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Living Landscapes

Public dialogue on the future of land use

Conducted on behalf of the Royal Society

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Executive summary

Introduction and method

Background

The Royal Society commissioned Ipsos MORI to conduct an **online participatory futures dialogue on the future of the UK's land use** between August and November 2020.

There are multiple potential uses and objectives for rural land in the UK, which can be competing or complementary. The potential for large-scale agriculture and environmental policy changes as a result of Brexit interact with the Government's commitments to reducing carbon emissions under the Paris Agreement and halting biodiversity loss under the Convention on Biological Diversity. This means that land use policy in the UK is at a critical inflection point where the decisions made now will have wide-ranging impacts not only on what land in the UK might be used for, but also what the countryside will look like – potentially for decades.

In this context, the Royal Society have begun their Living Landscapes policy programme,¹ which seeks to inform a long-term vision for how the country manages its land in a way which balances short and long term concerns, and in particular agricultural production with environmental stewardship. This dialogue brings public opinion into the programme, fostering debate between the public, policymakers, landowners, farmers and scientists, among other stakeholders in the land.

Dialogue objectives

- To **understand public values and priorities** around UK land use, including how land is framed; what people know about land use; and what their priorities are when exposed to information about the benefits, trade-offs and potential “win-wins” of future land use decisions.
- To **explore this in the context of the future forces** which will impact the UK's land use and the future opportunities the UK has in order to meet land use objectives.
- The dialogue also sought to **understand the role of scientific evidence** in informing the public's views and opinions.
- A further objective was to understand public awareness and **perceptions of decision-making** around land use.

¹ <https://royalsociety.org/topics-policy/projects/living-landscapes/>

This report on the dialogue gives guidance on how best to engage the public in perceiving the multiple roles and dynamic nature of UK landscapes.

The findings will be used by the Royal Society to inform their own report on multifunctional land use, to contribute to thought leadership for policy, science, and society.

Method

Four sets of two deliberative workshops (reconvened with the same cohort of participants) took place in contrasting regions in the UK: East Anglia and the Fens, Southwest England, North Wales and Western Scotland. Each comprised around 24 members of the public, broadly reflective of age, lifestage, gender and ethnicity, as well as including those living in rural, urban and suburban locations. (Full sample details are included in the appendix). 97 participants in total took part in the workshops along with two to four experts at each session. Each workshop involved seven hours of dialogue discussion in total, made up of two 3.5-hour workshops. Each workshop was divided into sub-groups of four to six based on participants' age. The sessions involved both plenary sessions and discussions within the sub-groups, each with its own facilitator from Ipsos MORI. Before the sessions, participants were sent some materials on land use, including examples of different types of farming and the kinds of locations suitable for different land use in the UK. They were all invited to complete a simple task reflecting on their initial priorities for land use. Then, they came to the workshops:

- **Workshop one:** A three-hour online workshop where participants discussed their opinions about land and built understanding of different land use themes.
- **Workshop two:** A four-hour online workshop occurring 3-4 weeks after the first, where participants explored three future scenarios of land use and their implications for the UK.

Between workshops one and two all participants entered an **online community** where they were given a range of different tasks, including reviewing the films sent by farmers (see below) and taking a first look at our “future world” scenarios showing how the world might be different given different land use policy decisions. The community allowed participants to interact asynchronously with members of their regional cohort, participants from other parts of the country, and farmers from the ethnographic interviews detailed below.

In addition, there were two other strands to the research:

- **Eight farmers** were included in the project as they were asked to complete photo and video diaries on the Ipsos AppLife² mobile app, showing and telling us about their experience of landscape and giving us their thoughts on the future pressures and priorities for rural land use.

² Ipsos' proprietary mobile phone app for qualitative research. Further information available from: <https://www.ipsos.com/en/applife>

- **Eight telephone interviews with older or more vulnerable people without digital access** were also included as the online format would have excluded their participation. We carried out one-to-one phone calls during which we covered the same broad topics of land use systems and scenarios as with the rest of the participants.

Views from the farmer and digitally excluded depths were included throughout the analysis, with the material generated by the video diaries being used as stimulus for participants in the online community.

Themes of land use

Land use is a multifaceted topic which can be explored in many different ways. To help structure conversations with the public, this project used six key themes. These were defined by the Royal Society for the overarching Living landscapes programme based on the Westminster Government's 25-year Environment Plan³ and the Agriculture Bill 2020. They are referenced throughout the report as a way for the public to discuss potential trade-offs and win-wins within the environment:

1. Food production
2. Combating climate change
3. Biodiversity
4. Heritage, culture and leisure
5. Protection from environmental hazards
6. Clean air and water

Key findings

Perspectives of land use

The public saw land as a backdrop to life, while the small number of farmers we spoke with saw a reciprocal relationship with the land.

Public interaction with rural land use is generally low. Participants saw the land as a relatively unchanging backdrop to their lives: either from an aesthetic or recreational perspective. They did not know how land is used across the UK, often overestimating how much is built-up and were equally likely to under- or over-estimate how much food consumed in the UK is grown here.

³ <https://www.gov.uk/government/publications/25-year-environment-plan>

Participants displayed a very localised perspective, which meant that they found it difficult to deliberate on land use without significant preparation. They tended to view the land from a “consumer” perspective, meaning they saw land as a source of food and recreation and had little interest in what happened on land owned by others unless it had a direct impact on them. Housing and development were out of scope of the dialogue because little rural land is subject to regulation under the planning system. Nevertheless, many participants perceived them as important additional land uses and so wanted to factor them into land use decisions.

