under uncertainty regarding their start-ups' viability<sup>15</sup>. The LMD content that caused improved performance among the start-ups was posing research questions about their businesses' viability and potential in a structured manner. Once these questions were posed, the start-ups were guided through testing and collecting data in a 'scientific' way. Finally, start-ups were guided through the process of deciding if they should abandon their idea, change it or proceed. They found that those receiving this training were more likely to abandon low and medium quality ideas earlier (saving resources) and that ideas pursued were higher quality resulting in higher revenue and staff numbers 12 months after completing the course. This could potentially be applied to farmer decision making, in relation to farmers considering and implementing farm diversification. Furthermore, the randomised controlled experiment reported in this paper provides an excellent example of a potential way to show causation between LMD and farm business outcomes.

The efficacy of training in general from a wide range of studies was reviewed by Aguinis and Kraiger<sup>20</sup>. They concluded that training effectiveness could be substantially improved by performing individual or small group trainee needs assessments and using error-management training techniques. Error management training encourages learners to explore and make mistakes and learn from them in a low consequence environment allowing for the building of deeper familiarity and intuitions regarding the content. The same authors also concluded that delivery via technology can be just as effective as face-to-face training on average, a pertinent finding for rural businesses like farms. However, most or all the studies in their review were correlational. Therefore, despite aggregating many studies in their review, causation, therefore the benefits of training in general could still be questioned. Some experimental type studies have for example shown little or no tangible benefits from some training programs<sup>63</sup>.

One study examined the provision of consultancy to Indian textile manufacturers which resulted in a 17% increase in productivity in a randomized controlled trial<sup>16</sup>. Such studies provide a template for a research methodology to establish the benefit farm LMD in the UK.

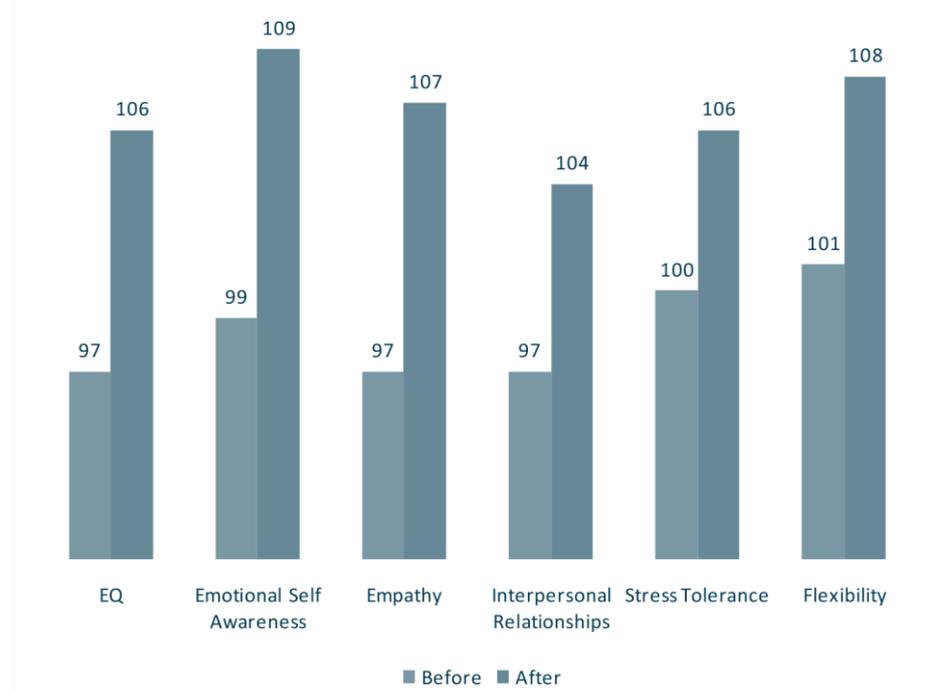
Clarke<sup>17</sup> reported that six months after two training days focused on improving Emotional Intelligence traits for 53 project managers, 4 of the 6 measures used were significantly improved compared to a month before the training. "Understanding Emotions", "Empathy", "Teamwork" and "Managing Conflict" scores were significantly improved 6 months after the course.

In a large observational study of managers using an ability/competencies-based framework, Boyatzis<sup>58</sup> found that exceptional leaders in a large multinational firm tended to have significantly better EI competencies than average performers. Those scoring above the tipping point for EI measures relating to self-management, self-regulation and relationship management delivered 78%, 389% and 109% greater profitability respectively than managers who were below the tipping point. The emotional intelligence competencies constituted 92% of the validated competencies predicting performance. The tipping point referred to the frequency

of certain observable behaviours that were demonstrated by outstanding performers. For example, the tipping point for Empathy was achieved with an average score of 2.85 when colleagues rated the individual on a Likert scale.

Figure 1.1 relates to a leadership intervention in the construction industry. The group training was structured as four one-day workshops. Wide scale and significant improvements in ESC competencies were achieved as a result of the intervention.

**Figure 1.1: Group training can increase emotionally intelligent behaviour among senior managers**



Source: M. Sjolund et al, 2001 Skanska; n = 29 Sweden

### 1.3 Leadership traits summary and prioritization

There are several strong correlational studies which highlight high priority areas for development and there are studies from outside of agriculture which show training and development can have small to moderate effect sizes.

Therefore, with concerted effort and a systematic approach, it is likely that the benefits farmers receive from training and development can be significantly improved by increasing our understanding of these drivers of profitability.

O'Leary's research shows there is strong reason to believe Leadership is an important driver of farm performance<sup>2</sup> which indicates the likely benefit for the Leadership part of LMD. Using the definition from that study, efforts to increase farmer's competence for 'inspiring and guiding individuals and a group. Leading by example and arousing enthusiasm for a shared vision' are supported.

Furthermore, there is relatively robust evidence from entrepreneurship research regarding specific development content to do with decision making using a 'scientific' and probabilistic approach showing the training increase success rates<sup>15</sup>. In agriculture this is supported by Makinen<sup>18</sup> who reported that Finnish dairy farmers' 'entrepreneurial orientation' and a measure of 'strategic thinking' was strongly associated with farm performance. However, there

appears to be strong support for focusing on the management part of LMD. Detail consciousness (attention to detail) appears to be low among GB dairy farmers (at least) and is highly associated with farm performance<sup>2</sup>.

The value of training is broadly supported by strong associations between the training informed by a need's analysis and farm performance. There are several core traits associated with improved business performance which are presented and prioritised here based on the studies reported in Table 1.1.

#### Summary of core traits associated with improved business performance

- 1 **Inspirational leadership** - leading themselves and staff by example towards a shared vision
- 2 **Detail Consciousness**, attention to detail - methodical, systematic high standard implementation
- 3 **Resilience** - emotional stability
- 4 **Decision making** - strategic vision/clarity
- 5 **Growth mindset** - the belief that people, including oneself can improve with concerted effort
- 6 **Entrepreneurial - and profit focused mindset** - viewing the farm as a business and prioritising profitability a key objective

Table 1.1: Evidence base for prioritisation

Study	Priority number and discussed topic	Research overview
O'Leary et al <sup>2</sup>	3. Inspirational Leadership 6. Detail Consciousness	Strong correlation to 'Inspiring and guiding individuals and a group. Leading by example and arousing enthusiasm for a shared vision'
Joseph et al <sup>3</sup>	Emotional Intelligence 6. Consciousness, 1. Emotional Stability & resilience	Meta-analysis from outside agriculture showing that nearly 80% of job performance can be predicted by intelligence, personality ability measures
Camuffo et al <sup>4</sup>	4. Decision making	Randomised control trial with start – ups illustrating that teaching start-ups to critically test ideas improved chance of success
O'Leary et al <sup>1</sup>	6. High standards 2. Growth mindset 5. Profit Focus	Promar clients – 101 GB dairy farmers
Makinen <sup>18</sup>	4. Strategic thinking 5. Entrepreneurial orientation	Finnish dairy farmers

Source: Promar International

## 1.4 What value could LMD generate for UK Agriculture?

### 1.4.1 Productivity

Total Factor Productivity (TFP) is the main indicator to measure changes in productivity. TFP growth can be defined as the ratio between the change in production volumes over a considered period and the corresponding change in inputs (or factors) used to produce them and hence measures the growth in productivity over a given time span.

It follows there are two ways to improve TFP. The first is by applying better technology (grow more from less) and the second is by closing the gap or catching up with the best by applying better management. In the context of L&M, both applying new technology and closing the gap, are relevant.

The basic argument is that R&D generates technology, extension diffuses it and that better educated farmers are better at screening new technology, so they adopt it faster. However, in the UK, data on extension is not available because such services have been provided by the private sector since 1988. Nor is there an effective data series for farmer education, so this is also omitted. This means it is not possible to reasonably extrapolate the impact of these factors on farm productivity from Farm Business Survey results.

AHDB<sup>43</sup> research highlights the difference between top and bottom performing farms. The top 25% of farms, across all farm types, perform 1.8 times better than the bottom 25%. This means a great deal in terms of profit difference between farmers. In 2014–15 to 2016–17, the bottom 25% lost £34,600 per farm from agriculture and lost £11,200 overall after subsidies and

diversification. Meanwhile, the top-quartile farmers made £42,000 from farming and made over £115,000 in total. The same report offers a view that “more than 70% of the difference between top and bottom-quartile farms is because of different decisions made by the farmer”. This does not contradict the findings of O’Leary<sup>1,2</sup> which showed over 45% of the variance in farm performance could be explained by behavioural factors. It appears that management ability is the single biggest determinant of farm performance. The magnitude of difference and the high level of variance across farm businesses would suggest that even relatively small improvements in L&M ability would drive worthwhile increases in productivity.

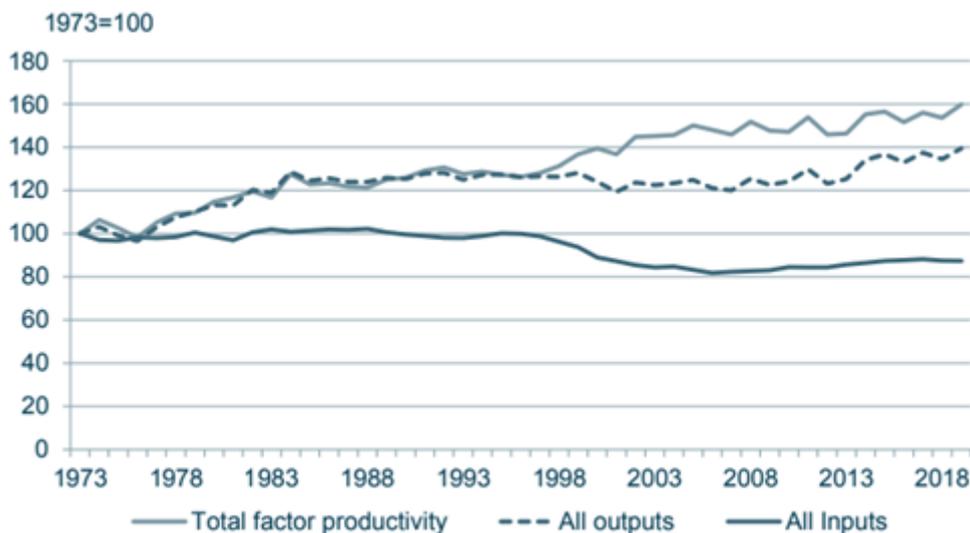
The upper limit of potential improvement in productivity involves complex economic modelling, DEFRA<sup>40</sup> have carried out research in this area, albeit some time ago. In simple terms the aim is to define the frontier farms to represent what is possible and compare this to the performance of farms. The gap between the frontier and average performance represents that potential gap that could be filled by increased productivity.

Between 2005 and 2015 TFP increased across the EU15 by on average 0.6% per annum. DEFRA statistics show TFP increased at 0.5% between 2000 and 2009 and 0.4% between 2010 and 2018 in England. Very little difference in improvement is seen between UK countries.

This difference between EU15 and UK represents a 1% loss in competitiveness over a ten-year period. Gross output of UK agriculture is around £27bn, therefore in comparison to EU15 farmers over this ten-year period the competitiveness loss equates to £270m or £1,420 per holding.

The UK is behind leading countries like Holland, Germany, France, Belgium and the USA. Therefore, it is not a question of other countries catching up the UK’s productivity, it is the UK falling further behind<sup>40</sup>.

**Figure 1.2: UK Agriculture Total Factor Productivity Index**



Source: DEFRA 2020, Agriculture in the United Kingdom 2019

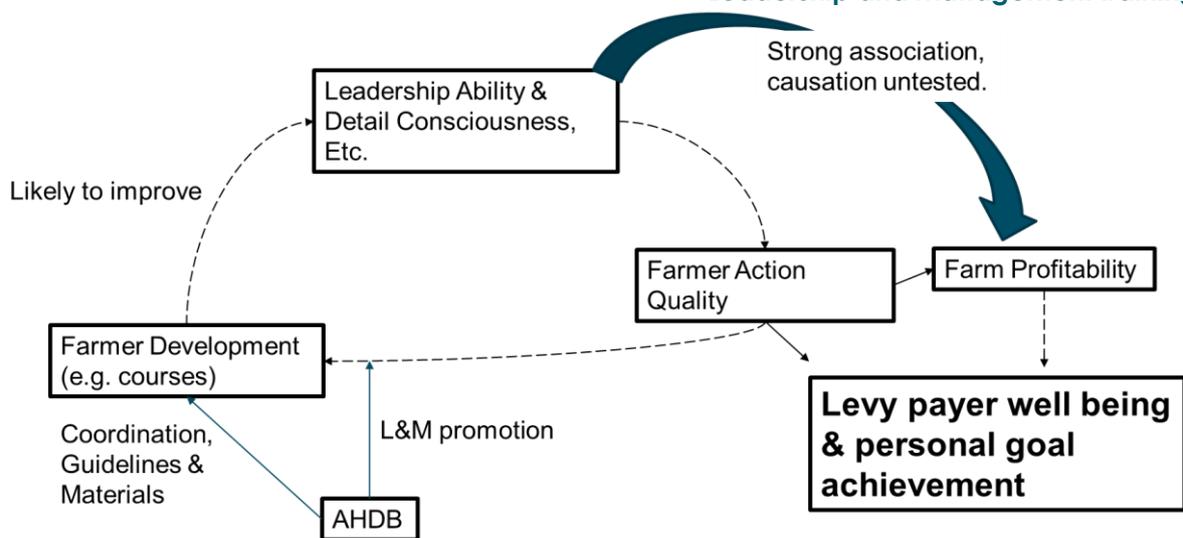
## 1.5 The rationale for LMD

Having now considered the available evidence indicating a probable benefit for farmers from specific LMD content, we now outline a rationale for its continuation and how it can be improved. At its simplest LMD is believed to be worthwhile because the improvement in farm performance is expected due to the increased knowledge and skills, and optimised attitudes (KSAs) of farmer participants.

AHDB can promote a variety of LMD activity highlighting/communicating the competencies and skills associated with improved farm performance. Similarly, the content offered to farmers can better match the empirical evidence linking specific LMD content to farm performance outlined and prioritised in the previous sections.

Figure 1.2 outlines the rationale for LMD. It illustrates the improved outcome (farm profitability & levy payer well-being) are influenced by the farmer actions. The quality of farmer actions is likely to be improved by LMD. AHDB's role is illustrated as promoting the value of LMD to the farmer, in particular activity with the strongest evidence linking the content to the ultimate measures of interest, farm profitability and other farmer goals. The more valuable the farmer perceives the training to be, the more likely they will be to attend more farmer development creating a reinforcing cycle. The dashed lines however highlight assumptions that have not been tested which may explain why most farmers don't experience such a reinforcing cycle.

**Figure 1.3: Illustration of the rationale for Leadership and Management training**



Source: Promar International

\* Dashed lines indicate working assumptions that have not been tested.

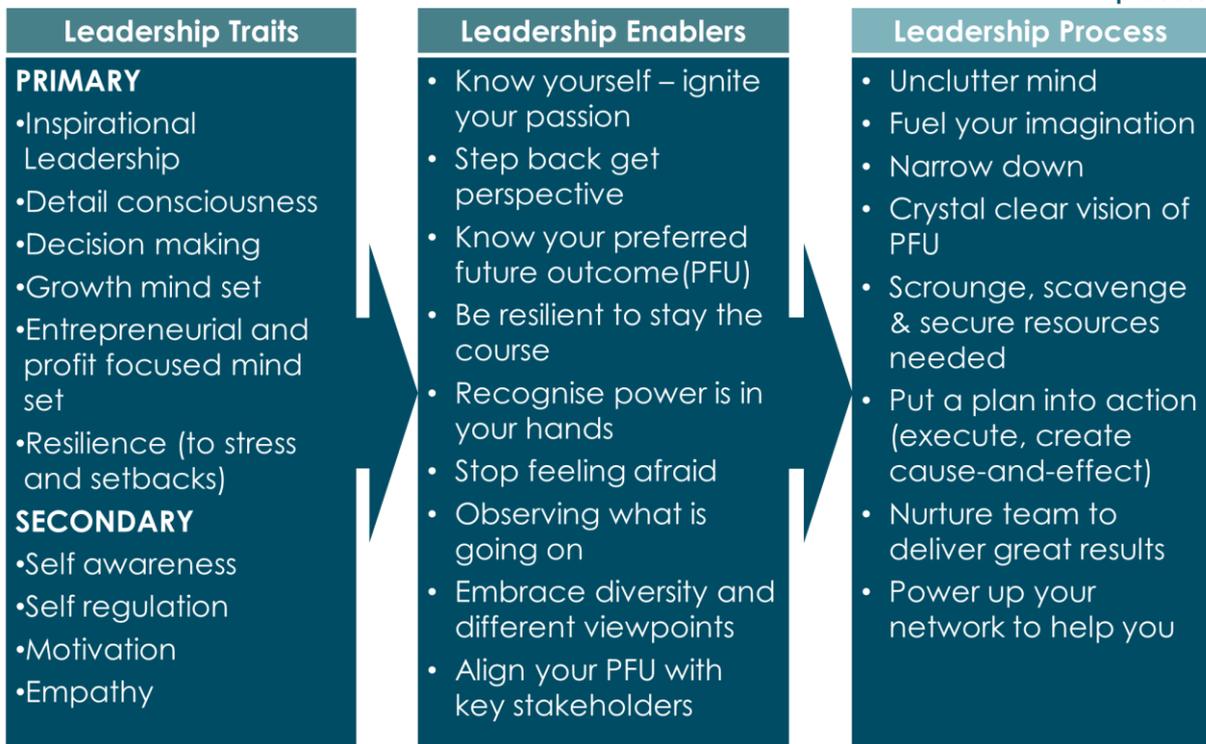
## 1.6 Linking Traits to skills and knowledge

There is a need to develop the core traits identified above in Table 1.1 in order to build leadership and management capability. Fundamental to this are enablers which help the learner to grow their ability and competence and to apply this through leadership processes. There is no one right way to do this but through a combination of **education, experience, exposure and evaluation** (the four E's of learning) the adult learner, particularly when in a state of heightened self-awareness, will grow their L&M capability.

In Figure 1.4, the traits, enablers and processes are linked. The diagram can be perceived to work in both directions. For example, the processes of gaining focus, and uncluttering the mind gives greater clarity around the enabler of knowing the preferred future outcome for the individual and the business. In turn this is a practical manifestation of the individual developing their "growth mind set". Conversely, if you identified that a leader had a poor growth mindset then directing that individual to activity that supports uncluttering the mind and gaining focus would be an important first step towards developing that competence.

This concept of traits, enablers and processes is described in some detail by Niamh O'Keefe a leadership consultant and author in her book Future Shaper<sup>27</sup>.

Figure 1.4: Relating leadership traits, enablers and process



After O'Keefe<sup>27</sup>

## 1.7 Challenges in assessing the returns and payoff of adult learning

Several difficulties must be overcome to successfully evaluate the returns and payoff of adult learning. They are not insurmountable providing enough resource, expertise and pre-learning planning is allocated to the task. The difficulties divide into four problem areas:

- 1 Deciding what and how to measure the benefits of LMD
- 2 Determining the timescale of the assessment from immediately after the development activity to an almost infinite period in the future
- 3 Allowing for what would happen anyway irrespective of the specific LMD
- 4 Assessing the cost of providing the LMD

### Problem 1: Deciding what benefits to measure and how to value it

Solving this first problem of deciding what to measure will be dependent on who wants to know. There are a wide range of benefits which could be measured and ascribed a value in relation to LMD development. Before any assessment of the value of an intervention can take place there is a need to establish if the benefits are to be measured to the individual, to the farm enterprise, the industry or wider society. A farmer may be primarily interested in the impact on the performance of the enterprise. Industry organisations and policy makers allied to that industry will want to know how interventions will impact on the sector. They will be keen to understand the extent to which LMD increases competitiveness. The interest of the wider society is towards the externalities of agriculture including environmental factors, public health and the public good provided by farmers. None of these areas are disconnected, at the heart of this is the individual along with their motivation, skill, and ability to manage their farms effectively and efficiently.

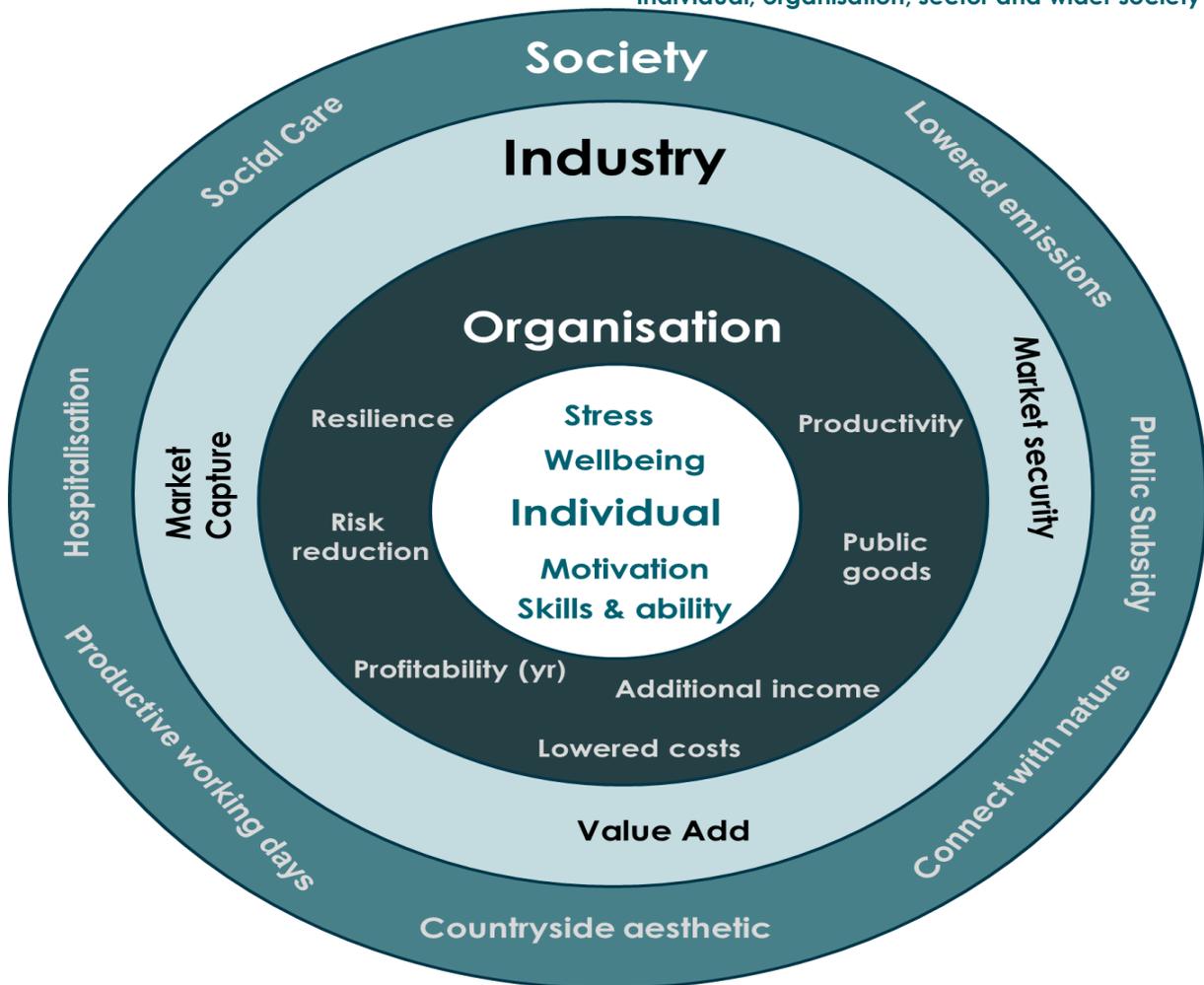
Calculating the value of any intervention is fraught with difficulty. Valuing the savings in inputs is the most straightforward calculation followed by estimating the value of increased outputs.

