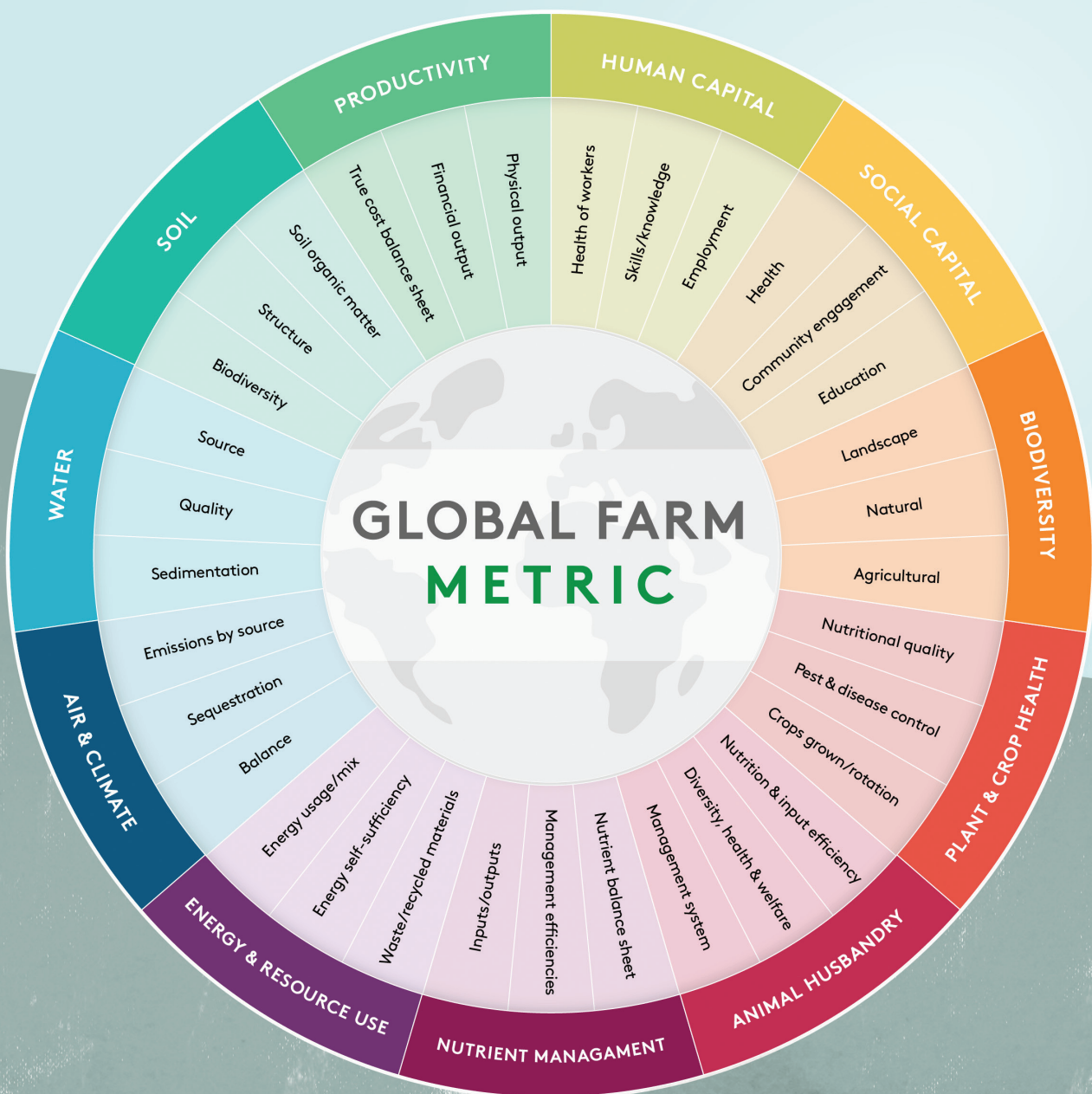




ENVIRONMENTAL LAND MANAGEMENT TEST

The harmonisation of on-farm sustainability assessment



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CONTENTS

DEFINITIONS AND ACRONYMS	4
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EXECUTIVE SUMMARY	5
Background	5
Aims	5
Methodology	5
Key learning points	5

INTRODUCTION	8
Background	8
gap analysis	8

METHODOLOGY	10
Stage 1 – development of framework and self-assessment protocol	10
Stage 2 - piloting of framework and self-assessment protocol	10
Stage 3 – refinement of framework and self-assessment protocol	12
Stage 4 – scoping study	12

RESULTS	13
Stage 1 – development of framework and self-assessment protocol	13
Stage 2 - piloting of framework and self-assessment protocol	14
Stage 3 – refinement of framework and self-assessment protocol	16
Stage 4 – scoping study	16

DEFINITIONS AND ACRONYMS

WORD OR ACRONYM	DESCRIPTION OR DEFINITION
SFT	Sustainable Food Trust
RAU	Royal Agricultural University
ELM	Environmental Land Management
LMP	Land Management Plan
NGO	Non-Governmental Organisation

EXECUTIVE SUMMARY

BACKGROUND

In order to facilitate a mainstream transition to farming systems which deliver ‘public goods’ by producing nutritious food in a sustainable way, we first need a robust method of measuring both the present state and change over time in sustainability and the delivery of these goods. At present, whilst there are multiple tools and protocols used to audit on-farm sustainability, these are not aligned in the language or metrics they use due to the lack of a universally agreed method of sustainability measurement.