Next in difficulty is the challenge of valuing second, third level or beyond consequences of an intervention. For example, improving the reliability of accident reporting may be considered a good outcome of a management development activity. A proxy measure can be used to value the costs saved as a result of the intervention. However, second order effects could mean better staff retention and job satisfaction leading to unintended improvements beyond the scope of reducing accidents. Not all measures can easily be ascribed a financial value though.

For example, some programs (e.g. Focused Farmers) specifically target well-being and mental health. Such L&M skills can reduce stress and increase motivation and resilience. Such activities are likely to lead to improved business performance in addition to the direct benefits of improved quality of life and wellbeing. Unmanaged stress on farm can impact the home, family, employees, and friends potentially leading to harmful effects such as deteriorating relationships and addiction. Financial benefits could accrue to the enterprise such as reduced days lost due to ill health, improved decision making, implementation and productivity. The benefits to wider society of, for example, lower healthcare costs are not easily estimated at the level of the farm enterprise.

Similarly, increasing empathy, focus, and attention may lead to a safer workplace. Accidents are thankfully relatively rare albeit higher in agriculture than other industries. This, however, makes estimating the impacts (e.g. financial) challenging at the level of the enterprise a challenge. Even ascribing a value to the reduced risk of accidents is problematic. This should not, however, prevent a leader or manager from addressing behaviours which may be creating unsafe working conditions. Improving the image of farming or product quality, requires management skills but customer satisfaction is not easily captured in a ROI measure.

Figure 1.5: Classification of LMD outcomes to the individual, organisation, sector and wider society



Source: Promar International

To achieve robust results, it is crucial to be able to adequately control for differences between farms that do and don't engage in LMD activity and the level of training provided. In addition to various observable firm level characteristics, one important issue in this respect relates to identifying and controlling for the general skills profile and skills needs of the firm. The reason for this is because the current level or distribution of skills within firms (and the specific 'location' of skills gaps within the organisational structure) may drive the decision to engage in training.

#### Problem 2: Determining the timescale for measuring improvement

Exactly when the evaluation should take place is determined by a mix of practicality and the type of information required. A farm business reducing harmful emissions may reduce short term farm profitability while the benefits of doing so may be greater contract security with customers not captured in the financial accounts. The impact may be small, but if replicated by every farmer, can lead to better air quality, better water quality and lower carbon emissions. Even if these improvements could be ascribed a financial value, the benefits will accrue over generations, not financial reporting periods. Therefore, future benefits will need to be discounted to current values in order to estimate the current value of any intervention.

A further problem is that drop off can easily occur especially with leadership and management skills. It is relatively straightforward to teach managers to budget, improve time management or give feedback to staff but it is common for them not to continue implementing newly acquired skills. Evaluations that take place over fairly short time scales, perhaps immediately

after a course or within the first year do not necessarily capture accurately sustained change in performance which is needed if the development is to be effective.

Timescales of pay-off can be extended over many years. For example, a leadership development could lead to an interest in developing a diversification which leads initially to a reduction in profitability as the business struggles to get going. However, after many years, and development of the business model the enterprise becomes successful. This example serves to illustrate that the point at which you decide to evaluate the return on a development has significant bearing on the outcome for individual participant or enterprise. Therefore, enough sample size is required to establish the typical average benefit.

### **Problem 3: Deadweight loss, attribution, and spill over**

Deadweight loss refers to the cost of promoting a set of outcomes, for example training days, where these would have happened anyway. For example, a farmer could attend a seminar on lean management subsidised or fully funded by government or a levy body and create additional value as a result. The deadweight refers to the proportion of participants who would have attended other equivalent training without the state or levy board support.

Attribution refers to where the development intervention only partly induces the desired outcome that would not have occurred in the absence of such intervention. Attribution could be 100%, meaning the entirety of the value belongs to the intervention or it could be 0%. In this case, the desired outcome of the intervention happens anyway. Attribution is difficult to gauge because not only are outcomes themselves difficult to measure but the extent to which these are attributable to the development activity is hard to estimate. This is like the phrase 'correlation does not imply causation' where untangled cause and effect between two events are not possible to disentangle.

Spill-over relates to the situation where the enhanced training provided to one worker increases not just their own productivity, but also potentially raises the productivity levels of co-workers through workers' interactions. This can also extend out to wider networks as the skills learned by one manager diffuse amongst peers, family and other advisors. As labour can move freely from one farm to another spill-over occurs whereby the knowledge gained on one farm is assimilated on another. Spill-over is potentially a powerful multiplier of any LMD activity but is very difficult to capture in any evaluation of L&M activity.

Here we highlight the problems associated with ascribing value to development activity using an example taking deadweight, attribution and spill-over into account. In this scenario, training milking staff may be associated with reduced anti-biotic use on a farm and that the farm achieves a 30% reduction in medicine use, lower disease, more milk and less culls. The financial value of this improvement can easily be estimated but to attribute a proportion from the milking staff development is very difficult.

This is because the vet could also have made an intervention. The herds person may have changed milking routine because of a discussion with an advisor (spill-over). The milking plant may have had its settings adjusted, and the genetic make-up of the herd will have changed. All these could exaggerate or cancel the benefit of the training. Whilst improvement took place this may not fully account for the potential improvement not yet gained (deadweight loss). In a scenario like this it would be all too easy to claim the development intervention led to the improvement, but this would ignore all the other factors. For this reason, sufficient sample size in a study is required to discern the typical average impact of an intervention is required, ideally random assignment to a treatment and control group.

### **Problem 4: Resources and costs**

A potential solution to Problems 2 and 3 outlined above is to ensure sufficient sample size to allow the mean effect to be reliably discernible. However, assessing the returns of any form of adult learning is demanding in terms of researcher time compared to laboratory or field trial

experiments. There is also a need to get past the problem of ensuring the cost and complexity of measuring isn't greater than its value. Here it is important to differentiate one-off trials of effectiveness and regular evaluation of quality and impact. One-off trials will be much more resource intensive and arguably, more resources could be allocated to evaluation than is currently allocated.

In agriculture we are used to designing and evaluating experiments where one variable is changed in a controlled environment such as feed trials with animals. Such trials are explicitly designed to establish the difference between the treatment and control in a way that causation can be reliably inferred. Furthermore, these trials can often be completed in a matter of weeks.

Measuring the impact of training or development activities in a way to establish causation can be considerably more intensive in terms of logistics and researcher time. This is because researchers need to contact dozens or potentially hundreds of participants to survey them on the variable of interest. To establish an effect over time requires surveying each participant multiple times. Camuffo et al<sup>46</sup> for example required a team of dozens of research assistants to regularly interview training participants over 10 months to track the impact of two training programs which the participants had been randomly assigned to (a randomised controlled trial). In addition to the researcher time, in agriculture, there is also the cost of the farmers time which needs to be planned for (e.g. farmer incentives to continue cooperating with researchers such as advice or money).

The overall costs of the research program may be comparable to other agriculture experiments as those that require live animals can become very expensive. Providing similar financial resourcing to 'soft science' topics is however not typical. Instead, there is an over reliance on superficial one-off surveys and existing databases (e.g. Farm Business Survey) even when these resources are insufficient to meaningfully answer the research questions posed. This in part explains the relative lack of evidence for the benefit of LMD in agriculture to date.

## 1.8 Improving the evidence base

Table 1.2 illustrates a hierarchy of 4 forms of research regarding the impact of LMD. Box 1 describes the ability of human capital measures to predict farm performance. When skills and behaviours have been shown to correlate with farm performance, there is reason to believe that training targeting these measures would lead to improved performance. However, we would still lack causal proof that LMD improved performance. Furthermore, it appears that many LMD topics currently offered lack these correlations to support their inclusion in LMD (section 2 of this report). Box 2 examines if LMD has a discernible impact on the human capital of the participant. This could include independent assessments of improved ability, skills, behaviours (e.g. a test or expert pre and post assessment of farmer capability). If supported on its own, we would still lack proof that the LMD leads to improved farm performance but would support targeting content identified in box 1 further by demonstrating the malleability of the measure of interest.

Box 3 relates to assessing the performance of those that engage with LMD and those that don't. Teagasc did such a study of their discussion group program authored by Laple, Hennessy, and Newman (2013) illustrating a big difference in gross margin per hectare<sup>8</sup>. Box 4 describes going one step further towards establishing causation. Laple and Hennessy (2015) went on to assess the increase in performance when many more Irish farmers were encouraged through a €1,000 subsidy to participate in discussion groups (a form of natural experiment). However, surprisingly very little benefit was discerned after 3 years of participation raising major concerns around the value of the discussion group program, and the subsidy. It appears that those that participated before and after the subsidy were quite different, and the differences in the people, not the program explained the differences in performance. Such self-selection bias is a major issue and concern for the current discussion. Arguably more studies that measure actual farm performance (e.g. financial) where participants are randomly assigned to a control or treatment (or even just different programs) would significantly advance our understanding of what works and does not work in farmer LMD. Only by doing this can one prove that LMD improved performance as there is a valid comparison and self-selection has been accounted for.

Table 1.2: Research of LMD's impact on farm performance

<p><b>1. Do traits predict performance?</b> <b>Yes.</b> Profitable farmers are:</p> <ul style="list-style-type: none"> <li>• Smarter</li> <li>• Better leaders</li> <li>• More detail conscious</li> <li>• Resilient/emotionally stable</li> <li>• Have certain attitudes</li> </ul>	<p><b>2. Can you develop competencies and attitudes? Yes.</b></p> <ul style="list-style-type: none"> <li>• Stieger et al 2020 improved Conscientiousness using an app.</li> <li>• Bergevoet et al 2007 with Dutch dairy farmers entrepreneurial competencies.</li> <li>• Focussed farmers – yes! (self-reported)</li> <li>• Before and after self-ratings.</li> </ul>
<p><b>3. Is competency development <u>associated</u> with performance?</b> <b>Yes</b></p> <ul style="list-style-type: none"> <li>• Farmers with ag qualification about 15% more profitable</li> <li>• Those with education perform better</li> </ul>	<p><b>4. Does competency development <u>cause</u> improved performance? Yes, but not demonstrated in agriculture...</b></p> <ul style="list-style-type: none"> <li>• Irish farmer discussion groups – no discernible effect.</li> <li>• Bloom et al 2013 – Indian textile factories. +17% productivity</li> <li>• Camuffo et al 2020 – entrepreneurial decision making (seminar March 15th)</li> </ul>

**Source: Promar International**

There are several initiatives AHDB could deliver and advocate across the industry to increase the evidence base to link L&M skills to improved business performance.

- 1 Support more research assessing potential LMD content and links to on farm outcomes. Several of the studies cited have outlined suitable methodologies that could be adapted for this context. This could include the use self-completion and self-assessment exercises as well as qualitative interviews to deduce the extent to which leadership skills are exercised on farm or improved after development activity.
- 2 Support more research assessing potential LMD content and links to on farm outcomes. Several of the studies cited have outlined suitable methodologies that could be adapted for this context. This could include the use self-completion and self-assessment exercises as well as qualitative interviews to deduce the extent to which leadership skills are exercised on farm or improved after development activity.
- 3 One off questionnaires (cross-sectional) usually cannot show causality. Furthermore, relating leadership variables (e.g. leader behaviour) to outcome measures (e.g. enterprise performance) requires larger sample sizes (60-100 farmers) and a robust commitment to statistical integrity. By focusing on LMD content likely to have the biggest impact (e.g. Detail Conscientiousness), statistically robust findings are more likely with sample sizes on the smaller end of the recommended range.
- 4 One off questionnaires (cross-sectional) usually cannot show causality. Furthermore, relating leadership variables (e.g. leader behaviour) to outcome measures (e.g. enterprise performance) requires larger sample sizes (60-100 farmers) and a robust commitment to statistical integrity. By focusing on LMD content likely to have the biggest impact (e.g. Detail Conscientiousness), statistically robust findings are more likely with sample sizes on the smaller end of the recommended range.

- 5 Experimental design and randomised controlled trials provide the highest standard of proof in research. Assuming the LMD delivery is already funded, the resources required for such a study would be for the design of the treatment & control group and the coordination and collection of data over a period of 12-24 months. Though more manhour intensive than the other research approaches outlined, it is the most reliable way to show causation and showing causation would prove the value of LMD in a more concrete manner than the other approaches outline. The methodology outlined by Camuffo et al <sup>4</sup> would be an appropriate one to emulate in this context.

## 1.9 Key takeaways from Section 1

- Detail consciousness, Leadership (inspiring a shared vision), entrepreneurial orientation and growth mindset are LMD content areas that have been shown to correlate with improved business performances
- Behaviours are good indicators of farm performance. The UK Farm management population have lower scores than the general working population for detail consciousness
- Self-rated ability in specific domains can be correlated with business performance. Farmers own rating of general management ability (as opposed to specific domains) was found not to be associated with farm performance. Self-assessed abilities may thus be useful but needs to be designed carefully
- No peer reviewed empirical study was found from any country which clearly demonstrated causation between a farmer taking a course or training and performing better
- To perform such a study would require more resources than is typical for a study in this area, and a robust methodological approach to measure the impact on business performance of LMD activity. Examples of such from other sectors discussed in this section show how it could be done in agriculture
- This evidence exists from other sectors demonstrates a positive correlation between leadership competencies and the development of those traits and business performance from development and training interventions
- Leadership competencies underpin leadership and management ability. They can be linked to leadership processes and be enabled through practice and development activity
- Measuring the benefit of a specific episode or course of LMD activity is challenging. You have to decide what to measure and how to value it and you have to work out the timescale for measurement. Even if there is change you have to work out whether it would have happened in any case, whether it substituted other more useful improvement and whether there are spill-over effects in the business or to improve other businesses. You also need to work out the cost of the development activity itself. Even when this has been done you need to consider who benefits: the individual, the farm business; the supply chain; the consumer or society at large
- Researching the links between L&M capability and organisational performance can be conducted using a variety of research methods. It is a neglected area of research in agriculture probably as a result of the degree of difficulty of carrying our experiments that yield robust results. Technology developments which allow behaviours and activity to be monitored more cheaply and accurately could herald increased research in this area

## Section 2. Current baseline in UK agriculture

### Purpose of this section

- Categorise the types of LMD currently offered to farmers in the UK
- Quantify the uptake of LMD activity by farmers
- Estimate the value of LMD to UK farming

### 2.1 Background to LMD in UK Agriculture

UK agriculture is very diverse encompassing a few large multisite businesses, many SMEs and very many very small/micro businesses with a turnover below €2m (Table 2.1). These smaller businesses typically have fewer employees. This combined with the diversity of organisational types and geographical spread result in differing operating systems and managerial practices. In 2019 there were 219,000 agricultural holdings in the UK, with an average size of 80ha. The average farm size varies in each region, with Scotland having the highest with nearly 90% over 100ha while more than half of Welsh farms are under 20ha. The average number of employees on farms categorised as large (over 100ha) is relatively low at 2.8 full time equivalents. Analysis of UK Farm Structure data indicates 67% of farms in the UK do not employ any non-family labour<sup>64</sup>. Hence, for a large proportion of farms, LMD targeted at leading and managing staff will appear to be completely irrelevant. Most farms are managed by the holder, only 16% are managed by an employee<sup>41</sup>.

Table 2.1: UK agricultural holdings and farmed area

	Wales	England	Scotland	Northern Ireland	Total
<b>Number of holdings (000)</b>	37	106	51	25	219
<b>Total area (000 ha)</b>	1,764	9,206	5,660	1,023	17,653
<b>Average area (ha)</b>	48	87	112	41	80.6
<b>% of total area on holdings with 100 ha and over</b>	59.6	74.9	87.9	35	

Source: DEFRA 2020, Agriculture in the United Kingdom 2019

The total labour force of UK agriculture is 472,000 people, this represents 1.45% of employment. Most of this labour force (63%) is made up of farmers, business partners and spouses, and this proportion has increased gradually since 2017. 55% of farm workers are family members. According to DEFRA 65% of managers had no formal agricultural education but instead had practical experience<sup>41</sup>.

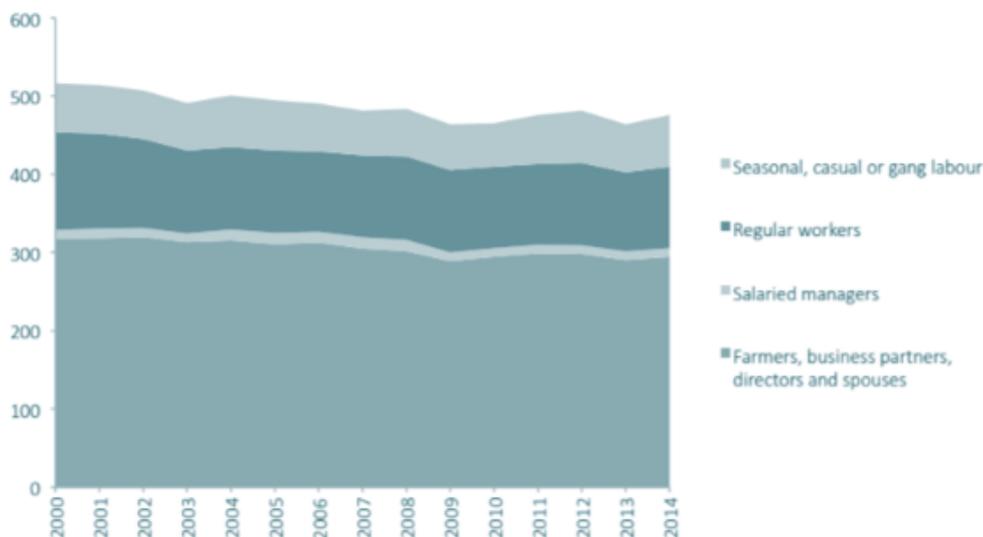
Of the 106,000 holdings in England, 97% were run by 'sole holders' and 3% by limited companies or institutions (equivalently for the UK as a whole). Of those run by sole holders, the holders were predominantly male. 84% of holders were men and 16% were women, this was very similar to the figures for the UK. Agriculture typically has an aging workforce. In England and the UK, around 40% of all holders were over the typical retirement age of 65 years while the proportion aged less than 35 years was around 2%. This was similar for both men and women in the UK and England. On larger farms the average age of holders is lower, 40% of holders were under the age of 55. Like holders, the proportion of managers aged less than 55 increased with the size of the farm. In England they made up 31% of managers on the smallest farms, increasing to 53% on the largest farms. While 35% of managers in England and the UK were over 65.

Of the 97,000 people in the farm family labour force in England, 55% were women. This compares to 52% in the UK. Of the 29,000 family workers who work full-time on the holding, the

majority (63%) were male. Female family workers were most likely to work less than one quarter of a working year on the holding with almost half doing so, compared to just a third of male family workers. A similar pattern was observed for the UK.

In the UK, 40% were non-family workers. Of the 79,000 people in the non-family labour force in England, 79% were men. For the UK 81% were men. Of the 35,000 non-family workers who work fulltime on the holding, the majority (82%) were male. Female non-family workers were more likely to work part-time with almost two thirds doing so, compared to just over half of male non-family workers. A similar pattern was observed for the UK<sup>41</sup>.

**Figure 2.1: Number of people working on commercial agricultural holdings by employment status**



Source: UK Agriculture June Survey/Census

## 2.2 Overview of LMD in the UK

There is very little research on LMD provision in agriculture in the UK. It is undertaken on an ad-hoc basis across farms with much of it delivered interspersed with other development activity. For example, attending seminars, discussion groups as well as management courses. Due to family ownership and control of most farming businesses there are few stepping-stones for employees to climb the metaphorical corporate ladder, certainly in comparison to other industrial sectors.

No central register of courses and amount of LMD exists and although some data is collected by government departments it does not go into specific detail by sector, type of training or into the characteristics of participants.

While no register exists a limitation of this review is that it is only able to provide an overview of "known" courses/development activity. It is inevitable that some have been missed due to the ad-hoc nature in which LMD takes place. This is probably true in all industries and is a feature of a dynamic market economy.

During this research sixteen of the main LMD programmes operated in the UK were researched through analysis of course materials, semi-structured interviews with course organisers and case studies of participants. The L&M Programmes studied are set out below in Table 2.2

Table 2.2: LMD course available across the UK

Scheme/Course name	Delivering body
Agri Academy (Business and Innovation & Junior Programme)	Farming Connect (Wales)
Agrisgop	Farming Connect (Wales)
Rural Leadership Programme	Scottish Enterprise (Scotland)
Agri Leader	AHDB (UK)
Professional Manager Development Scheme (PMDS)	AHDB (UK)
Effective Farm Manager Programme (EFM)	AHDB (UK)
MDS – Graduate Management Development for food & fresh produce	MDS
Nuffield Farming Scholarships	Nuffield Trust (UK and International)
Challenge of Rural Leadership (CRL)	Worshipful Company of Farmers (UK)
Advanced Course in Agricultural Business Management	Worshipful Company of Farmers (UK)
Windsor Trust	Windsor Leadership Trust (UK)
John Edgar Trust – Business Management Course	John Edgar Trust
Tesco Future Farmer Foundation	Tesco (UK)
Leadership Development Programme	IAgrM (UK)
Farm Management Skills Programme	IAgrM (UK)
Future Farmers of Yorkshire	Yorkshire Agricultural Society (UK)

Source: Promar International

## 2.3 Description and categorisation of LMD targeted at Farmers

LMD is delivered in many ways by a wide variety of providers. To aid understanding the provision has been subdivided into traditional business education which would generally be delivered face to face in a classroom setting. This is the most common form of LMD but farmers are also offered Action Learning, Self Directed Learning and Guided Learning. All of these forms are described below along with Blended learning which is a mixture of styles with some content delivered digitally.

### Traditional Business Education (TBE) Programmes

Typically, this happens in a classroom or seminar with a teacher or expert presenting their viewpoint by giving a presentation. Learners engage through questioning and, in some instances by looking at problems through case studies and group-based activity.

**Table 2.3: Traditional Business Education Courses**

<b>Scheme</b>	<b>Other methods in scheme</b>
Professional Manager Development Scheme (PMDS) - AHDB	Self-directed learning
Effective Farm Manager Programme (EFM) - AHDB	Guided
Challenge of Rural Leadership - (Worshipful Company of Farms)	Guided
Leadership Development Programme - IAgM (UK)	Guided
Farm Management Skills Programme - IAgM (UK)	Self-directed Learning
Windsor Leadership Trust Programmes & John Edgar Trust	Action Learning
Tesco Future Farmers	Guided learning
AgriLeader – AHDB UK	Self-directed learning
Agri Academy (Business and Innovation & Junior Programme) – Farming Connect Wales	Guided learning

**Source: Promar International**

The Worshipful Company of Farmers Challenge of Rural Leadership course, the Windsor Leadership Trust Programme and The Institute of Agricultural Management Leadership Development Programme focus mainly on strategic management with some personal development and time management components. Collectively around 30 farmers and industry professionals will enrol on these programmes each year.

AHDB's PMDS runs over 14 months and is split into 10 sessions. Participants complete assignments relating course content to their own experiences. The Effective Farm Manager Programme (EFM) promoted by AHDB is a four-day supervisory management course. EFM and PMDS are accredited courses leading to a level 3 qualification which is considered equivalent to an advanced apprenticeship or A levels. Places are limited to 36 applicants per year.

Agri-Leader offered by AHDB has two components. The first of these is Agri-Leader Forum which has evolved from Dairy Leader forum. It is an annual conference with invited expert speakers discussing the topic of L&M. Speakers are a mix of practicing farmers, consultants and individuals from a non-farming background with a story to tell about their leadership journey. The second part of Agri-Leader is the Dairy Leader Development Programme. It consists of regional meetings with talks from experts on broad ranging leadership and management topics from law to change management. Both programmes are aimed at large, progressive farmers. They are not open to all levy payers.

In Wales the Agri Academy provides a programme of training, mentoring, support and guidance over 3 intense residential sessions. It has two distinct elements. The Business and Innovation Programme is aimed at supporting and inspiring the next generation of farming and forestry innovators and entrepreneurs in Wales. The Junior Programme is aimed at supporting young people aged between 16 and 19 years who hope to follow a career in the food, farming and forestry industries. The programme offers participants the opportunity to network with high profile individuals within the industry. (The Junior Programme is a collaboration with Wales YFC). Both programmes are open to all farmers in Wales with a dozen individuals enrolling on each, every year.

Tesco Future Farmer Foundation is a twelve months programme of activity encompassing sessions on business planning, negotiation skills, personal development, joint ventures, succession planning, sustainability and understanding finance. Throughout the programme there many opportunities for the future farmers to spend time with food processors and the retailer. This gives farmers a unique insight into the challenges faced by the supply chain in delivering quality and value to consumers. Entry onto the programme is open to all farmers in the UK under 35. It is competitive, with 50 selected from over 300 applicants.

### Action Learning (AL) Programmes

In Action Learning, a small group of individuals meet on a regular basis. They use a well-defined process and a skilled facilitator to find solutions to problems or issues they have with their work. In the group – the Action Learning Set – participants have the space to tackle a range of issues and problems, both organisational and personal. They take away learnings and ideas from each meeting and then discuss their progress and results at the next. The facilitator ensures that the meetings follow a proven and effective structure.

**Table 2.4: Action Learning Courses**

Scheme	Other methods in scheme
Agrisgop – Farming Connect Wales	Self-directed learning
AHDB Mastermind	

**Source: Promar International**

Agrisgop in Wales is action learning for farmers across Wales. Action Learning is a technique developed in the 1940s by Reg Revans who noticed that individuals learn best through enquiry and group discussion centred around solving real world problems. In Agrisgop farmer groups come together under the guidance of a trained AL facilitator to problem solve. The sessions are not specifically about leadership and management but do develop these abilities. There are 35 active groups currently with a typical group size between 6 to 8 farmers.

### Self-Directed Learning (SDL) Programmes

Farmers ability to identify what they need to learn, learn it efficiently, and then implement the acquired knowledge and skills can thus be seen as important for their independence, general adaptability and resilience. However, specific guidance on meta skills such as how to identify learning needs, how to assess learning materials and to learn efficiently may be underdeveloped. These 'learning to learn' skills might thus be particularly impactful.

SDL's in its broadest meaning, self-directed learning describes a process in which individuals direct their own learning, with or without the help of others. This includes establishing their own learning needs and goals. This then leads to the farmer identifying the people and resources to utilise to achieve these goals. SDL is required by farmers as they are often self-employed (no provided training by a boss) and face a variety of challenges. SDL may be the most common form of LMD among farmers. Though usually not practiced deliberately, it represents the way many farmers learn and prefer to learn. Their ability to identify what they need to learn, learn it efficiently, and then implement the acquired knowledge and skills can thus be important for their independence, general adaptability and resilience. Farmers might be consciously choosing and implementing appropriate learning strategies and evaluating learning outcomes. Perhaps more common is a more ad hoc approach.

SDL's critics argue it lacks deliberate goal setting and the absence of a teacher limits the progress the learner makes. This may be true if a farmer has not developed the above learning to learn skills. However, SDL without such skills represents what we all do when we read a book, watch a TED talk or enrol onto a MOOC (Massive Open Online Course) course after googling a topic or issue. It is no longer the issue that material availability is the limiting factor, it is that there is so much material available online that one should be selective with which material you engage with to gain the most value for the limited time available.

MOOCs are available in practically any discipline imaginable and are provided by universities from around the globe from agriculture to zoology. There are an enormous number of free leadership and management courses available through MOOC channels on the internet.

Measuring farmer SDL could be accomplished by surveying a representative sample of farmers. For this purpose, we would suggest surveying 100 farmers to give a reasonable indication of what is happening per population (e.g. all farmers or sector or regional specific populations). Factors that would influence the appropriate sample size include the scale of measures of interest, in this case the SDL farmers are performing. The smaller the expected proportion, the bigger the appropriate sample size. Conversely, the more error that is acceptable the smaller the sample required. What types of SDL should be measured and exactly how would require further elaboration beyond the scope of this report.

**Table 2.5: Self-Directed Learning Courses**

<b>Scheme</b>	<b>Other methods in scheme</b>
Nuffield Farming Scholarships	Traditional Management Education
Yorkshire Future Farmers	Traditional Management Education

**Source: Promar International**

Nuffield Scholars can travel anywhere in the world for a period of no less than 8 weeks to further their knowledge and understanding of their chosen study topic. On return from their travels, they present their findings, the conclusions they have reached and the recommendations to the industry in a variety of formats, including a written report and a presentation at the Annual Nuffield Farming Conference. The Scholars are also expected to use all other means at their disposal to spread the knowledge they have gained within their industry and beyond.

### **Guided Learning (GL)**

Guided learning is a term that refers to a process in which learners initiate and advance their learning guided by more experienced partners and socially derived sources, such as tools, text, and/or other artefacts. The direction and process of guided learning is premised more on the learners' intentions, capacity, and agency, albeit being guided by social partners and norms and forms. This guidance will likely take two forms: (1) close interpersonal interactions with more informed partners (e.g., experts, teachers, parents) and (2) indirect guidance from observing and interacting with others, artefacts and social forms and norms (Billett 2000). Guided learning is reliant on feedback to assess the impact or learning and determine future priorities. The differences between SDL & GL are subtle but significant. In GL there is more coaching, and support deliberately built into the development programme.

**Table 2.6: Guided Learning Courses**

<b>Scheme</b>	<b>Other methods in scheme</b>
Rural Leadership Programme – Scottish Enterprise	Self-directed learning

**Source: Promar International**

The RLP in Scotland could be described a hybrid of learning methods but does encourage a great deal of enquiry and reflection from its participants. The Programme involves thirteen days of activities between October and March. These include; leadership coaching workshops, one to one business focus sessions, a business Strategy workshop, team working on rural innovation projects as well as learning journeys to Edinburgh, Brussels and London parliaments. Sixty farmers enrol on this programme every year.

## Blended Learning (BL)

Blended learning is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods. It requires the physical presence of both teacher and student, with some elements of student control over time, place, path, or pace. While students still attend "brick-and-mortar" schools with a teacher present, face-to-face classroom practices are combined with computer-mediated activities regarding content and delivery. Blended learning is also used in professional development and training settings. It is not a method in its own right but can be incorporated into TME, AL, SDL and GL.

## Other LMD programmes not included in the analysis

McDonalds Progressive Young Farmers Programme – delivered to nine young farmers per year. This is more of an apprenticeship type of programme.

Sainsbury Young Apprentices scheme - Every 12 weeks the apprentices visit other growers in Sainsbury's supply chain which means they get access to 44 days of off-the-job training. In between these visits the apprentices will be back at work learning the practical aspects of farming.

Promar Dairy Management Academy – around 12 herd managers are enrolled onto this course every year. The focus is on building technical proficiency of dairy herd managers although some aspects of management and supervisory managements are covered on the 12-month course.

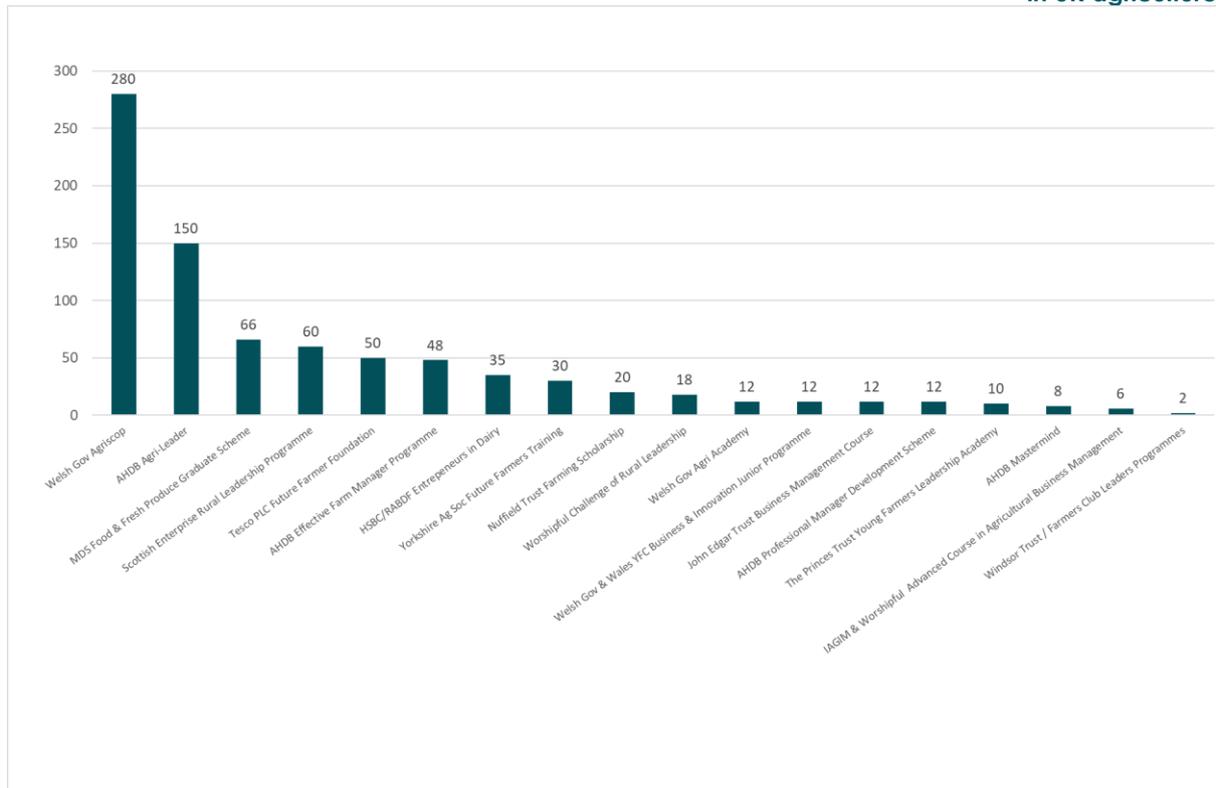
The Oxford Farming Conference Emerging Leaders Programme provides sponsored opportunities for around 20 farmers aged between 30 and 45 to attend the organisations three-day conference in January 2019 and for a pre-event policy discussion at Fera Science in November.

## 2.4 The level of uptake of LMD courses in UK Agriculture

As discussed before there is no central register quantifying the amount of leadership and management development taking place in the UK and the research captured here is only a quantification of the development provided by the courses in outlined in Table 2.2 and described previously.

We estimate that across the UK 831 individuals are enrolled annually. This represents just 0.4% of farm holdings in the UK. Of these enrolments 45% are only provided to Welsh farmers and Scottish farmers although they make up 40% of holdings. Provision in England is exceeding low by comparison to the other UK countries. If the Agri-Leader Forum is excluded by virtue of it being a seminar rather than a course the level of LMD in England falls to just 317 individuals receiving training or just 3 per 1000 holdings. It is important to note that this does not mean farmers are not consuming LMD from other providers, but it does point to an alarmingly low level of engagement considering every single farm business has a leader/manager.

**Figure 2.2: Estimated annualised LMD enrolments in UK agriculture**



**Source: Promar International**

Why is there a difference in uptake between England and, Wales and Scotland? More research is needed to understand this, but it seems likely the following factors would be behind the difference:

- Courses are free in Wales and Scotland – the English free courses are oversubscribed indicating unfulfilled latent demand
- The offer is centralised, promoted heavily and more coordinated in Wales and Scotland

There is certainly a lot of choice on offer with courses promoted to specific sectors, although not to arable. Course are offered with a wide duration, some 1 day courses and some intensive with up to two weeks of residential accommodation. A good number of courses are specifically offered to younger farmers, but even those that aren't tend to attract a younger audience.

## 2.5 Evaluating the content of delivered LMD

### 2.5.1 Future need

From the semi structured interviews with course providers we were able to establish what each of them considered to be important for future needs of the industry. We were able to categorise answers into seven key areas and these are shown in Figure 2.3. Future focus of LMD activity by UK course providers.

**Figure 2.3: Future Focus of LMD Activity by UK Course Providers**



**Source: Promar International**

It is interesting to note that these are all very common themes that would be associated with management and leadership in any business environment. We found the most commonly mentioned future development need related to change management, creativity and adaptability and emotional intelligence.

Few specific elements of emotional intelligence were highlighted. As the EI model of Goleman contains 21 specific EI competencies and the O'Leary et al<sup>2</sup> research was only able to isolate half a dozen of these as indicators that predict performance there is a danger that these courses may not be targeting EI development as precisely as the research suggests is needed. Furthermore, there is quite a disconnect between the priorities identified here and the LMD content identified in section 1 as being strongly associated with farm performance. For example, detail consciousness (similar to attention to detail) were not highlighted in the interviews.

### 2.5.2 Is current LMD fit for future challenges

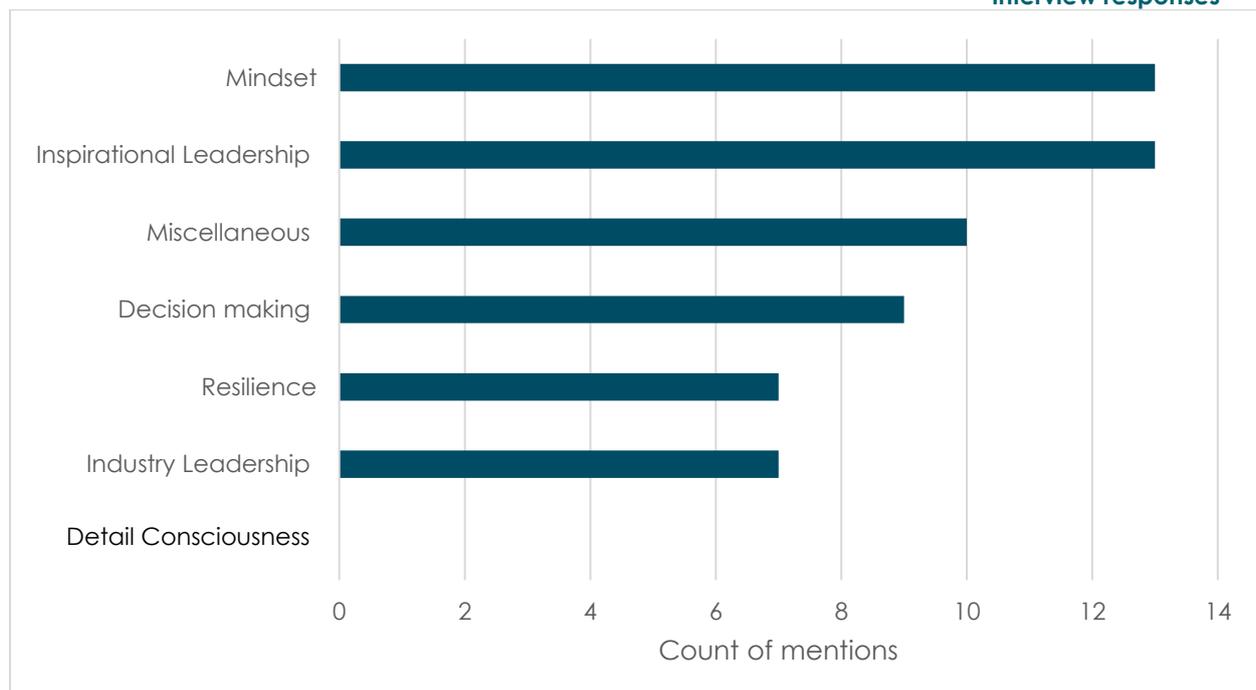
Regarding the key skills/traits a leader in agriculture will need in 2030, we analysed the interviews of L&M training providers to see which topics emerged and how this compared to the priority traits identified in section 1. We find that there are some differences between both.

Mindset and inspirational leadership were the most referred to traits (figure 3) by the LMD training providers. The evidence review suggests for improved business performance, mindsets and attitudes regarding 'growth mindset', profit and entrepreneurial orientations are important<sup>1,18</sup>. The LMD training providers descriptions of the farming leaders' mindsets of 2030 did not mention profit focus. One potential interpretation of this could be that those attending LMD courses are assumed to be already profitable, and those having profitability issues may attend a technical course instead.

The importance of inspirational leadership on farm (within the farm gate) fits with the evidence previously discussed in section 1. However, inspirational leadership appears to be conflated with industry leadership. Industry leadership was frequently referred to as important for a 2030 leader, with mentions of representing and giving something back to the industry. However, we consider this a related but separate issue. Furthermore, showing industry leadership has not been linked to farm performance. There appears to be a need for a clearer distinction between on farm and industry leadership in the discussion of LMD and its value.

Furthermore, the analysis shown in figure 2.4 finds that none of the LMD providers suggested traits for a 2030 leader corresponding to detail consciousness (high standards and attention to detail). When asked specifically if their LMD offering addressed this competence in the interviews, less than half said it is being addressed to 'a great extent'. As this has been identified as a high priority with strong support for its importance for improving business performance, this could be an area to focus efforts for change.

**Figure 2.4: Core traits for 2030 leaders based on interview responses**



Source: Promar International

## 2.6 Estimating the uptake of LMD in the UK

### 2.6.1 Farm managers and levels of formal training

Detailed Farm Structure Surveys are conducted every ten years with the latest data available from 2016. As shown in Table 2.7, over two thirds (68%) of managers of agricultural holdings have not received any form of agricultural training.

Table 2.7: Training of managers in the UK

Training	Number of Managers	Percentage of Managers
Basic agricultural training	26,211	14
Full agricultural training	31,873	17
Practical experience only	125,746	68
All	183,829	100

Source: DEFRA 2016, Agricultural labour in England and the UK – Farm Structure Survey 2016

These relatively low levels of formal training are mirrored across Europe where only 30% have received some form of formal training<sup>31</sup>.

## 2.7 The cost of providing LMD to UK farmers

Course costs are extremely variable, difficult to pin down and are provided at subsidized rates varying from 0-100%. The most expensive intervention is around £13,000, this does not include the cost of running the organisation providing the training. Most of this goes towards travel and subsistence costs of individuals.

Several suppliers were unable or unwilling to provide details of the costs of providing development for commercial reasons. Although course costs are sometimes available these do not usually include the cost of providing training organisers, offices and administration.

The Agrisgop – Farming Connect, Nuffield, Tesco and AHDB Agri- Leader LMD initiatives are provided at no cost to their delegates. The AHDB PMD and EFMD programmes are subsidised by up to 75%. The Scottish Rural Leadership Programme is subsidised by over 60% and require a contribution of £900 from participants. The organisers of this programme believe the fee helps to build the commitment of delegates to the training.

None of the free courses offered to farmers are undersubscribed with most turning away two or three times the number of applicants. Not only does this indicate a high level of latent demand but it also highlights a reluctance for course providers to charge for LMD provision. The justification for doing this is not clear. The residential courses provided by IAgRM and The Worshipful Company of Farmers cost between £5,000 and £7,500. This is a lot in comparison to other options, but these courses last up to three weeks and include a residential element.

Research by Kauffman et al<sup>44</sup> found 19 Agricultural Leadership Programmes in the USA had, on average, been in existence for 24 years, enrolled 26 participants per class on programmes lasting 21 months with 12 classes. The average cost was \$14,337 with a \$2,974 contribution from participants. The gap between tuition and actual cost was funded by donations, endowments, and government subsidy.

Commercial companies outside agriculture would expect to pay considerably more than farmers are used to paying for LMD. This may explain why few training providers supplying the non-farming sectors choose to target farmers. A typical charge for a good trainer providing a 6-hour session in a management and leadership dimension would expect to charge between £1,800 and £2,500 for up to 8 delegates. This may seem like a high hourly rate, but it represents the “going rate” and incorporates the time trainers must spend preparing their sessions and providing training materials.

## 2.8 How should adult learning be assessed?

If you deliver LMD activity it is important to measure the activities effectiveness and impact. There are lots of ways to do this but none of them are perfect. Getting a reliable measure of value of a development activity entails the following steps. Firstly, you must consider what exactly your research will measure as an indicator of development impact. Because there are many factors constantly influencing the farmer there is a problem ascribing value to a particular LMD program. For this reason, a control group and or a comparison group provided different training program with random assignment will provide the highest standard of evidence. Less resource intensive are pre-post comparisons where individuals are assessed before and after the development intervention and differences can thus be attributed to the training with a reasonable level of confidence. Pre and post assessments of changes in attitudes, abilities and behaviours over months after the training would give a great indication of the direct impact of the training. These assessments could also collect data giving an indication of the impact on farm performance or use data already collected by companies such as Promar. However, without a randomised allocation to a treatment and control group, this is prone to self-selection bias (e.g. Teagasc discussion group example<sup>9</sup>). The self-selection is essential centres on the observation that many people would have improved anyway without the LMD.

Most common in agriculture are studies which try to find variance across businesses in the level of leadership and management development undertaken to see if there are correlations between the activity and business performance. However, causation cannot be reliably inferred with such studies (O'Leary et al<sup>1,2</sup>).