We are therefore in need of a harmonised means of measuring farm-level sustainability. Such a harmonised framework of assessment could not only inform the allocation of future agricultural support through Defra’s Environmental Land Management scheme (ELMs), but also provide clearer information to consumers in the marketplace, and more importantly, empower all farmers to make positive incremental improvements to their sustainability and delivery of ‘public goods’. We believe that the best way for delivering the ELM scheme would be for every farmer in the country to complete an annual sustainability assessment, firstly to gain an accurate picture of where they are starting from, and then to assess progress against this each year.

AIMS

The Sustainable Food Trust’s (SFT) ELM Test aims to develop a harmonised sustainability framework and test its use by farmers as a self-assessment protocol. By using harmonised metrics which link with other assessments and applications that farmers already complete (including government regulatory checks, certification), this could not only reduce audit burden for farmers, but also help them feel more empowered to take control of the future of their own farm businesses. Of course, this may require help from farm advisors and a degree of spot checking to ensure farmers are making the most of their assessments and complying with regulation, but we feel that putting farmers in the driving seat in this way would give them a degree of ownership of the ELM scheme, rather

than feeling they are being told what to do.

Therefore, our research question was: ‘Can a framework that provides a universally harmonised way of measuring on-farm sustainability be developed and adopted to carry out annual audits of on-farm sustainability, via farmer self-assessment?’

METHODOLOGY

The SFT’s ELM Test involved four key stages:

1. Refining a harmonised framework of sustainability categories, indicators and metrics, and developing a self-assessment protocol, in collaboration with research partners at the Royal Agricultural University;
2. Piloting the framework and self-assessment protocol on 25 farms across England representing a range of farm sizes and systems;
3. Reviewing feedback from farmers involved in the pilot and refining the framework and self-assessment protocol accordingly;
4. A scoping study to explore the opportunities for a relationship between this sustainability self-assessment and existing farm assurance scheme audits.

KEY LEARNING POINTS

Collaboration between farmers and wider agricultural stakeholders has successfully led to development of a framework based on 11 categories of sustainability. Each category contains three key indicators that farmers felt were important to capture on-farm sustainability, whilst remaining practical and feasible to measure and involving data they are already required to collect for various other checks and assessments (Figure 1, overleaf).

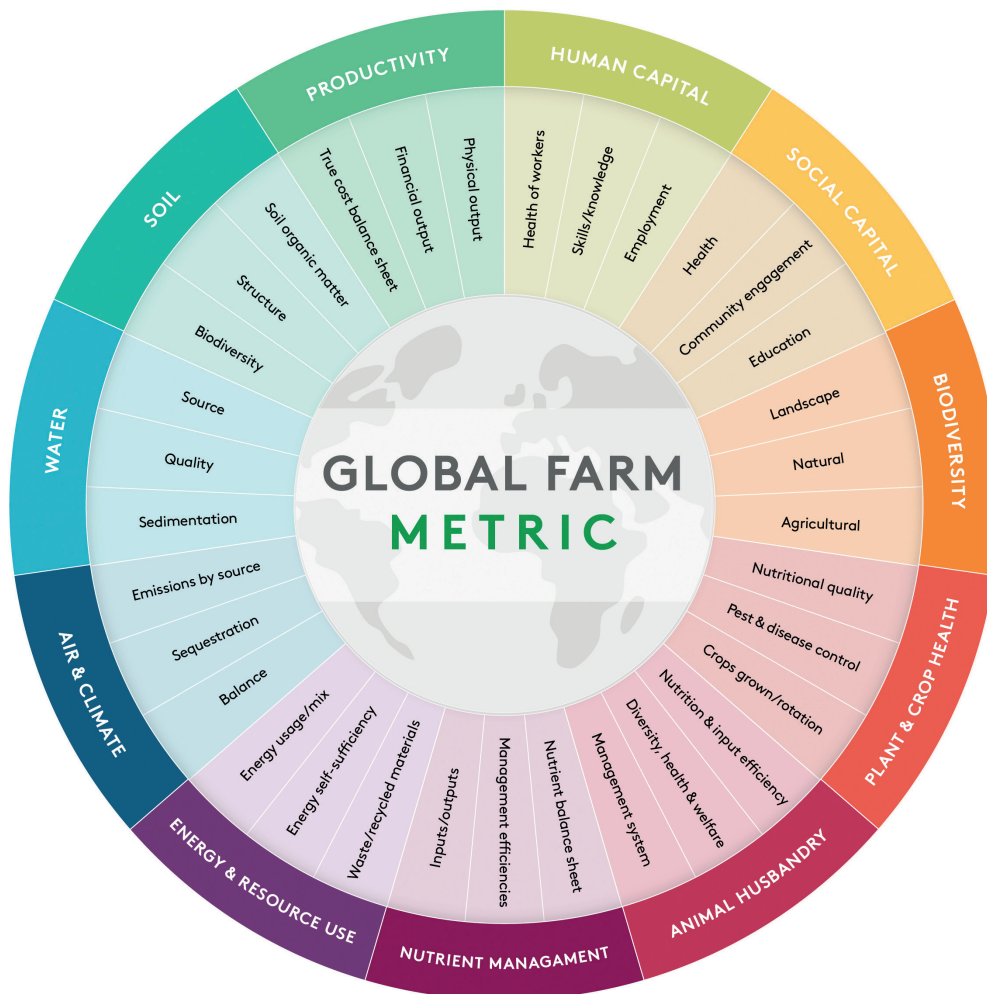


Figure 1. Eleven categories of sustainability each containing 3 key indicators to form the harmonised sustainability framework.