### 2.8.1 Indicators of LMD impact

#### Reactions

Assessing participant reactions at the end of a course or seminar is a popular, relatively easy and quick way to get feedback. It is the simplest way of evaluating training. On the surface this appears to be a particularly weak method as it does not capture the outputs of the development in changed behaviour, improved business performance or other contributions. This may be particularly true when participants don't opt into the content or do not attend the course to address a pressing need.

Contrast this to where learners are themselves selecting to attend a training to overcome a pressing problem or deficiency they have identified. In such circumstances, they may be well placed to estimate the extent to which the course solved the business problem and so the value of the course. Provided the evaluation questionnaire captures both the reason for attending the course and the extent to which the attendee believes the course will help solve the issue a reactions-based method of evaluation can thus be useful.

#### Learning

The primary purpose of this method is to assess the extent KSAs have changed as a result of participating in the development. Of interest is the extent the participant can apply the learning to improve job performance. This can be useful to determine if any changes are required to the training programme.

The assessment could take the form of a test or an observed role play. This is familiar to farmers for practical skills like forklift truck driving and first aid training. It doesn't evaluate outcomes or the extent to which the learning is utilised and implemented outside the classroom. But neither does that make it ineffective. Our roads are safer because all drivers pass a theory test on the highway code.

The challenge with LMD is that it is more to do with grappling with complexity, integrating resources and energising self and others – these can be more difficult to observe than a specific skill. You can pass an MBA and show that you have learned a lot about management, but this does not mean you will be an effective manager. You may have appropriate theoretical knowledge but still lack the ability to apply it effectively.

### **Business Results**

Specific business results are captured to varying degree within farming enterprises. These vary from those at a technical level and those at a higher combined level. At a technical level measures such as machine breakdowns, cases of mastitis, lambing percentage, crop yield and absentee days are just a few examples. The more specific the learning activity is directed to improving a specific business measure, the easier it is to relate the training to the chosen metric.

At a higher level we may be measuring enterprise performance and overall farm performance. All these results are influenced by management and leadership because they are the ultimate decision makers in complete control of the business. It therefore follows, if learning improves the ability of the manager then there will be on average be an improvement in results. There are strong indications that certain farmer KSAs (inspirational leadership, detail consciousness, attitudes etc.) are strongly associated with whole farm performance. We thus can currently infer, though not prove, that these KSAs probably drive farm performance. Building on this inference we can hypothesize, that if these KSAs were developed among some farmers through LMD, and not among another group of farmers (random allocation to each group), that an effect on farm performance may be discernible within 12 – 36 months of the LMD intervention. Furthermore, we could hypothesize that subjective experiences of the manager to improve within 6-12 months as changes in farm management begin having effects.

To isolate the impact of one specific training course or development activity on the performance of the business, or a group of businesses reliably is, however, relatively resource intensive and demanding from a methodological perspective. There are though several studies which provide appropriate blueprints for demonstrating the impact of LMD on farm performance<sup>8,9,15,16</sup>. Using existing datasets (e.g. Farm Business Survey or Promar's Farm Business Accounts databases) in combination with randomised or pseudo randomised allocation of farmers to treatment / control groups would be relatively efficient as the farm performance data is already collected for other purposes.

### **Return on Investment (ROI)**

As ROI may suggest an accounting-oriented evaluation process, this can be misleading as training programs are measured in terms of efficiency of the solution rather than measuring the effectiveness of the programme. ROI analysis does not capture the effectiveness of intangible benefits arising from a programme such as organisational commitment, teamwork, reduced complaints and conflicts. These intangible benefits are difficult, but not impossible to estimate. ROI Method has identical advantages and disadvantages as assessing the impact of training on based on business results.

### **Wider Contribution**

Some development will have a multiplier effect and influence far beyond the boundaries of an individual farm. Community leadership is a core focus for LMD in the USA as it is recognised that farmer representation is needed to influence policy and promote collaboration between farmers.

How might you capture the contribution of a L&M study Scholarship which influences many farmers around the world to become more collaborative. Let's assume the author of the report

pursues their passion for collaboration over their lifetime. They join the board of a local cooperative and after many years rise to the position of Chairperson. The cooperative is extremely successful, because it has identified a way to produce low carbon milk. As a result, its membership quadruples and it delivers the highest pay-out price in the UK. If you value the return of the Scholarship to the scholar at the end of the study period, the value created would be close to zero. At the end of that individuals career the value to him/her would be huge and this would be multiplied to many other farmers and society benefits from cleaner air.

**Table 2.8: How LMD is assessed within UK L&M programmes aimed at farmers**

Evaluation Method	Scheme
Level 6: Wider Contribution	Focussed Farmers
Level Five: Return on Investment (ROI)	Focussed Farmers Significant effort has been given to assessing AHDB EFMP and PMDS courses
Level Four: Business Results	
Level Three: Behaviours	Tesco FFF
Level Two: Learning	AHDB PMD, AHDB EFMP
Level One: Reactions	AHDB Agri Leader

**Source: Promar International**

The difficulties and challenges of evaluating the outcomes of LMD can largely explain why relatively little higher-level evaluation, if any, takes place within agriculture.

Where assessment at level 5 or above has taken place it has involved the use of external consultants carrying out very involved and detailed research with the programme organisers and a sample of individuals who have participated. This type of evaluation is usually conducted to satisfy the need to show that public money is well spent. None of the bodies using private money have conducted in depth economic assessment of their programmes. This does not mean that they are not evaluating them, it just means that they have their own criteria and agenda for providing training which does not require this type of assessment. For some providers, simply filling the available spaces and having to turn people away may be all the justification they need to continue to offer their courses. That the market demands their offering is all the justification they need to continue to provide it.

## 2.8.2 Examples of LMD activity assessment

2020 – Welsh Government review of KT, Innovation and Advisory Services programmes which includes Agriscop and Agri-Academy does not feature any evaluation of impact on gross value added (GVA) or ROI. The lifelong learning element of the programme has taken place with c. £600K per year of public funding. Over £6m has been spent funding group activity including training. Most of the goals and outputs of the programme have been achieved. Over 20,000 people have registered with the Farming Connect Programme and 2/3 of these have engaged with some programme activity. 2/3 of the businesses have no employees which begs the question why do so many LMD programmes in agriculture have such a strong focus on people management? The programme has run for many years and participants described how Farming Connect is “well known”, “trusted” and “well respected” across Wales.

A separate assessment of the Agriscop (action learning programme) concluded an impact in promoting the self-reported attitudes captured by five statements, as evidenced by the statistically significant increases in agreement (i.e. decrease in disagreement) of all survey statements. The five statements related to increased confidence, communications skills, attitude to change, evaluating strategy and evaluating information relevant to my business.

Holly Becket, through a Nuffield scholarship looking at emotional intelligence, has developed Focussed Farmers which influences farmers to become more mindful, more goal driven and less stressed. There has been an assessment of this programme using the Rose Regeneration<sup>40</sup> Social Value Engine (SVE) which takes account of the social, economic and environmental outcomes this programme is delivering. 700 participants have taken part in this programme to date. The SVE uses a systemised and academically robust assessment of social value to forecast, plan and evaluate activities. It takes more than 200 peer-reviewed financial proxies derived from reliable sources to relate outcomes to a financial £ value. This creates a description of how a project or activity creates value and a ratio that states how much social value (in £) is created for every £1.00 of investment. The results of this evaluation indicate the programme has delivered to date over £1.1m of social value at a cost of £82,000 giving a social return of £13.52 for every £ invested. This case serves to illustrate it is possible to evaluate wider returns from L&M activity.

AHDB's PMDS has been evaluated using a Net Promoter Score and self-evaluation, by participants of the ROI. Here ROI was estimated to be 13:1 using a straight-forward measure of the benefit to an individual farm business based on farm business survey data and expert estimates.

### 2.8.3 Evaluating development outcomes

The evaluation of LMD is important, as its outcomes influence both individual and organisational performance and capability. In addition, the ability to demonstrate the effects of LMD can raise its profile within the sector. However, evaluation is quite clearly difficult and underdeveloped in both research and practice in agriculture. A frequently used way of measuring LMD in practice is to focus on quantitative measures including the average number of days of formal and informal training received by managers or committing to external management standards and qualifications. However, this reliance on quantitative measurements can result in a failure to measure the effectiveness of management development. This applies to both personal and organisational learning, focusing on measuring inputs, activities, and immediate outcomes, rather than longer term benefits.

Although the literature promotes the need for evaluation and those paying for development would be comforted by knowing it works, establishing a causal relationships between LMD and organisational success remains rare with only a handful of studies establishing positive causal impacts on business performance outside agriculture<sup>15,16</sup> and one in agriculture showing disappointing results<sup>9</sup>. Summarising what has been described above there are multi-factorial problems with evaluation due to experimental control, integration of methods and maintaining objectivity. Moreover, the contextual nature of the concept of LMD makes the use of a single objective generic formulaic approach, such as ROI, to evaluation inappropriate. These challenges however can be overcome by sufficiently resourcing research of LMD's impact.

Andrew Kakabadse, Professor of international management development at Cranfield argues "Financial measures are the worst measures you can put on a leadership course. What you can do is measure changes in behaviour and attitude in the company over a period of time. You must take a mid to long-term view and see opportunities being created in the future".

That finance alone should not be the only consideration is reasonable but Professor Kakabadse's view is probably too extreme and excludes a key agriculture industry concern (profitability) a readily quantifiable measure of on farm performance. A more nuanced view may have financial impact as a priority among other 'softer' indicators of impact.

The effectiveness of a development should be judged in context which varies from farmer to farmer. If participants have had similar LMD before or have had varied amounts of LMD could also obscure impact. A younger farmer may for example be expected to gain more value for

LMD than a more experienced farmer. Similarly, those with more education and development in the past might experience diminishing returns from additional development <sup>8,9</sup>.

Finally, there is the question of effect size. What size of effect is reasonable to expect from participating in an LMD program? A short training program will tend to have smaller potential to impact the participant compared to longer more demanding programs. The smaller the training program, the smaller the expected impact (all else being equal) indicating that a larger number of participants will be required (statistical power analysis) to measure the expected effect. Longer more in depth LMD targeting KSAs strongly associated with the outcome of interest (e.g. farm performance) will be more likely to result in positive conclusive results than trials of shorter LMD not targeting such KSAs. Where possible studies should study training that is ongoing anyway (and so funded anyway) to reduce the additional resources required to alter the training and subsequently measure impact.

## Section Two Summary

- No centralised register of LMD activity delivered to UK farmers exists. It would be difficult to achieve this in any case because LMD is delivered and consumed by farmers in a myriad of different ways. Informal learning takes place a farmer reads an article, watches a video or attends an event where experts or farmers are engaged in discussing or demonstrating leadership or management
- The bodies delivering education and training to the industry do not present a collective voice to exert influence on government policy nor determine a common framework for LMD in the industry
- Generally, the operational nature of the managerial roles focuses attention within the industry on immediate concerns rather than long-term development needs
- In the course of this research it was difficult to assess what influences the content and approach of management courses offered to UK farmers. There is clearly diffusion from the practitioners and theorists of management not specifically aligned to agriculture and a strong emphasis on helping students understand the context of farming in the wider world. However, there is no strong evidence that development needs are assessed in a robust or meaningful way. Neither did we find concrete evidence that courses have been developed with any strong alignment to improving traits and competencies that have been linked to improved farm business performance
- In many instances of LMD activity offered to farmers there appears to be a lot of emphasis on leading others. This is certainly of value to larger farm businesses, but many farms do not have employees and are essentially managed and run by a few family members. This being the case, LMD needs to reflect their needs and challenges
- Compared to Scotland and Wales the supply of LMD opportunities to farmers in England is woeful. The reasons behind this are not fully understood and are probably worthy of further research. One very clear difference is that both the Welsh and Scottish governments have involved themselves and strongly backed initiatives to improve LMD skills of farmers
- Formal classroom or seminar-based training delivered off farm dominates the delivery. This runs counter to the direction of travel in the non-farming sector where content is delivered increasingly in the workplace at the time of choosing of the learner. There are some positive examples of innovation in England with the Tesco Future Farmer Foundation, the AgriLeader programme and the digital EFM programme
- Leadership courses tend to be oversubscribed with most turning away two to three times the number of applicants. Many courses are offered for free, presumably because those offering the courses believe farmers will not pay for this type of training.
- Offering free training is likely to be crowding out commercial training providers from entering the sector to provide training but there are pockets of high demand from some suppliers (e.g. Focussed Farmers) indicating the need for these services
- It is well known that UK agriculture TFP has lagged behind leading European countries and the USA. It has not been possible to assert that this is because of a failure to apply

technology or to organise its resources more efficiently. Related to this, section one of this report clearly indicates a strong link between leadership competencies and farm performance. While this also applies in other countries it does indicate an underutilised lever to close the gap in productivity

- When assessing LMD activity, there should be two distinct modes which should be clearly differentiated. The first and most common are the ongoing routine assessments of participant engagement, satisfaction, and learning. These provide good indications of quality and impact on participant intentions. The second mode, which has only once, as far as we are aware, been done in agriculture <sup>8,9</sup> are one off resource intensive studies where associations between LMD and actual outcomes on farm businesses are measured in a rigorous way to discern the likely impact of the LMD (economic or otherwise). Furthermore, to prove an LMD's benefit (beyond discerning the likely benefit) experimental or pseudo experimental design is required to address participant self-selection bias. Such a robust study has not yet been reported in agriculture
- Finance alone may not be a big enough reason to justify LMD activity. If it leads to better health outcomes, planet outcomes or social outcomes for the farmer or for other members of society this provision of "public good" should and could be justified as a worthwhile area for public investment

## Section 3. Enablers and Barriers to LMD participation and application

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The circumstances of the majority of individuals either currently in Leadership and Management roles in UK farming businesses or having the potential to be future Leaders and Managers, are such that they themselves have to make a conscious, positive decision to participate in LMD and subsequently apply its learnings. Whether or not they do so is the underlying purpose of this section. In addition, it aims to:

- Explain how adult learning is different to college and school learning
- Describe the drivers and motivators both internal and external to farmers increasing LMD activity
- Describe the barriers both internal and external to farmers increasing LMD activity
- Explore the implications of age on learning inclination
- Consider the impact of family on LMD

### 3.1 Adult learners

As referenced earlier in the report, in part this is to do with the circumstance of the day to day farming business structure within which they operate. However, it also reflects that they are predominantly "Adult Learners". The term andragogy was first used by the German educator Alexander Kapp in 1833 and according to Knowles and Kearsley<sup>59</sup> andragogy is the art and science of adult learning, thus andragogy refers to any form of adult learning. Knowles identified 5 characteristics of adult learners (andragogy) that are different from the assumptions about child learners (pedagogy).

#### 3.1.1 Self-Concept

As a person matures his/her self-concept moves from one of being a dependent personality toward one of being a self-directed human being.

In a farming context: Within the social hierarchy of a farming family, if the majority of learning is derived from a dominant senior partner, then a junior partner may remain as a dependant personality for longer, and develop later as a self-directed person, thereby delaying their evolution to be an adult learner. This delay might be exacerbated if the nature of the farming activity is such there are always plentiful alternative day to day tasks that the farming leader/manager could be attending to. To unlock the motivation of an adult learner, they need to understand the significance of the learning activity, to understand why it matters. They may need to be involved in the planning and organisation of the learning.

#### 3.1.2 Adult Learner Experience

As a person matures, he/she accumulates a growing reservoir of experience that becomes an increasing resource for learning.

In a farming context: the greater the existing off-farm experience of the farmer, be that in being exposed to new experiences or meeting new people, the more emboldened they are likely to become to learn more and the wider context they have to be able to apply new learning and contextualise it to their own relevance as helpful or not. An early introduction to learning interventions creates a habit. Mistakes are also a source of learning to the adult learner, so having an environment where the farming leader/manager can share mistakes could be more conducive to learning.

### 3.1.3 Readiness to Learn

As a person matures his/her readiness to learn becomes oriented increasingly to the developmental tasks of his/her social roles.

In a farming context: assumed responsibility or expectation of others plays a large part in the motivation to learn. A younger adult taking over the reins of the family business (enforced or otherwise) is more likely to focus on their development at an accelerated rate. An individual appointed Chairperson of a farming group may accelerate their learning more quickly because of the responsibility of their role. Many adults require the impetus of a formalisation of their position (perhaps a designated title) in order to push on with their own development. E.g. contrast the resonance of the term “farmers son/daughter” with that of “farm manager”.

### 3.1.4 Orientation to Learning

As a person matures his/her time perspective changes from one of postponed application of knowledge to immediacy of application. As a result, his/her orientation toward learning shifts from one of subject centeredness to one of problem centeredness.

In a farming context: when something needs sorting, it gets done. All available resources, whether external or internal, will be applied such that a practical solution is found to enable the business to continue its practical processes or its contractual commitments to buyers/suppliers at that time. Farming leaders/managers will benefit from understanding the immediate application of their learning. This raises the challenge as to once the problem is solved as to how much of the learning is embedded for future reference.

Orientation to production, which in a farming context means getting through seasonal and daily workloads, can delay or even depose and orientation to learning about other important managerial and leadership functions. This may include marketing, strategic and business planning, human resource management and diversification.

### 3.1.5 Motivation to Learn

As a person matures the motivation to learn is internal.

In a farming context: the environment (physical, mental and emotional) in which the learning activity occurs will benefit as being one in which internal psychological factors such as self-esteem, recognition, better quality of life, greater self-confidence or the opportunity to self-actualise are fostered. When considering LMD for farmers, this raises the question of how many of them want to be leaders and managers, and whether labelling LMD activity as “leadership and management” is motivational or not, and would it be more attractive if called something else?

## 3.2 Barriers and enablers to learning

In the context of these 5 characteristics, a distillation of the factors and forces both encouraging (enablers) or discouraging (barriers) farming personnel to engage in LMD activity can be considered. These can be viewed through a prism of both “internal” or “external” forces, where internal factors relate to the individual person’s experience, personality traits and character (not the business itself of which he/she is part or the outside world) and external factors are external to the individual (relating to their own business situation or the macro environment).

We have viewed “engagement” as both firstly attending the development activity in the first place and secondly, effectively applying the learning afterwards.

In this vein, it is critical to stress that in practice this distillation is specific to the individual learner's personal circumstances. Nonetheless, we have considered these factors in tables 3.1-3.4 below in what we consider to be their varying degree of influence across the population of current UK farming leaders and managers.

### 3.2.1 Internal enablers and barriers

Internal enablers and barriers are psychologically driven. The individual will be motivated towards achieving a better version of themselves by increasing self-esteem, increasing security and wellbeing. They will be demotivated by fear of failure, lack of drive and energy and an inability to see how LMD will increase their sense of self-worth.

**Table 3.1: Internal Enablers (Internal to the Individual)**

<b>Enabling Factor</b>	<b>Relative Influence</b>
The extent to which I understand how the activity can immediately relate to a practical real-life problem/challenge on my farm	XXXXX
My degree of comfort of being among peers who understand the challenges and support me when I make mistakes	XXXX
The extent to which I feel strongly encouraged and facilitated by respected peers and role models to whom I can relate, (not necessarily industry icons or leaders) "member gets member" works	XXXX
The extent of my early work experience on other farms and of being managed and led by many different individuals	XXXX
The extent to which I feel comfortable that my work at home will not suffer	XX
The extent to which the activity enhances my sense of belonging, of "being in a club"	XX
The formalisation of my role as a leader/manager. The extent to which I am given the "licence" to be the leader/manager and not be an "imposter"	XX
An activity that I can partake in or share with other family/business members	XX

**Source: Promar International**

**Table 3.2: Internal Barriers (Internal to the Individual)**

<b>Barrier Factor</b>	<b>Relative Influence</b>
Over strong work ethic and sense of duty in completing immediate day to day tasks	XXXX
Risk aversion	XXXX
Heavier weighting to cost consideration than potential benefit in decision making	XXX
Fear of failure and fear of ridicule	XXX
Lack of personal appetite for change	XXX
Weakness and/or absence of personal vision	XX
Inability and/or confidence to delegate	XX
Aversion or prejudice against school or book learning	XX
Do not see themselves as leaders/managers, a case of imposter syndrome. "I am a farmer" - focus and psyche is on survival, not excellence	XX
Inability to research the value of potential learning solutions or the access points to available interventions	X

**Source: Promar International**

### 3.2.2 External enablers and barriers

Anything which makes it easier for the individual and appeals to their belonging needs will increase participation. The opposite applies for barriers to learning.

**Table 3.3: External Enablers (External to the Individual)**

<b>Enabling Factor</b>	<b>Relative Influence</b>
The intervention is in hard facts and reality, not concepts	XXXX
Timeliness i.e. responsive and flexible enough to be 24/7 with a personal touch and support	XXXX
The intervention is delivered by a genuinely trusted and credible source of delivery	XXXX
Available when the weather and season is right for learning	XXX
The intervention is available on farm (digital or F2F)	XXX
The intervention is social and bitesize	XX
Having an existing challenging and visionary mentor or mentors. (akin to non-executive directors)	XX
Financial support for participation	X
A dramatic change in the circumstance of the industry e.g. tariffs	X

**Source: Promar International**

**Table 3.4: External Barriers (External to the Individual)**

<b>Barrier Factor</b>	<b>Relative Influence</b>
A dramatic change in the circumstance of the business e.g. death, divorce, illness of others or diversification (not just growth alone)	XXXXX
"Chunky" as opposed to "bite size" nature of interventions	xxxx
Non retirement of preceding managers/leaders i.e. lack of formal opportunity	xxxx
Lack of subsequent practice and opportunity to experiment post existing intervention	xxxx
Lack of exposure to wider management and leadership away from own farm - born into the business	xxx
Limited fear of "dismissal" or immediate business failure	xxx
Lack of recognised certification/accreditation ladder	xx
Inadequate career planning and advice	xx
Gender imbalance and lack of wider diversity/new blood	xx
Too many discussion groups, too many shows, whose primary focus is technical	x
Inadequate WIFI and/or insufficiently suitable hardware	x
Return on investment is poorly illustrated and promoted	x

**Source: Promar International**

### **3.3 The home and family muddy the waters of LMD**

It is impossible and irrational to gloss over the very significant differences between a farm business, most other businesses and large businesses and the impact these have on L&M and the development of both. Whole books have been written about family business management<sup>28,29</sup>. There are institutes and magazines dedicated to studying the topic and, in some countries, University departments dedicated to researching it. In UK agriculture most businesses are owned and controlled by family members. Apart from succession, where most attention is focussed on protecting and handing over assets, the dynamics of family business management are well ignored in agriculture. This is not a new phenomenon, but it is surprising given that family members have to function well together to run a successful farming business. DEFRA data, shown in Table 3.5 on the following page illustrates this clearly by showing most managers of farms are owners of the holding or family members of the owner of the holding. Only 6% of managers are unrelated to the owner of the business.

Table 3.5: Management of UK holdings

Management Type	Number of Holdings	Percentage of Holdings
The holder is also the manager	157,556	86
The manager is the holder's spouse	4,594	2
The manager is a member of the holder's family but not the spouse	10,918	6
The manager is not a member of the holder's family	5,581	3
The holding is run by a manager for an organisation	5,181	3
All	183,829	100

Source: DEFRA 2016, Agricultural labour in England and the UK – Farm Structure Survey 2016

Relationships at work, the separation of work and home, the way goals are set, and decisions are made, and the symbols of success are quite different between the two camps of family and corporate firm. Yet, there is a good deal of attention paid towards making family businesses operate and behave like a corporate entity. Take leadership as an example. A corporate MBA, often seen as the pinnacle of leadership development, would not be wasted on anyone but a family business owner studying for one is unlikely to learn much about solving the problems that are unique to family firms.