This framework has now successfully been translated into a self-assessment protocol, by academic experts in the field of sustainability tool development, to allow any farmer in the country to monitor their own sustainability against these 11 categories. At the end of each assessment, farmers are presented with a ‘radar’ diagram showing them their score in each area of sustainability.

Piloting the framework on self-assessment protocol with a sample of 27 farms and estates across England – representing a range of farming systems and enterprises – revealed that farmers and land managers were in support of both the broad sustainability categories, and the metrics within each of these categories. Good ratings of the sustainability categories (moderate or high quality) from the majority of respondents suggested no changes are needed to the framework at this level. Overall, the majority of respondents thought that the sustainability categories were good (of moderate or high quality) and that the metrics were both useful and easy to collect. Minor refinements to the self-assessment protocol

were made based on participant feedback.

Farmers and agricultural stakeholders were incredibly engaged with this ELM Test throughout its progress, with a high level of participation in every workshop and detailed feedback given in the pilot trial of the framework. Most participants of the pilot study even forwent the offered monetary compensation for their time, indicating that it was not money that incentivised farmers to take part, but rather a genuine desire to be involved in the development of this sustainability assessment as a potential part of the future ELM scheme.

We also received positive feedback from representatives of the main certification schemes operating in England. They considered the comprehensive nature of the framework effective at capturing the impact of the farm-system as a whole. We also found evidence of considerable scope for the implementation of an ‘earned recognition approach’, i.e., if a farmer is a member of a certain certification scheme, the related data could pre-populate a significant

percentage of the assessment or reduce the need for 'spot checking'.

Based on this farmer and certification scheme support for the harmonised sustainability framework and self-assessment protocol, and its evidence-based approach to measuring on-farm sustainability, we believe that there is a strong rationale for introducing an annual self-assessment as a requirement of the ELM scheme using this framework. As well as providing a basis for understanding how well the ELM scheme is performing in relation to facilitating the delivery of public goods on farms, a harmonised framework would also allow for data to be aggregated, for example, to look at regional and national contributions to delivering the objectives of the 25 Year Environment Plan (e.g. improving our approach to soil management – by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches).

Outside of this ELM Test, there is growing support for the SFT's idea of a harmonised framework and methodology for sustainability assessment within the farming, environment, consumer and business community. The Welsh Government has committed to introducing an annual sustainability assessment for farmers based on this harmonised framework – 'The Farm Sustainability Review'. Food businesses similarly are also starting to see the huge opportunity in coming together to co-evolve an industry standard which can aid sourcing strategies as well as a possible unified 'kite mark' on food products.

To take this strategy forward, in February 2021, the SFT launched the Global Farm Metric (GFM)

leadership group. Thus far, representation on this group includes the National Farmers Union; WWF; Defra; Welsh Government; National Food Strategy; AHDB; WRAP; Morrisons; Tesco; Sainsbury's; Waitrose; Arla; MacDonald's; LEAF; Soil Association; NatWest Group; Ellen MacArthur Foundation; Food, Farming and Countryside Commission; Sustainable Markets Initiative; and Systemiq. Now work is under way and an initial plan agreed, this group will be widened, with terms of reference for joining.

The structure we are working towards implementing with this group is illustrated below. A steering committee with co-chairs, underneath which four interrelated working groups (each led by one of the organisations involved) will operate:

- 1) to further develop and refine the metric
- 2) to understand how it could be applied for within stakeholder groups, for example retailers or the finance sector
- 3) understanding what future infrastructure and governance is needed is take this work forward in future
- 4) building international support.

This work will be supported by a secretariat, housed within the SFT, which is accountable to the steering group. This secretariat will be made up a mixture of SFT staff and individuals seconded from the organisations and companies involved.

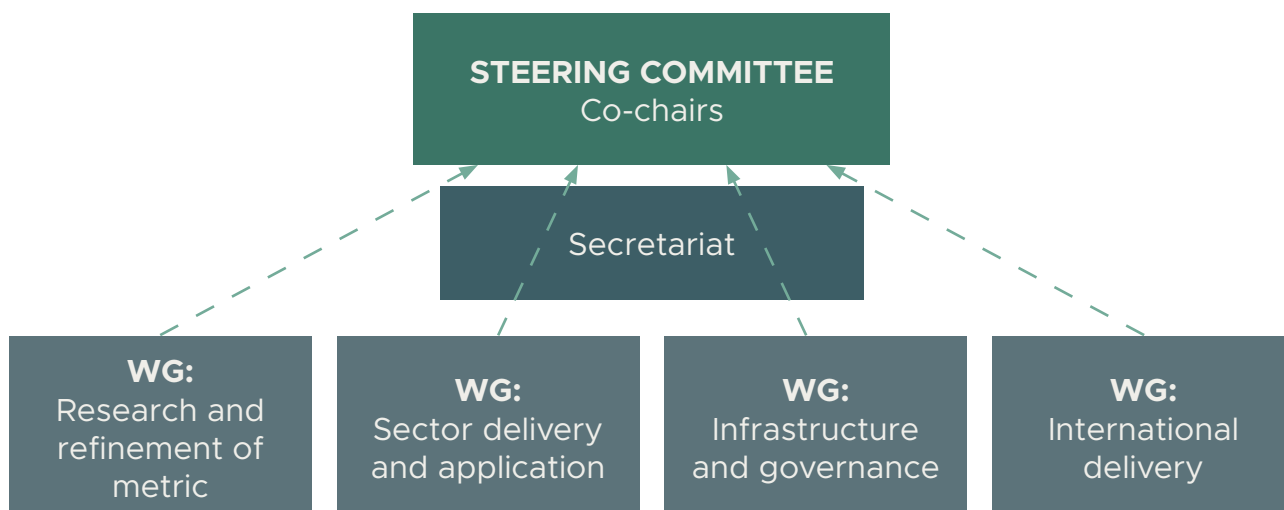


Figure 2. Structure of the GFM collaborative initiative

INTRODUCTION

BACKGROUND

The cost of food comes not just at the checkout: the true cost varies according to how the food is produced and how well or poorly it contributes to a healthy diet. True Cost Accounting in food and agriculture is a currently evolving method for assessing the true costs and benefits of different food production systems, including 'hidden costs' (externalities) with implications for everyone.

The Sustainable Food Trust's (SFT) development of True Cost Accounting in food and farming led us to the realisation that in order to be able to value the financial impact of different farming and food systems, we need a common measurement framework for assessing their impact on the environment and society.

The current plethora of overlapping sustainability assessments and certification schemes makes it very difficult to produce a common measurement of the environmental and societal impacts of food. It is also time-consuming, costly and bureaucratic for farmers to respond to this multitude of assessments, often having to submit the same data or similar data measured in slightly different ways. It is also frustrating for government agencies, NGOs and food companies, as well as confusing for consumers, who have no unified means of linking their purchasing power to support sustainable and healthy food production.

Convinced that an opportunity existed for the development of a converged farm-level assessment, the SFT convened a small group of farmers and land managers which included representation from a wide range of farming typologies and scales. This working group began drawing from the best elements of what was already out there to measure sustainability, to develop common categories, indicators and metrics. In this way, they created a template which we believe has the potential to become an internationally harmonised framework for on-farm sustainability assessment.

GAP ANALYSIS

In 2017, the farmers and land managers working group commissioned independent

research consultants at the Organic Research Centre to carry out a gap analysis of the existing sustainability assessment tools. This analysis looked at the requirements of a range of tools used for farm-level sustainability assessment (The Cool Farm Tool, the Public Goods Tool, RISE, SMART and the Soil and More Sustainability Flower). It then identified opportunities for convergence across tools, indicators and data collection methods by carrying out the assessments on the land of working group members. The report explored what would make an 'ideal tool' through analysing those commonly used.

The results of the analysis revealed more than a 60% overlap of data between the different assessment tools and the information required by certification schemes. It also revealed that:

- The tools assessed show general agreement on broad subject areas that should be considered to measure sustainability, but the metrics used vary widely.
- Much of the data needed for sustainability assessments is already recorded elsewhere.
- Automated data extraction and transfer is currently being explored, however the lack of harmonisation in indicators, data and definitions prevents making easy comparisons.
- There is a preference for quantitative indicators that can be accurately measured, even if this data is more complex and time intensive to collect.
- Most tools available are not self-assessments, however farmers consulted felt that once an initial assessment had been made, they would be confident completing future assessments themselves.
- There is a desire amongst farmers to compare performance with other farms and track improvements each year.
- The tools that included a management perspective as well as improvement guidelines were preferred.
- Many of the assessments lack data that is fundamental to the business side of the farm, e.g. yields, productivity, financial indicators.
- The tools most likely to encourage behaviour change in farmers are transparent and relevant.

Ambiguity and lack of explanation are rife in many assessments.

Thus, this exercise further strengthened the case for harmonisation. The SFT believes that such a harmonised framework and common language would encourage continuous improvement on farms, enable governments to assess eligibility for farm support payments, and provide consumers with a more accessible and easily understood means of evaluating the sustainability of food products in the marketplace.

Acceptance of our project to develop a harmonised sustainability framework as an ELM Test has meant we can continue to develop and refine the framework and concept of an annual on-farm sustainability audit via self-assessment, which could inform the allocation of governmental agricultural support, as well as enable farmers to make improvements on their own farms. This may require help from farm advisors and a degree of spot checking alongside the self-assessment to ensure that farmers are making the most of their assessments and complying with regulation, but we feel that involving and empowering farmers in this way would give them a degree of ownership of the ELM scheme and their own farm businesses, rather than feeling they are being told what to do.

We carried out this work in collaboration with research partners at the Royal Agricultural University who are experts in the field of holistic sustainability assessment.