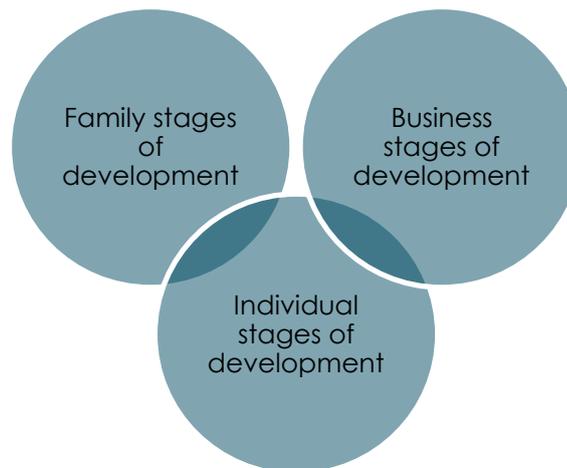
Table 3.6: Key differences between corporate and family owned firms

Theme	Corporate entity	Family Owned firm
Relationships	Fact focus Contractual Outward orientation	Tight family bonds Love & hate Inward orientation
Housing	Separate work & home Mortgage & retirement	Work is home Probably won't retire or retire late
Goals	Determined by owners Generate profits Develop skills	Generate a living, build wealth Develop self esteem Grow adults
Symbols of success	Promotion/position Company car Reputation Nice home - consumer goods Holidays	Local reputation - ranking Equipment & Infrastructure Farm size, herd size etc Home
Leadership talent pool	Anyone with relevant experience Competitive labour market	The family Siblings

Source: Promar International

The inseparability of family, the individual and the business has significant ramifications for development and poor progress in one area is likely to limit development in another. This has been captured well by Bork et al. in their book Working with Family Businesses<sup>30</sup> in which they commend an integrated view of this trinity. This is illustrated in Figure 3.1

**Figure 3.1: The integrated view of family individual and business stages of development**



**Source: Working with Family Businesses**

The implication of this is, in our view, extremely significant for LMD in agriculture which is dominated by family firms who wrestle with the challenges of family and business daily. This may well be at the root of challenges around participation. Ideally the development of the business and the individual need to be in synch. This may not be possible if the individual is immature or coming to the end of their career. For some, success of the business may not be the priority or even the second or third priority. Addressing feelings within the family or failing to tackle disharmony will easily prevent the simplest aspects of business ineffectiveness from being addressed.

Within agriculture there is a tendency for LMD to completely ignore or only deal very superficially with the challenges of family development, perhaps limited to succession planning, when the issues are much wider than this. Every phase of family development has its own unique set of joys and challenges including developing trust and understanding; Working through differences in lifestyles and habits and merging the cultures they bring from their families of origin are important tasks the person entering business family may find. For example, he or she is marrying into a business and taking on a new set of responsibilities. There may be intergenerational differences in what commitment to the business is expected and sibling rivalry leading to family wars has been the undoing of many family business.

Levinson<sup>60</sup> has outlined the challenges of individual life stages in adult development. This is summarised in Table 3.7 and shows that in younger phases of adulthood individuals are more open to new possibilities. This can bring tensions with the older generation trying to cement their legacy or trying to hang on to what they achieved in their youth. At every stage the individual will perceive themselves to be succeeding or failing in some way or another and this will impact on their motivation and energy towards the family and work.

Table 3.7: Life stages for adult learners

Age	Stage	Challenge
17-28	Entry to adult world – <i>Experimenting</i>	Dreaming Exploring possibilities Making career choices
28-40	Settling down – Gaining prestige	Becoming successful (making a mark) – risk appetite and ability tested Creating a family
40-55	Midlife – Period of reflection	Building on early success – create stability Getting to grips with limitations Pursuing other interests
55-65	Pre-retirement – Transition	Create the legacy Sustain youth while facing bodily decline Pass on authority
65+	Retirement	Find integrity and meaning in later life

Source: After Levinson

The implication of this is that younger people exploring life choices are inevitably far more open to exploring what the industry has to offer and taking on new ideas. Psychologically, as an individual move through life stages, and the inevitable ups and downs of life, the battle scars can weigh heavily against taking on new risks and learning new skills. This is another reason why traits like resilience and conscientiousness along with self-awareness are so fundamental to openness to learning. Unless the individual realises their emotional state is, above all else, the brake on the development of themselves and their business they are likely to remain stuck doing what they do. Henry Ford put it far more succinctly by noting “If You Always Do What You've Always Done, You'll Always Get What You've Always Got.”

Within this maelstrom of family and business life some of the same issues that are experienced in a corporate setting exist. Who wields power, are people treated fairly, who gets to do what, cultural norms and privacy are ever present in all businesses, but, probably because there is no escape, they are magnified and multiplied in a family setting.

In comparison, it is far easier to adjust who works in a corporate business. If new talent is needed it can be recruited. If individuals are not contributing, they can be redeployed, retrained or removed at every level of the business. In a family business setting, particularly in a small family business, the pool of talent is the family and removing someone from this setting is extreme, has long term family implications, and is therefore only encountered rarely.

Generational renewal in agriculture is a concern for many policy makers in the UK and one that is shared internationally. Successful transfer of farms between family members can be problematic due to a complex mix of personal, social and cultural reasons, as well as fiscal and financial disincentives and structural and legal constraints. Land market immobility, poor access to credit, persisting income gaps between the primary and the other economic sectors and a lack of proper provision for managing the transfer process ensuring a respect of the older generation can all deter generational renewal, with negative impacts on sustaining farm employment into the future.

Because farm businesses are family businesses and because individual, family and business development are inseparable, future development initiatives targeted towards this set should not paper over family issues or family development. At the very least it should inform how all development activity is designed to be delivered and targeted. Ideally it needs to go beyond

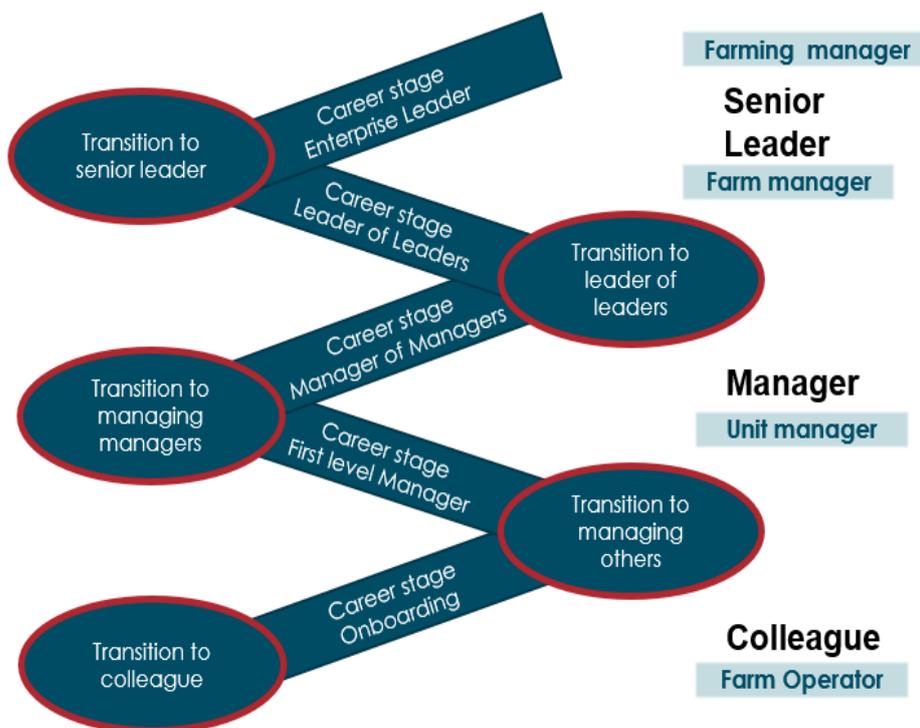
these and incorporate content that helps farmers to understand, navigate and improve family development.

### 3.4 Building the leadership pipeline

Developing behavioural traits is very different to developing management skills. These can be demonstrated and learnt through direct experience and would include management tasks like producing a cashflow, hiring a new member of staff or negotiating the price of inputs. In contrast behavioural traits, like conscientiousness, cannot be developed as much by showing and telling, instead they require a high degree of self-awareness, and more mindfulness around the process of development. In simple terms it is all about “You” the learner and not about a task or a process. However, being aware of your emotions and feelings when you carry out management tasks is yet another example of the indivisibility of leadership and management. For this reason, there is inevitably a need to develop both management and leadership ability simultaneously or side by side. Ram Charan and fellow authors in the Leadership Pipeline<sup>26</sup> illustrate the passages all leaders go through as they experience management and leadership.

Without prior experience it is almost impossible to accumulate the knowledge and skills in leadership and management needed to move to the next level. In this regard learning is never independent but instead relies on the accumulation of skills and experience. For example, the experience of ploughing is needed before helping others to perform successfully at this task. At the next level, manager, the emphasis is on divesting tasks and delegation. Knowledge of the tasks are important, but communication and planning skills become more relevant. At a more senior level the manager is faced with making strategic choices and dealing with a much wider group of stakeholders including suppliers, customers and lenders to name a few. Influencing those at the base of the pyramid and knowing what is going on there gets more difficult for someone at the top of the organisation. This can generate frustration on the shop floor with the impression that managers don’t care or don’t understand and at the head of the organisation where change efforts and strategies, which rely on cooperation at all levels, wither and die.

Figure 3.2: The Leadership Pipeline



Source: Charan<sup>26</sup> The Leadership Pipeline

## Section Three Summary

- No one is born with natural leadership talent and ability. It is learned throughout life through education, experience, exposure and evaluation (by self and others). L&M talent accumulates along the way to increase the capacity of individuals to accomplish more themselves and more through the commitment of others
- Adult learning is different to school and college education. The learner expects it to solve problems specific to their own needs and be delivered in a way that fits with social needs and prefer to be involved in how their training is planned and delivered. They want to be able to practice and apply what they have learned
- Internal drivers to increased LMD include the extent to which the learner perceives the activity will increase their sense of self-worth, the achievement of their life goals and sense of belonging to a group or their family
- Internal barriers that will reduce engagement are the opposite of the above. In addition, they are likely to eschew activity if they have negative views beliefs towards learning based on past experiences. An overly strong work ethic and task focus will smother the opportunity to learn and improve. Fear of being made to look foolish and not fitting in with other delegates are high barriers for some
- External drivers to LMD will include having activity which fits around their work with the least amount of disruption that is delivered by a trusted and credible source. Any form of Individual support and guidance, such as mentoring and coaching, will accelerate the learning
- External barriers arise from not being able to put into practise what has been learned and a lack of opportunity to become a leader
- Motivations for LMD in corporate non- family owned firms are more strongly directed to promotion and advancement than in family owned firms which farming businesses mostly are. This makes promoting LMD more difficult with farmers
- Farming businesses are mostly family businesses and there is little separation between home life and work life. Navigating the trinity of the individual, the family and the business to achieve success in all three dimensions is helped and hindered by this togetherness. However, it is real, cannot be ignored and ideally, ought to be accommodated in any LMD activity targeted at farmers
- Leadership development that is made to feel elitist or is directed towards particular type of farmer will only appeal to a niche. Broadening the relevance of LMD to all farmers is the surest way to increase engagement
- Younger people are more open to exploring possibilities and in their early career become increasingly focussed towards achieving career ambitions. They are more open to LMD activity at this stage of their career. In mid-life and beyond leaders and managers are naturally more interested in building on early success, passing on authority and getting to grips with their limitations. At later life stages, anyone who has hitherto not been engaged in LMD activity is unlikely to start

## Section 4. Future industry challenges and the implications for LMD

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### Purpose of this section

- Set the industry context for LMD from 2030 and beyond
- Consider the implication of external factors on LMD
- Define the competencies needed to succeed in the future ag environment

### 4.1 Future industry challenges

In agriculture factors at work in the macro environment are constantly changing as the interplay between technology development, population growth, changing consumer behaviour, environmental issues and the agricultural labour force (including farmers themselves) evolves. While the forces are myriad and to a great extent highly unpredictable it is possible with a reasonable degree of certainty to pick out certain megatrends that will shape the way in which land is managed, food is produced and sold.

The successful managers and leaders of the future will be those who are most able to build and manage businesses which are resilient to these forces and are able to maximise the opportunities they create and minimise the threats they pose to a farming business.

Megatrends which will shape the future for all agri-businesses and society at large include:

- Technology & digitisation
- Population growth & increased demand for food
- The environment
- The marketplace & future support payments
- Social change & rise of the concerned consumer

#### 4.1.1 Technology and Digitisation

The nature of farm work has changed significantly in many places, as machinery and technology have replaced manual labour input or shifted the balance of activities on farms. A general trend has been a diminishing share of work devoted to manual tasks and more prevalent management and business/accounting processes; while the proportion of farmers with businesses that have diversified to rely upon multiple income streams, has grown.

Technological innovation is a key factor for improving agricultural productivity and maximizing food supply through higher yields, but technological progress also increases the productivity of agricultural labour (i.e. the same yield can be obtained using less labour). As a result, technological progress tends to be associated with a lower demand for labour in general, concurrently with a higher demand for specialised and skilled labour.

The process of substitution between human and mechanized labour has seen a change over the last 15 years with the introduction of digitized agricultural technologies. Nowadays, the introduction of robots and artificial intelligence (AI) allows for the automation also of non-standardised tasks (e.g. milking, fruit picking, selective weeding, crop sensing etc.) previously reserved for human workers. However, there are many jobs in the agriculture labour market which are complex and characterized by unpredictable and varied environments, in which humans play an essential and non-replaceable role. For these jobs there is complementarity between humans and machines rather than substitution. This complementarity occurs through the implementation of machine learning approaches on various cognitive tasks, such as yield prediction, disease detection and soil conditions identification. As a result, while a number of

manual and repetitive tasks could be entirely replaced by automation, the skilled and cognitive agricultural jobs will increase and be augmented with AI.

Currently, technology-intensive farming is associated with the introduction of digital innovations such as remote sensors, robotic vehicles, automatic irrigation systems, and other smart farming technologies. The concentration of the farming sector due to increasing farm size combined with declining number of farms is also accelerating the adoption of technology-intensive farming practices globally, as larger farms are financially more able to adopt new technologies, reducing labour and inputs costs. The current trend towards a technology-oriented agricultural sector will demand higher-skilled labour force. Managing and leading this type of worker will be different to that where the worker is essentially being supervised to complete practical tasks.

#### 4.1.2 Population growth and increased demand for food

Over the last century, the global population has quadrupled. In 1915, there were 1.8 billion people in the world. Today, according to the most recent estimate by the UN, there are 7.3 billion people and we may reach 9.7 billion by 2050. This growth, along with rising incomes in developing countries (which cause dietary changes such as eating more protein and meat) are driving up global food demand.

Food demand is expected to increase anywhere between 59% to 98% by 2050. This will shape agricultural markets in ways we have not seen before. Farmers worldwide will need to increase crop production, either by increasing the amount of agricultural land to grow crops or by enhancing productivity on existing agricultural lands through fertilizer and irrigation and adopting new methods like precision farming.

**Table 4.1: Key Facts relating to food demand<sup>33</sup>**

- Arable land ha per person 0.192 now – 0.15 in 2050 (-22%)
- 12% of the land on our planet used for agriculture
- Each year 80 million more people must be fed<sup>34</sup> 70% more food needed by 2050
- Agriculture uses 70% worlds water
- 84% crops depend on pollination
- Between 33 and 44% of all produced globally is never eaten

It follows that future farmers will be encouraged to produce more food and less of it will be wasted.

#### 4.1.3 The Environment

Utilisation of land resources through the agricultural industry has had major consequences for the ecosystem. The recent IPCC Special report on Climate Change and Land stated with high confidence “the current geographic spread of the use of land, the large appropriation of multiple ecosystem services and the loss of biodiversity have been unprecedented in human history” (IPCC, 2019<sup>35</sup>). The management of the land has ramifications for the climate system due to the interference with carbon sinks and sources. Deforestation, livestock domestication and fertiliser use have all had negative impacts on the climate and contributed to anthropogenic climate change. The inexorable link between the land and agriculture means the detrimental effect agriculture is having on many supporting and regulatory ecosystem services, as well as the threat of unpredictable and extreme weather conditions brought from global climate change, will in turn affect the productivity of the agricultural industry itself. Without drastic interventions agriculture will become an even more difficult and high-risk industry and potential dramatic changes to the environment will affect the ability for farmers to be able to harness resources from the land and feed the human population.

The change in Agricultural Policy for the UK has frequently been publicised as one of the positive outcomes of Brexit with a potential to have a greater positive impact on the land

ecosystems in the UK. The new policy will be “underpinned by payment of public money for the provision of public goods”. The direction of the new UK Agriculture Act focusses the public goods as environmental outcomes. Under the Bill public money can be spent on enriching wildlife habitats; flood prevention; improving air quality; soil and peat protection; and tree planting. These incentives and regulations will address a wide range of environmental concerns.

### **Soil quality (sustainability concerns)**

Issues here are contamination, erosion, desertification, nutrient supply and moisture balance. Soils can be damaged by changes in land use practices such as deforestation, the removal of hedgerows, overgrazing, neglect of soil conservation methods or the farming of uncultivated land.

### **Water quality and quantity (pollution concerns)**

Issues here include leaching of nutrients and pesticides, water extraction and drainage and flooding. Contamination of both ground and surface waters caused by high levels of production and use of manure and chemical fertilisers is a serious problem, particularly in areas of intensive livestock or specialised crop production. Water quantity problems arise in regions where water consumption exceeds critical levels in relation to available water resources. A growing area of farmland in Europe is irrigated, and agriculture is the most significant user of water in the Mediterranean parts of Europe. How best to allocate limited supplies of water among competing uses is an urgent issue of concern.

### **Air quality (pollution concerns)**

The issues here are emissions of greenhouse gases and ammonia. At EU level, agriculture is responsible for about 10% of total greenhouse gas emissions<sup>61</sup> but is the principal source of methane (from cattle production) and nitrogen oxide (from grazing livestock) contributing around 40% of these two gases.

There is strong academic consensus that climate change–driven water scarcity, rising global temperatures, and extreme weather will have severe long-term effects on crop yields. These are expected to impact many major agricultural regions, especially those close to the Equator. For example, the Brazilian state of Mato Grosso, one of the most important agricultural regions worldwide, may face an 18% to 23% reduction in soya and corn output by 2050, due to climate change. The Midwestern US and Eastern Australia — two other globally important regions — may also see a substantial decline in agricultural output due to extreme heat.

Yet some places are expected to (initially) benefit from climate change. Countries stretching over northern latitudes which are mainly China, Canada, and Russia, are forecasted to experience longer and warmer growing seasons in certain areas.

The NFU has made the ambitious commitment to make the UK agriculture industry net zero for carbon emissions by 2040 but also highlighted how it cannot be the case of offsetting the problem elsewhere and there cannot be the hypocrisy of a trade deal from Brexit, increasing imports from countries that contribute more to climate change.

### **Biodiversity (conservation concerns)**

Issues include genetic, species and ecosystem diversity. The intensification of agriculture has led to widespread reduction of species and habitats. However, about two-fifths of the EU's agricultural area remains under low intensity systems - mainly either grazing land under various systems of livestock management or permanent crops under traditional management. They support semi-natural habitats and wildlife species of conservation importance, but may face

the threat of abandonment or of intensification. These threats may be intensified in a future environment of high food prices in response to growing food and biofuels demand.

### **Landscape (amenity concerns)**

More an aesthetic and cultural issue. The marginalisation of agricultural land can lead to its abandonment if farming ceases to be viable. Alternatively, intensification of agriculture can lead to the loss of important landscape features such as hedges and ponds, the enlargement of fields and the replacement of traditional farm buildings with industrial structures. Rights of access may be restricted in interests of more efficient farming.

### **Safety and animal welfare concerns**

Issue here is the effect of agricultural practices on human health rather than the physical environment. There is also concern about the consequences for the quality and safety of the food supply of the increasing use of pesticides and drugs, leading to encouragement to organic farming. Negative public perception towards intensively managed livestock is likely to step up the efforts of government and supply chains towards more animal friendly practices.

#### **4.1.4 The marketplace & support payments**

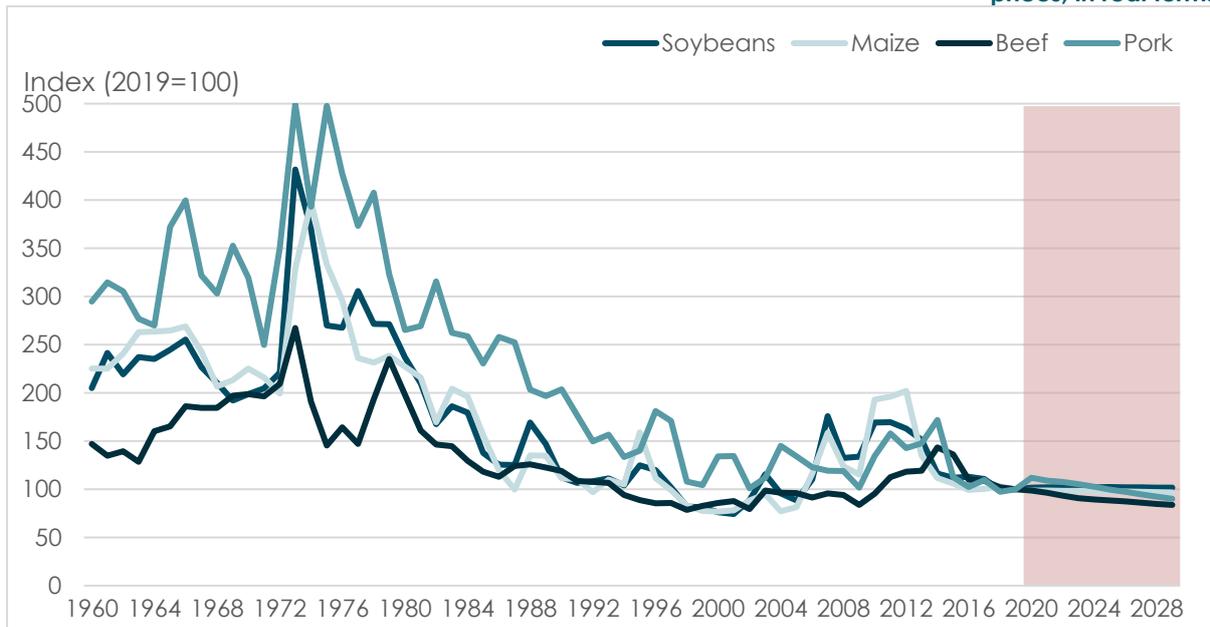
With the removal of intervention and a trend away from protectionism to more liberalised markets farmers have become more exposed to the volatility of commodity market prices as illustrated in Exhibit 4.1. Information is freely available to farmers from AHDB and organisations such as OECD/FAO employ economists with sophisticated forecasting tools to predict ahead. According to OECD/FAO the long term forecast for commodity prices is one of stable or even slightly reduced prices over the next decade. They expect increased demand for food to be offset by productivity improvements by farmers.