In addition, this ELM Test explored the opportunity to work with certification/farm assurance schemes as part of a harmonised approach to sustainability assessment. These schemes measure and monitor, to a greater or lesser extent, delivery of a range of public goods, and there could be opportunities to link these schemes with the ELM focus on public money for public goods. Such options include earned recognition or fast tracking into eligibility to apply for ELM, based on membership of certain farm assurance schemes. This has been successful in previous policy frameworks for farm support, e.g., organic farmers automatically qualify for the greening payment for their farm, as they are considered to provide environmental benefits by the nature of their work. An alternative option is that the involvement of the assurance schemes in a framework for assessing on-farm sustainability focuses more on data collection and sharing, with the aim being to

reduce the administrative burden on farmers by avoiding multiple form filling (i.e., if farmers are providing data on their farm management to an inspecting body, this would automatically populate their self-assessment).

Our research question is: 'Can a framework that provides a universally harmonised way of measuring on-farm sustainability be developed and adopted to carry out annual audits of on-farm sustainability, via farmer self-assessment?'

METHODOLOGY

STAGE 1 – DEVELOPMENT OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

Development and refinement of the sustainability metrics framework began with a roundtable discussion with a working group of 25 farmers held at the Royal Agricultural University on 12th November 2019. Farmers were those with whom the SFT has had a historical working relationship and who represented a wide range of farming typologies and scales, including large-scale conventional arable, dairy, extensive beef and sheep, a mixed organic farming estate and small-scale organic dairy.

Outcomes of this discussion were then used by the researcher team (Drs Jo Smith and Laurence Smith) to design a self-assessment data capture protocol. The assessment protocol took the form of an Excel spreadsheet, with each sustainability category represented on separate tabs. These tabs contained the metrics for which data needed to be inputted.

This protocol was then presented to farmers and other stakeholders at a second workshop at the Beeswax Dyson estate on 27th February 2020. We made every effort to include as many different farmers and relevant stakeholders as possible and moved the location of the workshop further north so as to be more inclusive to potential participants in a wider range of locations. Thirty-three participants attended, including 16 farmers. Other stakeholders attending included representatives from the certification body Red Tractor, farming groups (National Sheep Association, Landworkers' Alliance, Agriculture and Horticulture Development Board), governmental bodies (Welsh Government, Environment Agency and Natural England), and non-governmental organisations and charities (Farming and Wildlife Advisory Group, Prince's Countryside Fund).

During the second workshop, attendees were guided through the self-assessment protocol and asked to give feedback on the metrics populating each category in the following ways:

1. Usefulness of metric(s) including feasibility of

measurement;

2. Existing data already collected by farmers that could be used within the protocol;

3. Other comments (e.g., important metrics that should be added or things that can be removed).

STAGE 2 - PILOTING OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

The self-assessment protocol was then piloted on 27 farms and estates representing a range of farm enterprises and systems in locations across England. All participants took part in an initial call with the research team where they gave feedback on the framework and protocol. They were then asked to complete their self-assessment after the phone call, along with an online questionnaire to gather their feedback. Due to the challenges of the COVID-19 pandemic and extreme weather in 2020, not all participants were able to complete and return their self-assessment or the online questionnaire. A total of 18 participants returned their completed self-assessment, and 11 participants completed an online questionnaire providing additional feedback. (See full report for more detail.)

Table 1. Type and location of farms/estates that participated in the pilot study, and those that completed the sustainability self-assessment and/or online questionnaire.

NO.	FARM/ESTATE TYPE	LOCATION	COMPLETED SELF-ASSESSMENT?	COMPLETED QUESTIONNAIRE?
1	Conventional beef, sheep, arable	Wiltshire	No	No
2	Organic arable, sheep, horticultural	Norfolk	Yes	No
3	Conventional arable and horticulture (potatoes)	Lincolnshire	Yes	Yes
4	Conventional arable	Buckinghamshire	Yes	No
5	Organic beef, sheep, pigs, goats, poultry	Gloucestershire	Yes	Yes
6	Conventional arable, horticulture and beef	Oxfordshire	No	No
7	Conventional arable and sheep	Northumberland	Yes	Yes
8	Conventional beef and arable	Northumberland	No	No
9	Conventional arable and sheep	Hampshire	Yes	No
10	Organic beef, sheep, deer, chicken, turkey and horticulture	Gloucestershire	Yes	No
11	Conventional sheep	Wiltshire	No	No
12	Conventional arable, beef and sheep	Dorset	Yes	Yes
13	Conventional sheep	Gloucestershire	Yes	Yes
14	Organic dairy	Dorset	Yes	Yes
15	Organic dairy	Cheshire	No	No
16	Organic arable, horticulture, dairy, beef, pigs and poultry	Norfolk	No	No
17	Conventional arable, sheep and woodland	Northamptonshire	Yes	Yes
18	Organic horticulture	London	Yes	No
19	Conventional arable and sugar beet	Essex, Cambridgeshire and Suffolk	Yes	Yes
20	Conventional pigs and arable	Norfolk	Yes	No
21	Organic beef, sheep, pigs, chickens and horticulture	Devon	No	No
22	Organic pasture fed beef, lamb and pigs	Wiltshire	Yes	No
23	Conventional chicken	Norfolk	Yes	No
24	Organic pasture fed beef and lamb	Gloucestershire	No	No
25	Silvoarable	Lincolnshire	No	No
26	Organic arable and sheep	Gloucestershire	Yes	Yes
27	Conventional dairy	Cumbria	Yes	Yes

STAGE 3 – REFINEMENT OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

Feedback from farmers participating in the pilot study was taken by the research team to refine the framework and self-assessment protocol accordingly.

STAGE 4 – SCOPING STUDY

The main farm assurance and certification schemes operating in England were identified as: Red Tractor, Arlagården, RSPCA Assured, Pasture For Life Certification Mark, Linking Environment And Farming (LEAF) Marque Certification and Soil Association Certification. The standards or principles of each scheme were reviewed and mapped against the 11 categories of the harmonised framework of sustainability indicators to identify coverage by each scheme. The degree of coverage for each category was scored as: 0=no coverage, 1=partial coverage, 2=full coverage, 3=full coverage and additional content from certification scheme that goes beyond the framework.

In addition, five interviews were conducted with representatives from the following certification schemes and farm assurance organisations in order to identify the potential crossover with the framework: RSPCA Assured, Red Tractor, Linking Environment and Farming (LEAF), Pasture Fed Livestock Association, and BDA Certification (biodynamic / organic certifiers). Further details on the methodology can be found in an accompanying report at: <https://drive.google.com/file/d/1shYg2cIPi7IVwbBLLZsEe4IBJ9Gg6nEI/view?usp=sharing>.

RESULTS

STAGE 1 – DEVELOPMENT OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

Eleven broad categories of sustainability assessment (Table 2) had previously been identified by a farmer and land manager working group convened by the SFT, prior to this ELM Test.

The first farmer workshop in this ELM Test led to the development of indicators in each of these 11 categories that could be measured in practice to assess sustainability and public goods provision. This was based on group consensus of three key indicators for each category that were important to address whilst being feasible and practical to measure within a realistic timeframe (i.e., approximately three hours which is the maximum time most farmers are willing to dedicate to an on-farm self-assessment, based on previous research). Table 2 illustrates the sustainability categories and key indicators developed as a result of this work. Detail on the discussions in this workshop can be found in Appendix B in the full report.

Table 2. Eleven categories of sustainability and three key indicators for each category.

CATEGORY	KEY INDICATORS
Productivity	Physical output Financial output Balance sheet – true cost
Soil	Soil organic matter Structure and infiltration rate Biodiversity (earthworms)
Water	Source Sedimentation BOD/pollution load
Air and climate	Emission by source Sequestration BOD/pollution load
Energy and resource use efficiency	Energy usage/mix Energy self-sufficiency Waste/recycled materials
Nutrient management	Inputs/outputs Management efficiencies Nutrient balance sheet
Livestock management	Management system Diversity, health and welfare Nutrition and input efficiency
Plant and crop health	Crops grown/rotation Pest and disease control Nutritional quality (Brix)
Biodiversity	Agricultural – seeds and breeds Natural – key indicator species Landscape features
Social capital	Education Community engagement Public access
Human capital	Employment Skills/knowledge of workers Health of workers

Based on this framework, Drs Jo Smith and Laurence Smith who are experts in the field of holistic sustainability assessment created a self-assessment protocol to capture these indicators within each category, using suitable metrics. The protocol was constructed ‘from scratch’, although the assessment approach drew upon earlier work focusing on sustainability metrics and tool development processes (Mullender et al., 2018; Paraskevopoulou et al., 2020). Further details on the development of the self-assessment protocol are given in the full report (see Appendix C) and the self-assessment protocol can be viewed in full at: <https://drive.google.com/file/d/1h9WgIPTiOBZOa8DWHoAcVU4DHQXesplh/view?usp=sharing>.

In the second workshop, farmers gave detailed feedback on the usefulness and feasibility of the self-assessment protocol. This feedback is detailed in the full report (see Appendix D). It was taken on board by the research team to refine the self-assessment protocol before stage 2 of the Test.

The second workshop ended with stakeholders indicating their positive perception and ‘buy-in’ to the idea of the self-assessment protocol using a harmonised framework of sustainability indicators and metrics.

STAGE 2 - PILOTING OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

The level of farmer engagement in the trial was clear from the detailed feedback provided. It is worth noting that only eight farmers chose to claim compensation offered by the SFT, indicating that it was not money that incentivised farmers to take part, but rather a genuine desire to be involved in the development of sustainability assessment and the ELM scheme.

Feedback in the form of the online survey responses and free-form feedback given in the initial call with the research team and/or subsequent to completing the self-assessment, are detailed in the full report (see Appendix E).

Overall, results from the pilot study indicate that the participating farmers were in support of the sustainability framework: they gave good ratings of the sustainability categories (moderate or high quality).