However, as we have seen with the Covid-19 pandemic, nothing can be predicted with absolute certainty as short term demand shocks or supply disruption can lead to extreme price movements.

They also predict "Differing income levels and varying income growth projections between countries will lead to diverging nutritional patterns over the coming decade. Consumers in middle income countries are expected to use their additional income to transform their diets from staples to higher value products. Environmental and health concerns in high-income countries are expected to support a transition from animal-based protein towards alternative sources, as well as the more immediate substitution away from red meat, notably beef, towards poultry and fish."

The digital innovation in agro-food supply chains will have important impacts on both supply and demand. Finally, future trade agreements and changing trade relations between several important players will also impact agricultural markets.

**Figure 4.1: Long term evolution of commodity prices, in real terms**



Note: Historical data for soybeans, maize and beef from World Bank, "World Commodity Price Data" (1960-1989). Historical data for pork from USDA QuickStats (1960-1989).

Source: OECD/FAO (2020), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

Economic theory points to a strong link between economic growth and productivity. UK farming has long been found to be slipping behind other global competitors in its productivity ranking. Agricultural productivity growth in the UK lags our major competitors. UK TFP has grown by 18% since 1991, a rate of improvement that has not kept pace with other competitor countries such as the Netherlands (52%) and France (82%)<sup>38</sup>.

**Reduction in direct support payments**

DEFRA has announced changes to farm support payments. The transition will be painful and doubtless bitterly argued, but by 2025 two-thirds of all subsidies are intended to have gone from acreage payments to public goods, and by 2028 all of them. Businesses unable to adapt, either by entering new schemes like the Environmental Land Management Scheme (ELMS) or by improving the performance of their businesses will undoubtedly find making a profit incredibly difficult.

**Table 4.2: Farm business income by farm type and cost centre (£ per farm)**

	Agri-environment payments	Diversified Income	Basic Payment Scheme	Farm Business Income	BPS % Income
Cereals	4,400	19,600	38,100	62,800	61%
General Cropping	5,900	19,000	43,400	84,400	51%
Dairy	4,100	7,400	30,100	84,800	35%
Grazing Livestock	3,900	5,900	15,800	9,400	168%
Grazing Livestock (LFA)	11,300	2,600	25,500	22,800	112%
Pigs	2,600	6,600	13,500	37,700	36%
Poultry	2,000	30,700	13,300	87,900	15%
Mixed	7,000	18,200	32,700	28,900	113%
Horticulture	1,000	18,800	4,000	42,400	9%
All Types	5,300	13,000	27,800	46,000	60%

Source: DEFRA Farm Business Income 2019-2038

Grazing livestock farms and mixed farms will be loss making without direct support and the impact across all farms will be a 60% reduction in income unless the income is replaced with new schemes or new ways are found to improve profitability. These changes have massive implications for all but a few farming businesses requires leaders and managers to be able to plan and adapt to this new world.

#### **4.1.5 Social change and rise of the concerned consumer**

Every generation evolves gradually from the last, some values and beliefs remain fixed and unchanging, but others appear from nowhere. We are all susceptible to the narrative of the news, popular culture and politics and these evolve, as does education, in step with natural events, technology and economic relations between members of society. How we work, how we shop, how we have fun and how we rest are markedly different today compared to thirty years ago and will be hugely different to now in another thirty years. People who grew up in the baby boomer generation form most of the political class which shape our laws. Twenty years from now it will be Millennials and Gen Zs who will be in charge.

The baby boomer generation enjoyed, on the whole, stable jobs and have witnessed massive growth in consumerism. Since the Berlin Wall fell and China opened its doors to economic growth the dominance of older world superpowers has waned. Food policy embraced production, and until relatively recently more emphasis was on production than saving the planet.

Table 4.3: Generational differences

	<b>Baby Boomers (1946-1964)</b>	<b>Gen X (1965-1980) &amp; Gen Y Millennials (1981- 1996)</b>	<b>Gen Z (1997-2015)</b>
<b>Shaped the generation</b>	Post war institutions (e.g. EU), Cold War, Moon landing, Advertising, Thatcherism, Civil Rights, Feminism	Market crash & banking scandal 2008 Terrorism (9/11) – Middle East Wars	Global Warming (Mass extinction) COVID-19, Brexit
<b>Culture</b>	Beatles, 60's, Punk BBC, print media Grammar Schools & Secondary Modern	i-pod, Google, Comprehensives University Education Travel (Worldly) Gender neutrality	Social media, Media on demand, Post Truth Attenborough & Greta Thunberg – environmental activism
<b>Agricultural Policy</b>	Grow more, intensify, guaranteed prices, marketing boards	Market liberalisation Subsidy decoupling BSE, FMD – Protect environment	Paid for public goods, monitored closely to reduce –ve ag impacts
<b>Technology</b>	Pesticides, Chemical fertiliser Hydraulics	Computers, internet Mobile Phone Electronics	Bio engineering Robotics, AI Sensors
<b>Consumers</b>	Advertising, Brands	Big 6 Retailers Globalisation	Online shopping
<b>Compared to previous generation</b>	Endless possibilities - Less religious, more liberal and independent	Feel less secure, embrace digital technology	Care about ethics & social responsibility

Source: Promar International

Fortunately, this generation now recognises the error in this thinking and both global and local initiatives abound to reflect society's demands to protect the planet for future generations. The growth of the internet and digital technology has transformed almost everything we humans do. Camera phones were introduced, and Amazon barely existed 20 years ago, whereas Millennials and later generations have grown up with this technology, it is familiar and as natural to them as a book would be to a child born in the 1960's. It has been shown that the average millennial checks phone 150 times per day<sup>62</sup> and the online grocery market is forecast to grow by 33% in 2020 to reach an estimated value of £16.8 billion.

Looking forward there is no doubt that technology will continue to be the fire that stokes human development. It is difficult to imagine what machines will be used in the home, around us in our daily lives and at work. We have already seen signs though. Who would bet against robotics, bio-engineering and artificial intelligence being mainstream familiar technologies on farms in the future?

Tightening specification and differentiation from food chain and legislation, managing reputation. Food safety and human health is a growing challenge. The COVID-19 pandemic will foster a seismic shift in the way medicines are used and this could have far reaching implications for agriculture particularly around anti-biotic use. Expect to see more a more fearful response to any future disease outbreak be that salmonella, FMD or yet unknown disease.

In the future, wealthy consumers will demand crops are grown and animals reared within healthy ecosystems, favouring more natural diets from sustainable sources, in well managed farms that maintain good soil health and fertility for crop production, manage landscapes and

support biodiversity. Livestock production will be expected deliver high standards of animal welfare, less reliance on anti-biotics and with lower emissions.

Attitudes to work have evolved and this has been reflected in legislation attending to working hours, Health and Safety, discrimination and employment rights. In step with this legislation and societal values workers in future expect to be involved in decision making, to have learning, development and career opportunities and to enjoy similar benefits to workers in other sectors.

## 4.2 Implications for management and leadership

Leaders and managers have no choice but to confront or be confronted by these evolving megatrends or else their enterprise will drift away from the forces that shape the markets they operate in the legislation that governs how they are allowed to conduct business within.

Technology is the primary mover of change requiring careful analysis. It will continue to be the trend that moulds competitiveness, markets and human behaviour. It is difficult to implement optimally and there can be a dangerous risk of innovation bias – “because it's new it must be cool” – whereas the opposite may be true as the technology may be unreliable, unproven and more of a benefit to the seller than the buyer. To counter this, leaders and managers of farms need to be able to stand back and assess how such technology will fit into their farming system, how it will be operated and how it will increase returns. There is a great need to be objective and to seek out independent evidence before embarking on a technology spending spree.

Prioritisation is a fundamental aspect of leadership as increased time spent addressing long term strategic challenges (the megatrends), can only be at the expense of spending less time doing something else. Spending time seeking advice and information on long term, innovation and development strategies that may improve farm performance over time requires a different set of competencies than those involved in the day to day running of a farming business.

Complex administration and high levels of bureaucracy are stated as some of the reasons by farmers for not liking or not involving themselves with government led schemes and industry initiatives. They see it as time-wasting, frustrating and risky. However, there is an inescapable reality that these schemes will make an important contribution to income as well as addressing some, if not all, of the megatrends. Effective managers and leaders will see that finding ways to earn “public money for public goods”, as something to be embraced rather than feared. The digital divide will make it harder for certain farmers and land managers to receive information about government schemes and policy, communicate with government and extension services, apply and conduct administrative work for schemes and use new modernised equipment. This divide is only partly about access to bandwidth, of greater importance is the ability to understand and operate the new technology.

Trust is an important factor in the ability of leaders and managers to adopt an outward facing view of the world. Where attitudes like self-reliance are extreme to the point of disliking any form of outside interference and the world view is of corporations, government and society at large trying to get you. Farmers and leaders with higher social capital, in the form of relationships in the supply chain, with other farmers and with advisors have more information to base decisions on and better access to opportunities.

Changes to support payments, the move towards paying farmers for providing public goods without the prospect of increased prices for what is produced create a perfect storm for producers. Leadership and management ability will need to be entrepreneurial, profit focussed and detail conscious to adapt to these challenges. Moreover, there is no doubt it will create stress and anxiety where income levels cannot be increased. There is ample effort by government and advisory bodies to support the transition but hard to reach farmers and those

lacking these traits could find life incredibly difficult. At a personal leadership level resilience and a growth mindset will come to the fore as enablers for adaptation.

Risk tolerance is a strong influencing factor on farmers behaviour in adapting and adopting new practices. Given the volatility of the industry both in respect to income and climate, many farmers already have a low tolerance to increased risk. Generally, those that are more risk averse are later to adopt new management practices and are often referred to as the 'laggards' in the industry. Effective leaders and managers will have developed better ways to assess risk, better ways to manage risk and more effective ways to mitigate it. In essence they will have more risk management tools and greater proficiency in their choice and use.

Some farming priorities and practices may be hard to change but may not fit with the beliefs and values of society at large. For example, a neatly trimmed hedges may form the identity of being a good tidy farmer. In contrast, the public may see it as another example of habitat destruction. There may well be a polarisation of views around many contentious topics in agriculture and, given the level of misinformation generated across the internet, it is easy to see why fighting back or ignoring is the chosen response. The effective leader and manager see this discourse between his/her own values and beliefs and those of others as something to navigate rather than conquer. This requires a good deal of resilience and self-awareness.

Addressing customer, consumer and societal concerns in a world full of misinformation requires the mindset Steven Covey described in his hugely popular and influential book '7 Habits of Highly Effective People'. Habit 5: 'Seek first to understand and then to be understood',

Covey believes strongly, and this is backed up by the views of many other authors in the leadership field that the way we see the world is entirely based on our own perceptions. In order to change a given situation, we must change ourselves, and in order to change ourselves, we must be able to change our perceptions. To change our perceptions requires high levels of self-awareness in order to increase our awareness of how our thoughts and feelings influence our behaviour to problems, to ourselves and, most importantly to others. Family, workers, other farmers, customers, suppliers, government, advisors, and everyone in society is viewed through a lens and a filter that is entirely governed by our own perceptions, unconscious bias and past experiences. Collectively this can be described as a mindset and every one of us has a different one.

A reduced environmental impact requires a deeper understanding of the science as well as an ability to address information overload and biased viewpoints (Decision making).

Future employees look for meaning, flexibility, growth prospects and challenge in their chosen career. The successful future farm leader is someone who embraces the opportunity to grow people and grow careers. There is no doubt at all that farming can provide meaning and stimulation to someone interested in the most pressing challenges of the day like feeding more people from less land with a smaller ecological footprint. In many situations hard physical work has been relieved by incredible technology and muscle work is replaced by a more cognitive approach to the success of the enterprise.

Investment and improvement in skills are two levers that can be pulled to bring about improvement in productivity. Openness to training and development of self and others – This is needed to equip others to cope with the complexity the megatrends throw up. A more digital world requires more digital capability.

#### **Summary of LMD competencies (in brackets) needed to compete in the future**

- 1** Adapting to and using new technology (Appraisal)
- 2** Balance use of technology with needs and skills of people (Learning)
- 3** Manage risk and maximise synergy across and along the supply chain (Collaborating)
- 4** Investing for long term while continuing to win now (Prioritising)

- 5 Information overload and biased viewpoints (Decision making) Addressing customer, consumer and societal concerns in a world full of misinformation (Trust)
- 6 Navigating the intergenerational minefield (Diplomacy)

## Section Four Summary

- Population growth will increase demand for food. Farmers will need to respond by increasing output and reducing waste. Both of these will require attention to detail and the adoption of new technology. It may also mean that foods consumed in the past, produced with low biological efficiency, will be demanded in lower quantities and farmers will have to compete with foods produced more efficiently
- Technology, especially digitisation, will increase information flows and drive more automation. Farmers and their staff will need to be technologically literate and shift their focus away more towards managing than operating. Investing wisely will be the hallmark of a successful leader
- The link between production and subsidy payments has come to an end. Any future remuneration will need to be earned by supplying public goods. This creates a new risk landscape where farmers are more exposed to the volatility of commodity markets and cannot rely on the public purse to offset it. On offer are new income streams for providing public goods but these will impact on a farm's ability to maximise production. Choosing between maximising production or maximising income from providing public goods in order to optimise a farm's viability will require a high level of strategic planning competence to get the balance right
- Land use and land management is inextricably tied to the most pressing issue of our time. The environmental footprint of farming has to be smaller. Future leaders won't deny this or fight it. Instead they will embrace the opportunities it creates through the provision of public or private goods valued through the reduced impact they possess
- Every generation has a different outlook on life shaped by the world around them and their experiences. Food choices are impacted, job and career choices are impacted, and the laws governments pass are ultimately dictated by the court of public opinion. Whatever the future holds it will be determined by the choices that people make and how farmers react to these, individually or collectively, is what determines how much they are trusted. Future leaders will have developed an acute sense of what is needed to build this trust
- All of these aforementioned challenges and the skills needed to address them can only be addressed meaningfully through a greater commitment by the industry and farmers to LMD. This is the missing piece of the jigsaw to that must be addressed. If it isn't, UK agriculture will fall further behind their international competitors
- Collaboration is needed. It is needed along supply chains to solve ecological problems, ensure security of supply and achieve income stability. It is needed within learning groups of farmers to achieve some economy and efficiency in learning (The Welsh Action Learning groups exemplify this). It is needed between the suppliers of LMD activity to increase the provision of LMD and to measure how effective it is

## Section 5. Prioritisation: what is needed for the future

### Purpose of this section

- Summarise the focus for LMD skills and competencies
- Contrast the behaviours of effective and ineffective leaders/managers
- Link skills and competencies to future industry challengers
- Outline the focus for future LMD programmes

### 5.1 What are the requirements of an effective program?

A report by McKinsey<sup>22</sup> on agricultural transformation highlighted that successful national agricultural transformation plans prioritise their activities. They found that many such plans are over ambitious and fail to focus limited resources. They further noted that conflicting goals and the associated trade-offs should be explicitly outlined so that they can be mitigated.

This McKinsey report should stand as a potent reminder of the pitfalls associated with being too broad and overly ambitious. Goals should be clear. Are we trying to develop individuals who can lead farming businesses or individuals to lead farming organisations? There is far more politicking involved in the second which requires a different skill set. The first requires focussed attention of achieving highly efficient production, the second does not.

This report focuses on developing competent managers and leaders of farming businesses in a focussed way. This means being clear about a relatively short list of skills and competencies that need developing. It also means equipping future leaders with information and resources that are behind the biggest opportunities and threats for their businesses.

### 5.2 Focus for skills and competencies

Section 1 of this report provided the evidence base for six core competencies which are linked to high performing farms. These are set out in Table 5.1 together with descriptors of desirable and undesirable behaviours associated with these traits. There is a logical overlap of these and the three core elements of leadership:

**Leading self** - a focus on self-awareness, managing own emotions, building personal strengths and expertise, dealing with uncertainty and setback

**Leading others** - Engage staff and family towards common goals through effective communication, empowerment, motivation, delegation and by building their skills and competencies

**Leading the business** - The business, financial, commercial and organisational know-how to acquire and utilise resources in an efficient and effective manner. Together with the knowledge, skills, competence and understanding of how to formulate a vision, set a strategy

**Table 5.1: Leadership and Management Framework**

Priorities	Leading Self		Leading Others		Leading Business	
Traits of effective farm leaders	Growth Mindset	Resilience	Inspirational Leadership	Decision Making	Entrepreneurial & profit focused mindset	Detail Consciousness
Desirable Behaviours	<ul style="list-style-type: none"> <li>Embrace change</li> <li>Persist in face of setbacks</li> <li>See effort as the path to mastery</li> <li>Love to learn</li> </ul>	<ul style="list-style-type: none"> <li>Socially adaptive</li> <li>Fearless</li> <li>Recognise power is in your hands</li> <li>Prioritises &amp; delegates</li> <li>Recharge your battery</li> </ul>	<ul style="list-style-type: none"> <li>Inspire a shared vision (for family &amp; workers)</li> <li>Be trustworthy</li> <li>Embrace diversity</li> <li>Empathy</li> <li>Gives and receives feedback</li> </ul>	<ul style="list-style-type: none"> <li>Strategically aligned</li> <li>Evaluate risk and reward</li> <li>Distinguish between facts and opinions</li> <li>Decide without perfect information</li> </ul>	<ul style="list-style-type: none"> <li>Ignite your passion</li> <li>Cultivate your curiosity</li> <li>Convert problems into solutions</li> <li>Risk taking but will never run out of cash</li> </ul>	<ul style="list-style-type: none"> <li>Critical questioner</li> <li>Improves standards and routines</li> <li>Builds better Habits</li> <li>Uncovers blindspots</li> </ul>
Un-desirable Behaviours	<ul style="list-style-type: none"> <li>Defend current state</li> <li>Give up easily</li> <li>See effort as fruitless or worse</li> <li>Know what I need to know</li> </ul>	<ul style="list-style-type: none"> <li>Inwardly focussed</li> <li>Fearful/ afraid</li> <li>Blame others for your predicament</li> <li>Micromanage</li> <li>Working excessively long hours</li> </ul>	<ul style="list-style-type: none"> <li>Feeling trapped and stuck in a rut</li> <li>Low trust in others</li> <li>Expect others to think like you</li> <li>Critical</li> </ul>	<ul style="list-style-type: none"> <li>Over-reliance on emotion</li> <li>Impulsive</li> <li>Procrastination</li> <li>Overly optimistic or pessimistic</li> </ul>	<ul style="list-style-type: none"> <li>Feeling trapped</li> <li>Expect things to stay the same</li> <li>Leave to others to sort out</li> <li>Perceive income and returns are fixed</li> </ul>	<ul style="list-style-type: none"> <li>Accepts problems</li> <li>Defends existing standards and routines</li> <li>Sticks to old habits and ways of evaluating performance</li> </ul>

**Source: Promar International**

It is these desirable behaviours that need to be developed to create resilient and profitable farming businesses. Generally, providing the opportunity exists, those that want to learn will learn. For those that don't, especially those that possess the undesirable behaviours, the route forward is far more obstructed. To encourage a fixed mindset to become a growth mindset is all about getting people to believe in themselves more and seeing new and better opportunities ahead of them.

### 5.3 Focus for industry challenges: 2030 and beyond

Within Section Four the case is made for the external factors most likely to have appreciable impact on agriculture. They are described as megatrends and whilst it is difficult to precisely predict their impact on food and farming it is well established that these factors will shape the farming environment for several decades.

Each megatrend has significant implications for the way in which farms will need to be led and managed in the future. For example, the growth of digitisation, more data and the internet of things mean that man machine interaction will change. In future there will be less sitting on equipment and much more programming and monitoring of operations. Table 5.2 below gives a summary overview of the megatrends and the implication each of them is likely to have for future leaders and managers.

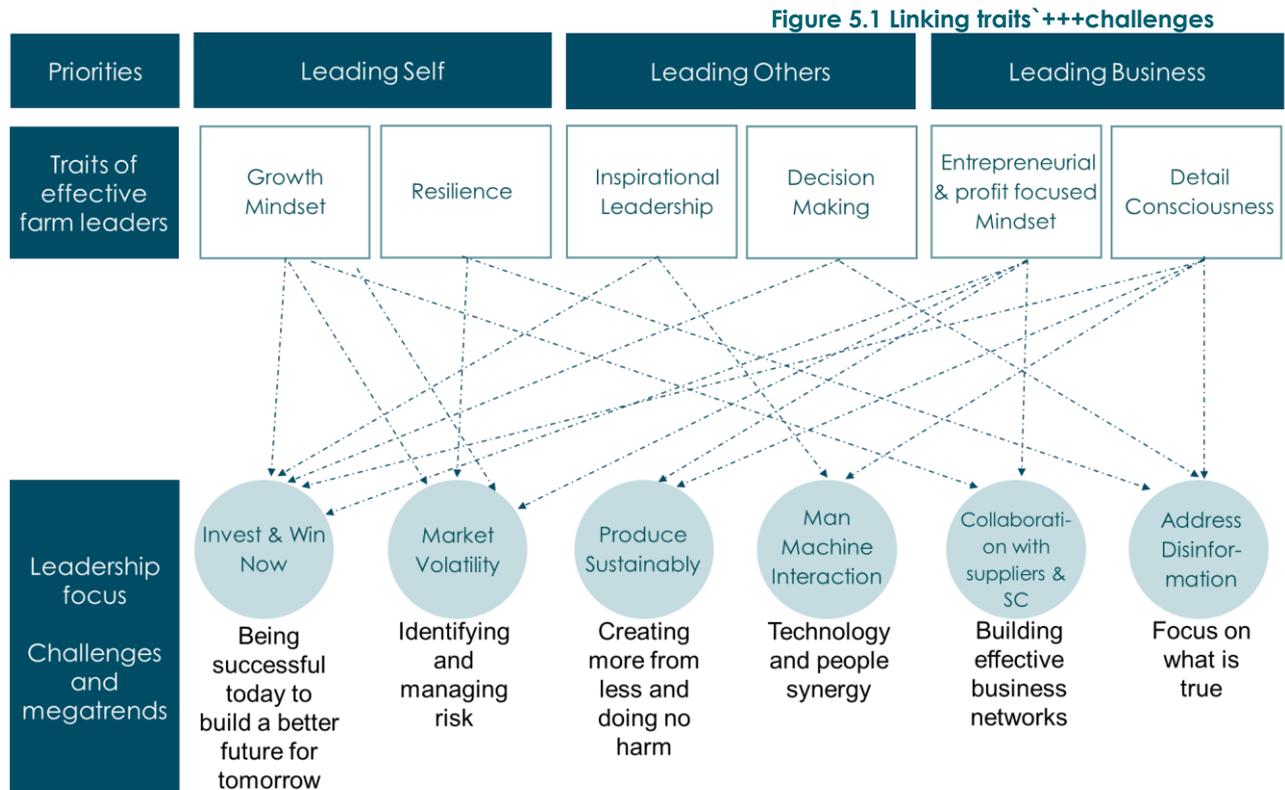
Table 5.2 Megatrends and leadership challenges

Megatrend	Example Opportunities	Leadership challenges
<b>New Technologies and digitisation</b>	Data integration, data collaboration, robotics, AI, sensors	Man and machine interaction Decision making – choice of technology, Investment appraisal
<b>Population growth and increased demand for food</b>	New technologies applied (genetics, soil products, microbiome)	Increasing productivity, reducing waste Increasing calories and protein supply New enterprises
<b>Environment</b>	Decarbonisation & sequestration, competitive renewables, removal, energy preservation, re-forestation, N synthesis, denitrification	Choosing and managing a solution to turn carbon into a source of value (3) Produce more from less
<b>Social change and the rise of the concerned consumer (a) Demand side</b>	Tightening specification & differentiation from food chain and legislation, managing reputation	Managing for quality, conformance and performance – building relationships – addressing false information *
<b>Social change and the rise of the concerned consumer (b) Supply side</b>	Reducing the workday, flexible working, increased autonomy, reward for performance, combine work, leisure and learning Meaningful careers with purpose	Reinvent learning to be continual, flexible and customised Reward packages Work scheduling Responsibility, autonomy and trust

Source: Promar International

In LMD activity going forward it will be important to reinforce the drivers for change and provide sound evidence to back up these claims. However, this is not enough to drive appropriate responses. To do so requires as much, if not more, attention on building the leadership and management capability to address these challengers. If they are heading towards us all with increased velocity, they certainly appear to be, then the rate and urgency for increasing LMD has to keep pace.