In addition, the majority of respondents thought

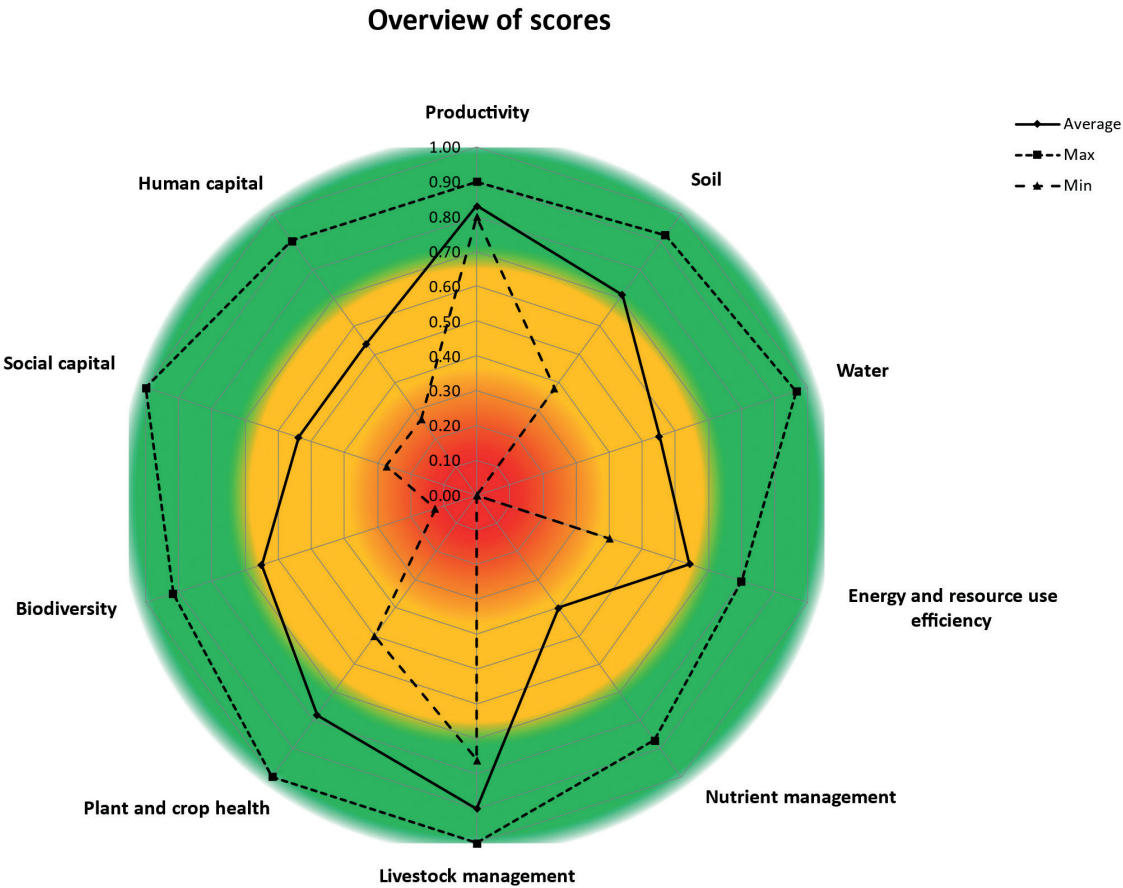
that these metrics were both useful and easy to collect, providing evidence for farmer support for use of these metrics.

The results of the self-assessment across the 18 participating farms (average, maximum and minimum percentage scores) are displayed in Table 3 and illustrated in the radar diagram in Figure 3. Scores in the green section of the radar diagram indicate high sustainability, scores in the amber section are moderate, and scores in the red section are poor. As can be seen from Figure 30, on average this sample of English farms displayed moderate sustainability, with good sustainability in four of the 11 categories.

Table 3. Results of the sustainability self-assessment across 18 participating farms in England (average, maximum and minimum percentage scores).

CATEGORY	AVERAGE SCORE	MAXIMUM SCORE	MINIMUM SCORE
Productivity	83%	90%	80%
Soil	71%	92%	38%
Water	55%	97%	0%
Energy and resource use efficiency	64%	80%	40%
Nutrient management	40%	87%	0%
Livestock management	90%	100%	76%
Plant and crop health	78%	100%	50%
Biodiversity	65%	92%	13%
Social capital	54%	100%	27%
Human capital	54%	90%	27%

Figure 3. Results of the sustainability self-assessment across 18 participating farms in England (average, maximum and minimum percentage scores).



STAGE 3 – REFINEMENT OF FRAMEWORK AND SELF-ASSESSMENT PROTOCOL

Overall, results from stage 2 indicate that the farmers participating in this pilot study were in support of the sustainability framework. Good ratings of the sustainability categories (moderate or high quality – see full report, Appendix E) from the majority of respondents suggest no changes are needed to the framework at this level.

In addition, the majority of respondents thought that the metrics were both useful and easy to collect, providing evidence for farmer support for use of these metrics and support for no further changes to these metrics.

Based on the results of stage 2 of this ELM Test, resulting edits to self-assessment protocol only entailed clarification of terminology, how to complete certain sections and improved data collection (e.g., providing more space for data input). Details of these amendments are given in the full report (Appendix F).

STAGE 4 – SCOPING STUDY

Table 4 summarises the degree of overlap or coverage by each certification scheme of the 11 categories contained in the ELM self-assessment protocol. In general, Livestock Management and Plant and Crop Health were well covered, with some going beyond the ELM self-assessment protocol in terms of what elements were considered. The human-related categories of Social and Human Capital were the least-well covered. 'Air and climate' and 'Energy and resource use' criteria were also less well covered, a surprising outcome given the recent focus on achieving 'Net Zero' in UK based food systems and the importance of effective resource management for the bottom-line in farm business management.