Figure 5.1 below illustrates the way in which LMD sits within the farm business, the farming sector and the external environment. It unifies the leadership framework with the external environment.



Source: Promar International

## 5.4 Focus for delivery mechanisms

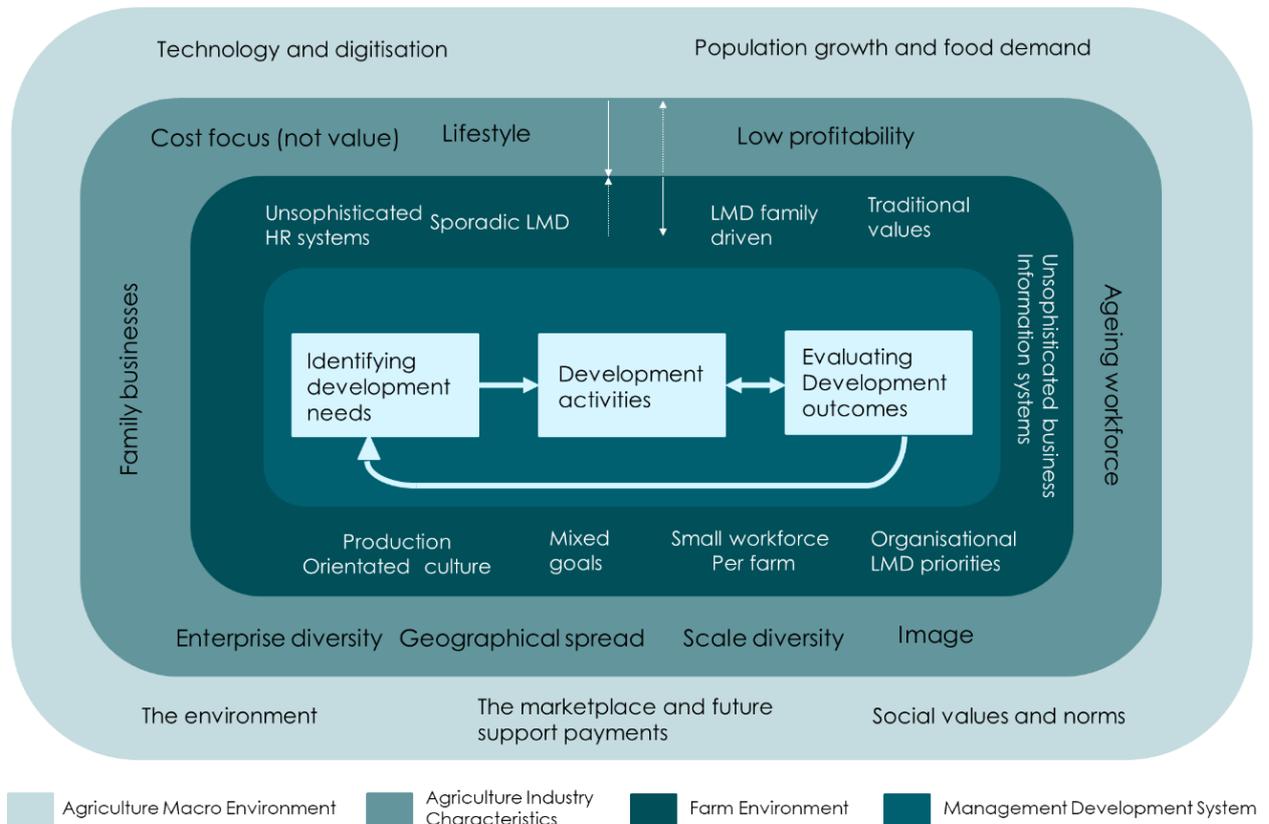
Integrating the skills and competencies required to be an effective farm leader with the external challenges must also reflect the specific challenges faced by farmers. These have previously been described and include:

- Farm businesses are predominantly family businesses
- Absence of sophisticated HR practices
- Learning is cumulative: it starts with good foundations, is built up with experience and gains momentum with planning and feedback
- Production orientation against tight deadlines
- Orientation towards learning changes with age
- High levels of compliance with industry and supply chain standards
- Evolving and transitioning from old to new government farm support measures

It follows therefore that the method of LMD promoted by AHDB should take account of all three elements addressed in 5.2-5.4 above. It can do this by:

- 1 Being consistent in advocating one set of farmer competencies that need to be improved
- 2 Ensuring that farmers are well informed about future challenges
- 3 Providing, supporting and advocating LMD which starts with raising awareness and ends with development pathways available to all levy payers

Figure 5.2 Holistic view of LMD for agriculture



Source: Promar International

Sitting right in the centre of this diagram is a double loop learning flow which is representative of the correct way for adult learners to approach their continual development. This means it is entirely in the context of their farm and the industry it is a part of. It starts with identifying development needs. Next the learner needs to find and choose appropriate learning activity. Assessing the effectiveness of the learning comes next. The following section looks in greater detail and makes recommendations for implementing double loop learning.

## Section Five Summary

- Future leaders will need to adopt the competencies associated with a growth (not fixed) mindset to adapt to the changes in the macro environment
- Resilience is a competence associated with overcoming adversity, dealing with uncertainty and wellbeing. It is associated with a high level of self-awareness and self-regulation and provides the energy to succeed
- To lead others in the changing world includes the interaction not just with employees but also with family members and an extended network of individuals who can support the success of the enterprise. To do this requires developing the competencies of being an inspirational leader such that those being worked with share a commitment to achieving a common vision. However, inspiring others on its own is not enough, the future leader must be capable of evaluating a complex host of alternatives and making decisions
- Farming will remain an endeavour where getting the small everyday decisions right really matters. Margins will always be tight, as food production will always be an endeavour where one supply chain competes with at least one other. To address this the successful future leader will be detail conscious and will have a profit orientation. To meet future opportunities provided by supplying public goods, meeting changing consumer demands

or by diversifying their businesses successful leaders will develop an entrepreneurial orientation

- The future leaders focus will be directed to the five key megatrends on an ongoing basis. These are the need for more food; the economy of the market and support measures; sustainability; changing consumer behaviour; and the demands of future workers
- Being consistent in promoting a relatively focussed and narrow set of competencies based on empirical evidence that corroborates their relevance is going to be far more effective at increasing the L&M competencies than provision based on fads or popular consensus

## Section 6. Future Programme content & delivery mechanisms

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### Purpose of this section

This section contains implementation guidance including how best to deliver development activity to farmers. Crucial to maximising engagement is the need to overcome the barriers and amplify drivers for more LMD activity. Marketing and promotional activity will need to engage with farmer attitudes and demonstrate the payoffs of increasing LMD.

The purpose of this section is to consider how AHDB could contribute to a learning and development pathway for “Future Leaders” There are four main elements to consider:

- Identifying development needs
- Prescribing development activities
- Evaluating development outcomes
- Promoting LMD
- Allocating resources

### 6.1 Identifying development needs

The most commonly used method of determining development needs is a learning needs analysis. This examines the future needs of the business with the current capability within the workforce to identify where training is required. At first glance, this process may appear better suited to large corporate businesses but, according to CIPD<sup>51</sup> is equally important in small businesses.

There are four core assessment types that can be used for identifying development needs, which include:

- Self-assessment of training needs
- Use of an assessment tool to guide the individual
- Third party assessment with an individual outside of the farm business
- AI tools and predictive apps

This report will focus on the two most common methods: self-assessment and the use of assessment tools.

#### 6.1.1 Self-Assessment

Commonly, learning needs analyses are conducted by evaluating current ability against a core set of competencies crucial to the success for the business. Self-assessment of learning needs is effective for individuals who are confident in their ability to drive their own learning forward. Using this method, leaders can assess their LMD needs by reflecting on the below questions against the priorities of their business<sup>51</sup>.

- What skills and competencies are required in the position?
- What skills and competencies will be required in the future?
- In what competencies is the individual already skilled?
- What are the gaps?

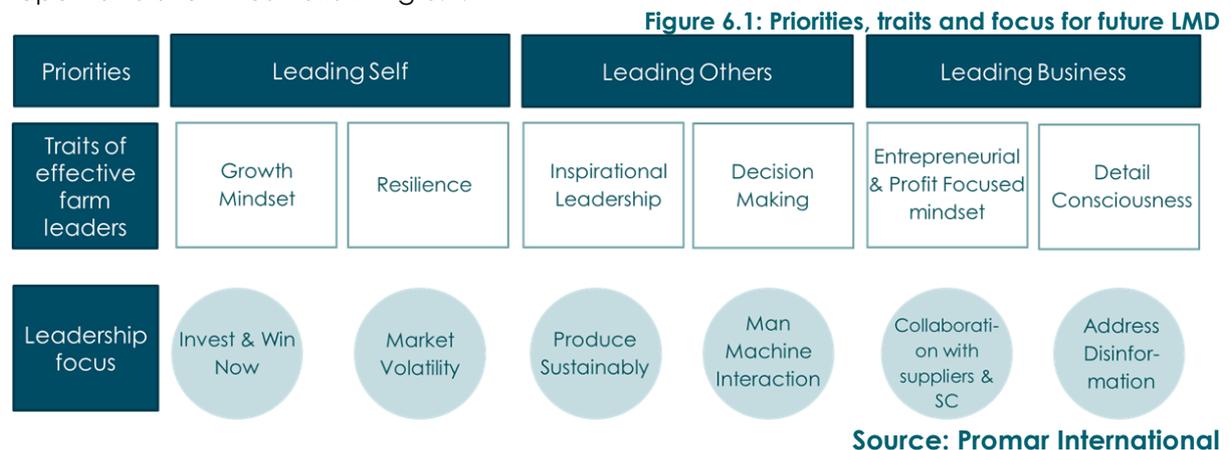
Once the individual has answered each of these questions, they must then set about understanding the activities required to fill the gaps in their current capability. This method is

effective, however can often be challenging if the individual is not experienced in this practice. Equally, a lack of self-awareness can easily skew the outcomes of a self-assessment. This may become a barrier to the completion of LMD and needs to be factored into the provision of targeted learning.

### 6.1.2 Assessment Tool

An alternative method is the assistance of a tool in the assessment of learning needs. This is predominantly used in professions where there is a set standard or performance criteria, such as the CIPD which is the industry body for Human Resources<sup>51</sup>. The CIPD has a set standard which is referred to as the 'CIPD Profession Map' which outlines core competencies and behaviours and is intended to be used as a guide to shape the performance and development of HR professionals. The body has provided a tool called 'myCPD' which measures abilities through a series of ratings completed by the individual. This provides a performance level for each competency and behaviour to help the individual gain an understanding of their current abilities. The tool also offers suggestions of what to focus on to improve performance in that area.

In the scope of this report and the LMD of farmers, a similar type of tool could be developed by AHDB to measure ability against the leadership competencies presented earlier in this report and shown as traits in Fig 6.1.



This approach would be learner-centred which is crucial to the effective provision of learning materials, recognising that each learner brings a different level of experience into the classroom (Bransford, 2000)<sup>49</sup>. As well as providing an accessible tool, this would remove the barriers to learning that we can often face because we simply do not know where to start.

As well as helping learners, AHDB would benefit from this approach as it would collate a wide variety of data on its members and their learning needs in order to guide future learning provision. This would ensure AHDB remains at the forefront of transforming farming while providing LMD opportunities for farmers that are aligned to their priorities.

The challenges of balancing individual needs with the business needs are particularly difficult within family-run businesses where the boundaries between leadership and family relations are often blurred. It is for this reason it is important for leaders in these settings to have a useful and reliable tool to rely on to support identifying development needs.

## 6.2 Development activities

There are three main categories of development activities in LMD: traditional classroom learning, online learning, and blended learning which combines the best of both worlds. Learning opportunities are increasingly taking place online in favour of more traditional

learning methods (Koksal, 2020)<sup>53</sup>. The Covid-19 pandemic only accelerated the demand for online learning, and it appears the demand for digitalised learning will only continue to grow with the possibilities that AI presents in the future.

### 6.2.1 Digitalised Learning

There are several platforms available at present that provide a range of learning opportunities dependent on the learner's needs. These platforms predominantly fall into one of two categories – learning on demand or online courses/programmes.

For learners who prefer traditional learning within a modern context, there are several providers who offer a range of LMD content either free of charge or on a subscription basis. Coursera offers a range of courses to learners from a range of global universities. Users can select from 'Massive Open Online Courses' (MOOCs) and complete courses of varying lengths in order to address their learning needs. These courses are formed of a range of videos, multiple-choice assessments, reflection exercises and further reading. Franklin Covey offers a similar learning method via their online platform which requires a paid subscription to access. While Coursera offers online programmes from a range of sources, the Franklin Covey online content is available in two different formats: live online or on-demand. This content is created in line with their frameworks and provides users with a consistent method of learning with familiar frameworks.

LinkedIn Learning (formerly Lynda.com) offer a combination of online courses using the structure and short videos for 'Just-In-Time' (JIT) Learning. Users must pay a monthly subscription to LinkedIn to access the content which includes over 16,000 videos on a vast range of subject areas. While JIT doesn't guide learners through a set of objectives over a period, it does enable them to access information when they need it. It also recommends content to them to build their knowledge based on their prior activity. The ease of use and accessibility through the LinkedIn Learning app offer great benefits to those wishing to make instant adjustments to their way of working.

All these platforms offer learners the opportunity to access LMD content which can be applied to any industry. There is a tendency for this content to be directed towards leadership in a professional or office-based environment. It can be challenging for learners to transform their learning into a contrasting working environment. YouTube, podcasts, and webinars are increasingly being used as a source of learning for those who are more tech-savvy. These sources are often more focused on the industry specifics than the larger scale platforms, meaning it removes a barrier that the learner must overcome. The ease of access and low entry costs further add to the benefits.

LMD content in agriculture often uses more a traditional method of learning in the classroom as previously explored in this report. Formal learning is typically a one-off event; however, people learn best by doing. Online learning enables continuity which allows the individual to put their new knowledge into practice while continuing their learning journey (Arets, 2018)<sup>47</sup>. The pros and cons of digitalised learning are outlined below:

Table 6.1: Pros and cons of digitised learning

	Pros of digitalised learning	Cons of digitalised learning
<b>Source:</b> <b>CIPD</b> <b>(2021).</b> <b>Digital</b> <b>Learnings:</b>	Volume of learning content available	Requires self-discipline to allocate time
	Ability to personalise the learning	Barrier for those less IT competent
	Continuous learning	Distance between teacher/learner
	Flexibility around other priorities	Removes social element of learning
	Reduced learning costs	Difficult to identify learning need
	Ease of access	Not industry specific

### Factsheets

The benefits of online learning clearly present a challenge for providers as they must compete in a world full of free content, however it also presents countless opportunities. The limitations of online learning must be considered and mitigated where possible through effective content design. This is where learning providers can demonstrate their worth by designing content that is easy to access, as well as valuable and meaningful to their learners.

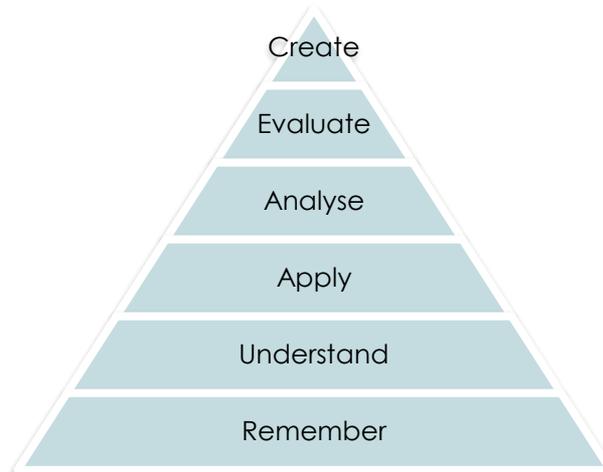
## 6.2.2 Providing Digital Learning Content

According to a recent Forbes article<sup>56</sup>, when looking at total learning hours available, 40% of an organization's hours were spent in a traditional classroom setting, down from 53% in 2018. With that said, it's no surprise that technology-based learning methods accounted for more than half of all learning hours in 2019. Almost 20% of learning hours were used in virtual classrooms in 2019, up from just 11% in 2018. The Association for Talent Development (ATD) estimates that 70% of organizations currently use virtual classrooms.

No one way of delivering content is likely to be successful all the time. Learners are more likely to appreciate a mix of learning methods which could include classroom learning, experiential learning, online learning, seminars, conferences, interactive workshops and study tours.

There are many platforms available that offer providers the ability to create their own platform and content. When designing digital learning content, the ease of access must be considered as a core component to success. System access is one of the key factors found to determine a user's perception of online learning and their intention to use this moving forward (Revythi & Tselios, 2019)<sup>54</sup>. Additionally, content needs to be created with certain frameworks in mind to ensure that learning objectives can be met, and knowledge retained and applied effectively. Best practice shows the importance of considering the intended learning outcomes of any content created. Having clear outcomes will help to direct learners to the most effective LMD available as they will be better placed to match learning opportunities with their learning needs, making more efficient use of the time they have available. Bloom researched this in his work in educational psychology and created the following taxonomy. As learning outcomes move up the hierarchy, the deeper the level of learning required (Bloom, 1956)<sup>48</sup>.

Figure 6.2: Taxonomy of learning outcomes



Source: Bloom (1956).

Further to this, there are four core principles to consider when designing the structure of the content. These are required in equal balance to ensure that learning can be as effective as possible and create long-term benefits. According to Bransford's<sup>49</sup> research in cognitive psychology about how people learn most effectively, they found that learning must be: Learner-centred:

- All learners have varying levels of prior knowledge and experience knowledge-centred  
Need clear objectives of what will be covered and how it will add value
- Assessment-centred to include opportunities to reflect on learning and understand areas for improvement
- Community-centred to include opportunities to learn from each other through discussion

Using these design methodologies, providers can create effective learning that is tailored to the needs of their learners and their associated industry. In doing so, it is crucial that providers consider the barriers to learning that their users may face and work to mitigate the effect of these wherever possible.

### 6.3 Evaluating LMD outcomes

After you deliver any type of training, you must ask these questions:

- How effective was the training in helping learners gain relevant knowledge and skills?
- Were the learners able to apply what they learned to improve their performance at work?
- What other benefits did the training program achieve?

The answers to these questions help you determine whether the training was worth the participant or sponsors investment and answering these questions requires measuring the outcomes.

#### Why Measure Training Effectiveness?

Measuring training effectiveness has proven to be an important tool to boost engagement and justify investment. Results and measurements of past training also act as critical indicators while planning future development. After all, you would not want to deliver training that does not provide expected results.

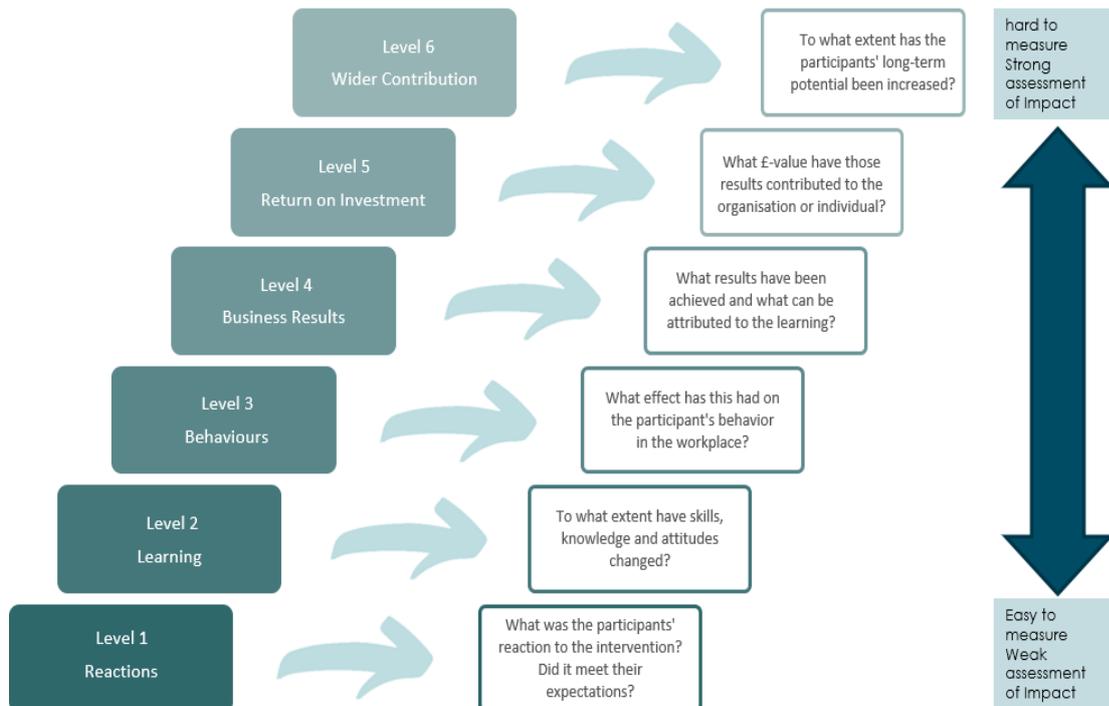
### Evaluating Training Effectiveness

Post-training quizzes, one-to-one discussions, employee surveys, participant case studies, and official certification exams are some ways to measure training effectiveness. The more data you collect on measurable outcomes, the easier it will be to quantify return on investment. Before training begins, it is essential to plan what factors you will be measuring and how you will collect the data. Fortunately, some proven methodologies for measuring training effectiveness already exist.

## 6.4 The Kirkpatrick Evaluation Model

During the 1950s, the University of Wisconsin Professor Donald Kirkpatrick developed the Kirkpatrick Evaluation Model for evaluating training. With a simple, 4-level approach, this is one of the most successful models that help you measure the effectiveness of customized corporate training programs. Over the years the model has evolved into a 6-level approach as shown in Figure 5.4.

Figure 6.3: Learning evaluation options



Source: Promar International

The diagram illustrates a similar method to that used by AHDB for their Skills Evaluation Report

### Level 1 - Reaction

This level measures how learners have reacted to the training, the relevance and usefulness of the training. Use surveys, questionnaires or talk to learners before and after the course to collect their feedback on the learning experience. Topics to cover during your discussion:

- Was the course content relevant and easy to follow?
- Ask questions about the learnings and key takeaway
- Discuss the strengths and weaknesses of the program
- Understand if the training was able to accommodate the learner's pace and learning style

At the end of Level 1, you should have a good understanding of how well the training was received and determine any gaps in the training content.