Results highlighted that, in general, the focus of farm certification and assurance schemes is on processes (i.e. farm management) rather than measurement of outcomes such as impact on soil, biodiversity and water quality. The exception is animal welfare, where many standards also assess the health, physical condition and behaviour of the animals themselves. This practice is known as 'Welfare Outcome Assessment'. Interviewees suggested

that a move to more outcome based auditing and assessment would be in-line with current recommendations to be less prescriptive. Interviews also highlighted that current tools and apps like Soilmentor have made great progress in equipping farmers and land-managers with the skills required to carry-out self-assessments, and data collected through such initiatives could help to improve monitoring of outcomes within ELMS.

It was recognised that individual standards or schemes could cover particular aspects of ELMS (e.g., RSPCA Assured standards providing information in relation to animal welfare and LEAF Marque certification feeding into assessments of soil management and resource use efficiency).

A combined approach could also feed into the proposed three Tiers of ELMS. For example, Red Tractor assurance could provide earned recognition for a cross-compliance equivalent level of practice (Tier 1) and more-demanding certification schemes, such as organic or LEAF Marque, could result in a higher level of equivalence (e.g., Tiers 2 or 3).

General feedback on the coverage of the 11 metrics was positive and the comprehensive nature of the framework was considered effective at capturing the impact of the farm-system as a whole and the possible trade-offs. The main concerns from the assurance schemes were:

- Weighting should be introduced to ensure that regional priorities are adequately captured in an assessment.
- Common terms (e.g., 'protein', 'energy') in the 'Productivity' category could be misleading as it does not account for the nutrient density of food.
- Soil carbon sequestration is currently absent. Although the difficulties associated with robust estimates in this area were highlighted, it was considered to be inappropriate and misleading to simply overlook this important impact category.
- Interviewees also highlighted the importance of reporting on individual greenhouse gases separately within a farm's carbon footprint in order to highlight the 'non-renewable' element (i.e., reporting on fossil fuel use as a separate term or as a subset).
- There is the need for improved 'farmer friendly' metrics for the areas within the biodiversity

category (e.g., the Butterfly Monitoring Survey is currently included, but most farmers would be unfamiliar with many butterfly species).

- Improved assessment of human capital and social wellbeing was deemed necessary, e.g., to be more flexible around evidencing 'training' since informal events and workshops could also fall under this category, and to more effectively capture issues surrounding farmer isolation and loneliness.

- Some missing areas of importance were also highlighted in relation to plastic waste (within the area of resource use) and livestock breed suitability of the land type (within livestock management).

All of the interviews highlighted the importance of less paperwork for farmers, recognising that farmers already provide substantial amounts of information (e.g. for assured food standards, organic certification, etc.) and that there is quite a bit of push-back from farmers with regard to the amount of paperwork they are currently required to complete – there was a sense of nervousness within the industry that the introduction of ELMs could add to this current burden, where there are often requirements to provide the same information in multiple forms, for multiple purposes. A harmonised approach to assessing on-farm sustainability as suggested by this ELM Test, including working with existing assurance schemes via earned recognition, would reduce the need for increased paperwork and alleviate farmers' nervousness about the new ELM scheme.

Further details on the results of this scoping study can be found in the accompanying report at: <https://drive.google.com/file/d/1shYg2cIPi7IVwbBLLZsEe4IBJ9Gg6nEI/view?usp=sharing>.

Table 4. Coverage of the 11 sustainability categories from the harmonised framework by each farm assurance and certification scheme.

SUSTAINABILITY CATEGORY	RED TRACTOR	ARLAGÅRDEN	RSPCA ASSURED	PFL	SOIL ASSOCIATION	LEAF	DEMETER
Productivity	1	1	0	1	1	1	1
Soil management	1	1	0	1	1	2	1
Water	1	1	0	0	1	1	1
Air and climate	0	0	0	0	*	1	*
Energy and resource use	0	0	0	0	2	2	2
Nutrient management	1	1	0	0	*	1	*
Livestock management	2	2	3	3	3	1	3
Plant and crop health	2	2	0	0	2	2	2
Biodiversity	0	0	0	1	1	1	1
Social capital	0	0	0	0	0	1	0
Human capital	1	1	1	0	0	1	0
	Food/ produce safety focus, including traceability	Additional to Red Tractor – higher standards on milk production, housing and animal medicines and husbandry	Greater focus on livestock management, feeding, housing, health and welfare	Livestock management - greater focus on grazing management and animal welfare,	Livestock management - greater focus on health and welfare	Greater focus on energy efficiency, pollution, use of fertilisers and pesticides	Builds on organic standards with greater emphasis on specific management practices



Sustainable Food Trust

A global voice for sustainable food and health

The Sustainable Food Trust is a UK based charity working internationally to accelerate the transition to more sustainable food systems.

We believe radical changes are needed to address the problems of farm-related environmental degradation and biodiversity loss, food security and diet-related disease, but this will only be possible when leaders and organisations are empowered to act through a combination of sound evidence and enabling policy measures, supported by pressure from informed public opinion.

We are committed to facilitating a transition away from the current industrialised food model, to food systems which are more diverse and integrated, minimise depletion of natural resources, and promote public health, social justice and human wellbeing.

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