### Level 2 - Learning

Measure the knowledge and skills gained by learners as a result of the training. To measure this level, you can use a combination of metrics such as:

- Test scores during and after the training
- Evaluation of applied learning projects
- Influence on performance KPIs
- Course completion and certification
- Training supervisor report and feedback
- Employer report and feedback

At this stage of evaluation, you will be able to determine if the training is meeting its set objectives, what are the specific skills that can be developed with this training, and the scope for improvements in content and method of delivery.

### Level 3 - Behaviour

Understand how the training has impacted the learner's performance and attitude at work. Evaluate how the training has influenced the learner's performance and delivery at work by using a combination of these methods:

- Self-assessment questionnaires
- Informal feedback from peers and managers
- Focus groups
- On-the-job observation
- Actual job performance key performance indicators (KPIs)
- Customer surveys, comments, or complaints
- Topics to cover in your assessment include:
- How has learning been implemented at work?
- Are the learners confident to share their new skills and knowledge with their peers?

### Level 4 & 5 - Results

Measure the tangible results of the training such as reduced cost, improved quality, faster project completion, increased productivity, employee retention, better marketing leads, increased sales, and higher morale. Ideally to achieve this type of measurement requires a baseline to be established before the intervention took place. Key metrics to measure could include:

- Improved business results
- Increased productivity and quality of work
- Employee retention

- Higher morale
- Customer satisfaction index

#### Level 6 – Wider contribution

The wider contribution of leadership development to reduce environmental emissions, improve public health, improve public access, and knock on effects with other businesses could be assessed using these methods:

- Levels of improvement achieved
- Community survey
- Proxy measures using Social Accounting measures
- Farmer surveys

### 6.4.2 The experience of Farming Connect (Wales)

The introduction of a Personal Development Plan (PDP) has had mixed success. It was originally anticipated that farmers would complete a PDP when they first registered with Farming Connect. In theory, this was designed to encourage farmers to reflect on their needs and identify the most appropriate support. In practice, whilst Lantra has encouraged farmers to complete and revisit their PDP, most consultees agreed it has proved an ineffective mechanism.

Several issues were identified. The PDP has tended to focus on assessing specific training needs, rather than a more holistic and rounded assessment of need for the individual and business as a whole. Many farmers have found the online form difficult to complete, even for those who are IT literate, and it has required a substantial amount of “handholding” from Development Officers which has been a “drain” on their capacity. Farmers and some of the delivery staff consulted felt the system was not intuitive to use and overly complex. The PDP is predominantly seen as a necessary “hoop” to jump through in order to access training, rather than a valuable tool. The recommended support signposted by the PDP is not sufficiently tailored. The PDP is rarely revisited by a farmer, because it is difficult to access (e.g. forgotten passwords, difficulties in finding their personal development page etc.) and because it has not been found useful. Where the PDP process has worked better, the form is completed in conversation with a Development Officer, the support is personalised in response, and the form is then revisited in discussion with the same facilitator to look at distance travelled (In these instances, the PDP has a clear and useful purpose, and the process of using it over time is supported (rather than just being a tick box exercise/formality at the outset).

### 6.4.3 How Much Measurement Makes Sense?

Implementing all levels of the Kirkpatrick model can be an expensive and time-consuming process. It is important here to distinguish routine evaluation and one-off research to establish impact. You don't have to measure everything every time a course is run. Measure only what it takes to substantiate a confident decision about the value returned on the training.

Ideally assess according to the type of training and your goals:

- Level 1 (Reaction) for all programs
- Level 2 (Learning) for “hard-skills” programs
- Level 3 (Behaviour) for strategic programs
- Level 4-5 (Results) for programs costing over £100,000
- Level 6 for programs costing over £250,000

For larger courses that run every year, one off investments in higher level assessments will provide a strong basis for subsequent years where lower level assessments will establish consistent or improving delivery. A higher level (4-5) assessment in 2022 or 2023 would provide

empirical basis for justifying the program for 5 - 10 years or identify an issue to be resolved if or the results are underwhelming. It is these higher-level assessments that are currently absent in agriculture.

## 6.5 Assessing the organisation

An alternative to evaluating training or courses is to evaluate the overall leadership and management of an organisation: this could include a farm. One way to do this is to evaluate against a standard. One such standard is Investors in People (IIP) which defines what it takes to lead, manage and support people well for a successful business. With a community of 14,000 organisations across 75 countries it has proven itself to be a well-respected and valued framework. IIP accreditation is achieved by external evaluation against set standards which evolve to keep pace with modern practice. Now in its sixth generation the current standard is awarded in four levels. The basic level is accredited followed by Silver, Gold and Platinum.

Nine indicators are evaluated, these are shown in Figure 6.3. These nine elements are a roadmap for successful HR practices based around three themes of leading, supporting and improving. Organisations that outperform others are judged to be performing at a higher level for each of the 9 themes. The model itself is based on extensive research into the features of organisations that consistently outperform their peers the IIP performance model creates a road map for continuous improvement and a benchmark to strive for.

The accreditation report, produced by a trained evaluator, gives insights and advice on how to improve performance. At the most basic level organisations can self-assess using an online questionnaire available at [www.investorsinpeople.com](http://www.investorsinpeople.com).

Figure 6.4: Investors in People Standard



Source: Investors in People

## 6.6 Marketing and Promoting LMD activity

### 6.6.1 The target customer

A clear understanding of the target customer is key to LMD successful delivery. AHDB tends to target high levy payers through AgriLeader Forum. There may be a confusion of objectives at play here. If the goal is to provide additional support to high contributors to the AHDB levy, then the current approach is correct. However, as the stated objective of the programme is “for farmers and growers to have adopted a more business focused mindset for long term adaptability and profitability” the programmes offered by AHDB will need to be broader and more inclusive. To meet this goal, it is felt that a further focus is required on the younger, up and coming farmers. For the purpose of engaging farmers with LMD activity and in order of relevance we propose segmenting the audiences as follows:

- Large progressive business owners and their managers
- Young 25-45-year-old farmers with ambition to improve (these are almost certain to be farmers who engage in other AHDB activity)
- Other levy payers
- Influencers – consultants, advisors, other training bodies, government etc

Each of these audiences can be targeted together or have more specific massaging aimed at them. For digital content, where the cost of supply is zero for each additional user, there is no need to ration what is being provided.

### 6.6.2 Clear branding and messaging

A web search for “Leadership and Management AHDB” only reveals courses that farmers can attend. Search engines reveal results that AHDB are not in control of, but the use of digital content makes it vital to present information in a way that is consistent and easy for a searcher to navigate. It has not been possible to identify and AHDB website content that reveals a clear overview of LMD and how the various strands of its offer come together

A common, high-level brand name, that umbrella's all LMD activity would strengthen external messaging and offer an easy recognisable 'one stop shop' brand for industry.

### 6.6.3 Internal messaging

Just as important as external messaging, is the internal messaging. It is critical that staff involved with LMD delivery align and deliver consistent messaging to industry. Consistent messaging can improve relationships with industry, create confidence within the internal delivery team, along with influencing LMD outcomes. A strengthened internal commitment across all levels of AHDB would ensure that LMD is embedded into broader KE.

### 6.6.4 Monitoring engagement

Monitoring industry engagement with LMD initiatives is critical to long term success and impact. Heightened industry awareness supports strategic decision making and allocation of LMD resource. It is therefore essential to understand that effective engagement with industry involves:

- Understanding motivations and the ability to engage with LMD
- Making engagement credible and relevant
- Understanding what makes engagement successful
- Avoiding or managing challenges to engagement

Developing tools, such as LMD journey map, could provide insight into the decision-making process that farmers go through to make key learning choices. Understanding the decision-making process ensures that marketing resources are utilised in way that offers maximum impact and ROI. Regular monitoring and reviewing of AHDB online channels - website/social media would provide insight into the reach and engagement of LMD activity.

We also recommend that AHDB uses its survey work with farmers to build a picture over time of the types and levels of LMD activity undertaken.

### 6.6.5 Understanding industry demand

Our analysis implies that, especially in England, more farmers want to engage with LMD activity than is currently supplied. Where AHDB have supplied LMD opportunities to farmers they have rationed supply.

Where possible meet demand, don't ration supply:

- 1 Opportunity to charge farmers for LMD
- 2 Opportunity to support delivery in partnership with the private sector
- 3 Opportunity to work with industry not for profit organisations – by promoting their offerings
- 4 Opportunity to work with government – TIAH
- 5 Consider its current sponsorship arrangements deliver best ROI

### 6.6.6 The role of The Institute for Agriculture and Horticulture (TIAH) in the promotion of LMD activity

Defra's Agricultural Transition Plan, which it describes as a 'roadmap' to change, commits to contributing towards the establishment of TIAH as the home of professional development and training for the agriculture and horticulture industry in England.

Supported by AHDB, the Institute will establish a professional framework, providing farmers with a recognised pathway for training across agricultural and horticultural careers, including leadership and management. A new Development Board will be established to replace the Skills Leadership Group (SLG) and will drive the initiative forward to its next stage.

TIAH aims to support the industry so that it is universally capable of creating profit and acting sustainably through training, retaining and attracting a workforce fit for the future. These are worthy aims but it is unlikely that this organisation will be fully functioning in the next two to three years and until it has defined its priorities, mapped out its strategy and acquired the resources it will need to drive change in the industry it is impossible to say what impact it will have on LMD.

As this paper has shown very clearly what people learn, how they learn, why they learn and when they learn are evolving very rapidly. It is our view that moving towards traditional methods involving courses and qualifications would be against the flow of how LMD is evolving in other industries and likely to evolve in agriculture.

## Section Six Summary

- Double loop learning involves establishing the training need of an Individual, or organisation, finding and delivering relevant LMD and then evaluating the learning with a view to moving forward to further development. This forms a cycle of analyse, execute, evaluate so that the individual improves L&M capability
- Establishing training need can be accomplished in a variety of ways. For the agricultural sector the emphasis needs to be on finding a robust but relatively straightforward method

of assessing the leadership capabilities identified in section One and summarised in Section Five

- An alternative to this approach would be to assess the farm businesses leadership and management capability using the Investors in People Standard or something similar, perhaps bespoke
- The content of learning can be provided by:
  - Encouraging a vigorous private sector supply of LMD activity. The wheel of LMD activity does not need to be re-invented but the private sector will not wish to get involved if it cannot see a worthwhile return for working in this area
  - Utilising the Knowledge Exchange team and other resources in AHDB to build a more encompassing offering so that L&M is considered and promoted through the various strands of the organisation's delivery mechanisms
  - Moving a greater proportion of content on-line. There is a reasonable supply of Traditional Learning courses but very little specific to agriculture delivered in a digital format. Outside agriculture there is a very marked shift to digital learning and the younger, eager learners, are comfortable with these methods
  - Collaboration between the private sector (including existing providers), government and academic institutions appears to have promoted wider uptake of LMD in Wales and Scotland. This could be a role of AHDB or the new TIAH working alongside government
- After learning has been delivered it is vitally important for the industry and the individual learner to assess the value of the development. This is not easy or straight forward and can be expensive therefore in some cases accuracy has to be sacrificed in the interest of expediency. The following
- guidance gives a baseline for future evaluation according to the type and goals of any development activity:
  - Level 1 (Reaction) for all programs
  - Level 2 (Learning) for "hard-skills" programs
  - Level 3 (Behaviour) for strategic programs
  - Level 4-5 (Results) for programs costing over £100,000
  - Level 6 for programs costing over £250,000
- A clear understanding of the target customer is key to LMD successful delivery. Current delivery is focussed on larger businesses but a move to delivering more digital content will make it eminently affordable to extend the reach of LMD activity. Target groups could be segmented as follows providing AHDB has the internal capability to reach content consumers in this way:
  - Large progressive business owners and their managers
  - Young 25-45-year-old farmers with ambition to improve
  - Other levy payers
  - Influencers – consultants, advisors, other training bodies, government etc
- Current branding of the AHDB offer is confusing. A single overarching AHDB brand for LMD would make it easier for customers to access content, evaluate their needs and learn more about the importance of leadership and management
- More effort needs to go into expanding the supply of LMD activity. There is very little innovation and the supply of LMD appears to be rationed rather than multiplied. Achieving greater uptake, especially in England, requires a lot more collaboration between government, and organisations in public and the private sector who deliver LMD
- AHDB generously sponsor some individuals to undertake LMD activity including attendance on courses. Without unlimited amount of resources what to sponsor, what to develop and what to leave to other to supply becomes a difficult balancing act
- Without more funding and investment there will not be a step change in the leadership and management ability of UK farmers. This is a shame, and is probably as a result of the difficulty of finding definitive evidence for the effectiveness of investing in this area. However, lack of peer reviewed academic evidence does not disprove the usefulness of LMD and there is a substantial body of anecdotal evidence and evaluation of courses

that have been provided showing high levels of satisfaction and high rates of payback from investing in this area

- If more funding can be leveraged from farmers themselves being prepared to pay for LMD activity or by diverting funding to training from the government's agriculture support budgets addressing the significant challenges faced by the industry will be far easier

## Section 7. Recommendations

ID	Recommendation (Document reference)	Why	How	Who
A	1. Focus on core leadership traits (Table 1.1, Fig 1.3)	Empirical evidence supports this LMD must be contextualised	Awareness building Information Keep it focussed Don't succumb to fads and irrelevant content from other sectors	AHDB Other LMD providers
B	Focus LMD towards addressing megatrends (P. 48-55)	Big picture dynamics more important in long run Promotes a more strategic mindset	Awareness building Case studies Facts and information Embed in LMD	AHDB Other LMD providers
C	Integrate LMD across AHDB's delivery (section 6.6.3)	Everything is L&M. It is about assessing, deciding and doing with others No common view or understanding across AHDB	Inform and inspire KT team Train KT team to understand fundamentals of LMD applied to ag Apply LMD activity on AHDB Monitor & Strategic farms	AHDB
D	Clarify branding and positioning (Section 6.6.2)	Current offer is confusing No single-entry point for advice and guidance Current positioning promotes courses not LMD more broadly General lack of information and advice relating to leadership and management	Choose overarching brand name for LMD Rearrange / reorganise the AHDB website to create a focussed LMD information hub Educate and inform internally and externally Allocate resource, assign responsibility and build a plan to create content for the LMD hub	AHDB
E	Move to Blended Learning (Section 2.3, 6.2.1)	Overcome barriers to learning More scalable Reach more learners	Link to above Shift a significant portion of LMD resources to online content	AHDB Other LMD Providers

ID	Recommendation (Document reference)	Why	How	Who
		Reduce cost of LMD Easier to link to other providers content	Research, buy, make or signpost to an online learning platform	
F	Focus on those who want to learn (Fig 3.1, Table 3.7)	Maintain momentum with existing learners – use the Young farmers definitely eager to learn Create more bite-size opportunities	Build targeted programmes for this segment Work with existing providers	AHDB Other LMD providers
G	Make it less imposing and more normal to participate in LMD (Section 3.4)	To increase engagement To transform mindsets and attitudes to LMD Every farmer has to lead and manage You don't have to be a great leader – but you can become a better one	Demystify leadership and management. Make it relevant to all, not just big farmers with many employees Use case studies of general everyday actions Don't just focus on major transformations or stories of the rich, famous and extremely successful	AHDB Other LMD providers
H	Reflect the realities of farming (Table 3.6)	Most farming businesses don't have layers of management and the levels of specialisation seen in large businesses and corporations. They don't need to give presentations, and apart from a few, don't have to become media specialists.	Recognise the importance of family leadership LMD is cumulative – need to have mastered the basics of management before embarking on more challenging aspects of leadership They have to address family challenges to be effective L&M and the separation of home and work life	AHDB Other LMD providers

ID	Recommendation (Document reference)	Why	How	Who
I	Endorse training needs assessment (Section 6.1)	<p>Every farmer has different LMD needs based on their own context – finding the development that fits this need is important. Guided Self-assessment is a good place to start</p> <p>The evaluation will increase motivation to learn</p> <p>The data gathered from multiple evaluations will allow AHDB to design and promote content that the industry values</p>	<p>Create a straightforward on-line TNA tool.</p> <p>Base this around the competencies outlined in Section One</p> <p>Promote the use of assessment tools</p> <p>Signpost to relevant learning and development activity</p> <p>Provide an organisation assessment tool analogous to IIP</p>	<p>AHDB</p> <p>Other LMD providers</p> <p>TIAH</p>
J	Evaluation 1 – level of engagements (Section 6.4)	<p>Make it easy</p> <p>Check it meets expectations</p> <p>Find out what is popular and not worthwhile</p>	<p>Record number and type of engagement</p> <p>Include measures (KPIs) for online and offline learning</p> <p>Correlate with sector and scale of farming enterprise</p> <p>Get industry to work together to quantify engagement</p>	<p>AHDB</p> <p>Other LMD providers</p> <p>TIAH</p>
K	Evaluation 2 – Quality of engagement (Section 6.4)	<p>Build an accurate picture of the value generated by LMD activity</p> <p>Valuable feedback to LMD suppliers</p>	<p>Build a consistent and straightforward suite of evaluation tools</p> <p>Use guidance set out in Section 6</p> <p>Encourage a standardised approach across the industry</p>	<p>AHDB</p>

ID	Recommendation (Document reference)	Why	How	Who
L	Coordinate an industry wide impetus to increase LMD (Section 6.6)	AHDB limited budget Low level of engagement Poor level of coordination (especially in England)	Form an industry wide forum to debate and support the uptake of LMD activity. Involve government, academic and public/ private sector suppliers	TIAH DEFRA AHDB Other LMD providers Industry bodies and associations Colleges and Universities
M	Focus of AgriLeader – yrs 1-2	Where AHDB should focus its early efforts	Continue with Forum Build a stronger more cohesive brand for AHDB leadership activity Extend reach to other groups (e.g. Younger farmers) Focus on how farmers are addressing the key future challenges	AHDB
N	Focus of AgriLeader yrs 3-5	Where AHDB should focus its long-term efforts Leaders have different needs	Build a strong on-line offering Make LMD mainstream by integrating across AHDB KE activity Update and refresh the key industry challenges	AHDB
O	Research (Section 1.6)	L&M research in agriculture is neglected Need to find what works and what doesn't, and this requires academic discipline It is too simplistic to cut and paste LMD from other sectors and	Work with government and academic institutions Link academic researchers to farmers (supply data)	

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ID	Recommendation (Document reference)	Why	How	Who
		assume these will be relevant and workable in agriculture		

# Appendices

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## Appendix 1: Methods and work packages

WP1 – Will examine the underlying rationale for LMD. This will critically assess the available evidence (or lack thereof) supporting farmer LMD activities. Recommendations for how to improve this evidence will also be made.

WP2 – Will deliver a structured literature review of relevant academic literature and industry reports. AHDB may provide relevant non-public documents (e.g. assessments of previous/ongoing programmes) to be included in this exercise.

WP3 - Will build on the report - 'THE RURAL LEADERSHIP LANDSCAPE - How Leadership training changes mindset'. We will categorise the other available LMD offerings quantifying engagement and participation. This will include an examination of the drivers and barriers of participation. Using this as a basis, we will model the current and potential value of novel farmer LMD activities on a sector by sector basis.

WP4 – Will outline what farmer LMD activities should be delivered to UK farmers through to 2030. Though L&M content should be broadly applicable across sectors, sector specific considerations (e.g. engagement & participation rates) will be included. Using the output of WP2 & WP3 we will compare what is needed, with what is currently available. We will run a second workshop with your team to consider these findings and to prioritise the remaining research. This prioritisation exercise will identify what LMD AHDB could focus on that is achievable and will create the biggest impact and value.

WP5 – Will provide clear and concise implementation guidance including how best to deliver development activity to farmers. Marketing and promoting activities are crucial to maximising engagement and so will also be included considering farmer attitudes and their practical considerations. This will mitigate barriers and amplify drivers to participation.

WP6 - Will propose a framework AHDB can apply to commissioning, managing, delivering future programmes and measuring their success. This will increase the impact of L&M activities and reduce fracturing in the L&M landscape. This will include a plan for data collection and activity structuring to deliver empirical assessment of the activities impact, and so build the evidence establishing activity effectiveness and potential areas of improvement. This will support a programme that will provide more accessible, valuable, digestible and inspiring content for levy payers.

## Appendix 2: Summary of Agriculturally focussed Leadership and Management Development Courses offered to UK Farmers

Scheme or Course name	Delivering body	Cost for participant	Number of Participants	Cost per head	Funding source
Agri Academy (Business and Innovation & Junior Programme)	Farming Connect (Wales)	Fully funded Need to be preregistered with Farming Connect Programme	12 per year	Unknown* *evaluation due to be published shortly	Funded through ERDF – Farming Connect/Menter a Busnes until 2022 – likely to be extended to 2024
Agrisgop	Farming Connect (Wales)	Fully funded Need to be preregistered with Farming Connect Programme	Typical group size 8, currently 35 active groups across Wales	£500-£800	Funded through ERDF – Farming Connect
Rural Leadership Programme	Scottish Enterprise (Scotland)	£900 +VAT	60 per year	£2,500	Scottish Enterprise, Highlands & Islands
AgriLeader Forum	AHDB (UK)	Fully funded for levy payers	150 per year	£433	Levy
Professional Manager Development Scheme (PMDS)	AHDB (UK)	£950 + vat levy payers Non levy £3,950 + vat	12 per year	£4,000	Levy & Participants
Effective Farm Manager Programme (EFM)	AHDB (UK)	£200 + vat levy payers (£350 discount)	24 per year		Levy & Participants
Nuffield Farming Scholarships	Nuffield Trust (UK and International)	Fully sponsored	18-20 per year	£13,000	High profile agri-food sponsors eg Savills, McDonalds etc.
Advanced Course in Agricultural Business Management	Worshipful Company of Farmers	Cost on application	18 per year	Not disclosed	Course fee with support available
Challenge of Rural Leadership	Worshipful Company of Farmers (UK)	Cost on application	18 per year	Not disclosed	Course fee with support available
JET - Business Management Course	Jet – with RAU involvement	£500	12 per year	Not disclosed	John Edgar Trust & Participants

Scheme or Course name	Delivering body	Cost for participant	Number of Participants	Cost per head	Funding source
Windsor Trust	Windsor Leadership Trust	Fully sponsored	1-4 per year	£2,240 to £5,755	The Farmers Club Charitable Trust Bursary
Tesco Future Farmer Foundation	Tesco (UK)	Fully sponsored	50 per year	Not disclosed*	Tesco
Leadership Development Programme	IAgrM (UK)	£7,500 Some sponsorship available	Every other year – 12 places	£7500	IAgrM
Farm Management Skills Programme	IAgrM (UK)	£210 per module – up to 8 modules available	15 people per module	£210 - £1680	IAgrM
Horticulture Graduate Scheme	MDS	Sponsored by employers	66 per year and increasing	Not disclosed	Graduate employers – ranging from retailers, fresh produce companies etc
Young Farmers Leadership Academy	Myerscough College	£1000	10 per year	Not Disclosed	Princes Trust
Entrepreneurs in Dairy	RABDF	£350	35 per year	Not Disclosed	HSBC

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