Before hearing about systemic approaches to land use, participants did not appreciate how the different land use themes are interconnected, instead viewing “outputs” from the land (e.g. food) independently from other potential uses, ecosystem services and public goods such as habitat enhancement, clean air and water and climate change mitigation and adaptation. This contrasted with the eight farmers interviewed through video diaries, who started from the principle that they can, and should, maintain ecosystem services in order to obtain the yields they need from the land.

As the public progressed through the dialogue, their views changed.

Many realised they did not know as much as they thought about the land, land use and the pressures on land in future. They came to appreciate a systemic interpretation of land use where everyone is a stakeholder, a broader role than being a consumer.

The experience of living through COVID-19 in 2020 has informed participants’ views.

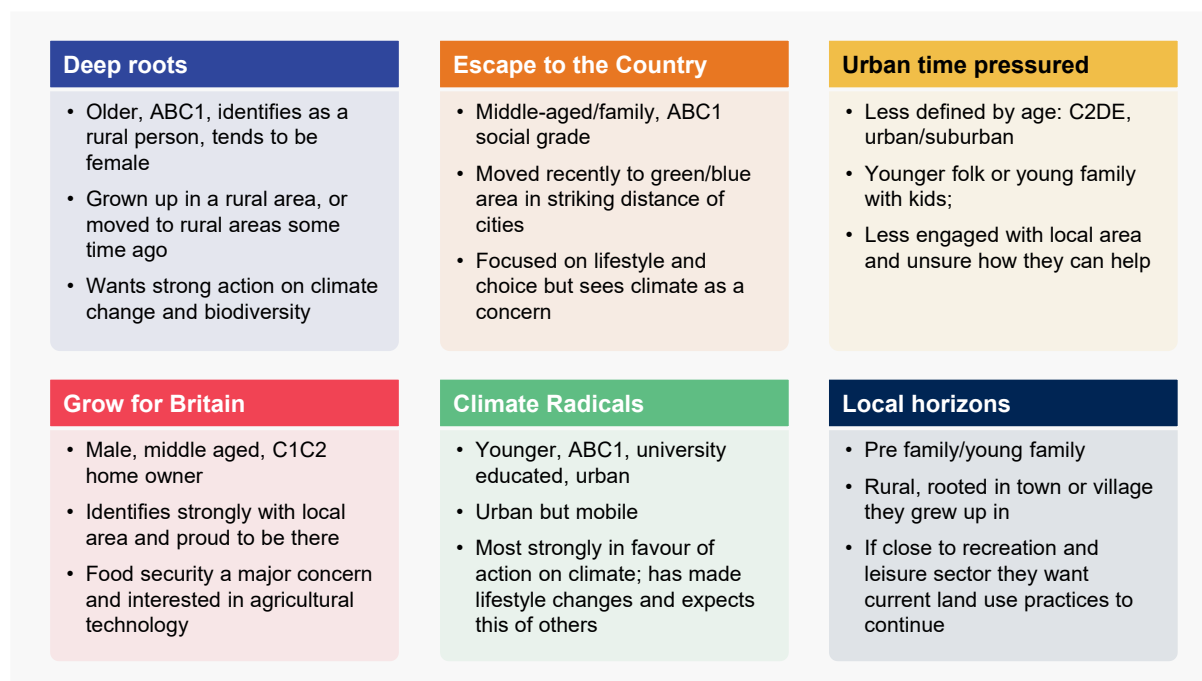
Participants felt they had a greater awareness of the landscape, the role of community, and the inequalities of society as a result of living through 2020. They saw greater potential for both policy-driven and individual-level behavioural change, post-pandemic even in areas (like food and environmental action) where change has been slow to come previously. At the same time, their experiences through the year had given them a sense that unexpected events could happen, meaning systems and infrastructure could be more fragile than they had thought previously (particularly mentioned were food supply chains and flood defence schemes). The public in this dialogue had an appetite for change in the way that food and other land use systems operate, and were keen to understand what policy and other options are open to us as a society. If this mood prevails in the public beyond the participants of our dialogue, it may prove something that policymakers can capitalise upon, to build support for policy that seeks to change individual and collective behaviour in the UK.

Land value typologies - demographic patterns in the public’s views

Analysis of the views of participants across the workshops allows the public at the dialogue to be grouped into **six impressionistic attitudinal typologies** which inform their priorities for land use. These observations imply that the wider public’s attitude to land may not simply be influenced by where a person lives (urban or rural) but by other factors, both extrinsic and intrinsic. Extrinsic factors which made a difference in this dialogue included a person’s social

grade,⁴ and the time they had spent in a single area. Intrinsic factors included the person's underlying values, and (self-identified) rural or urban status.

Figure 1.1: Six “land value typologies” – groups of people with different attitudes to, and priorities for, the land



Each typology expressed different views on the balance of trade-offs between land use decision-making themes and exhibited varied preferences towards the scenarios of the future.

Uniquely, these typologies bring out the different perspectives that exist *within* the rural population, rather than simply contrasting urban and rural viewpoints and treating rural communities as a homogenous group. This aspect of the dialogue may provide valuable new insights into how best to engage with diverse rural groups on land use change.

What are the priority uses for land, and what trade-offs are acceptable?

Participants quickly appreciated that the six themes of land use discussed in this project – food production, combating climate change, biodiversity, heritage culture and leisure, protection from environmental hazards, and clean air and water – were strongly linked.

In prioritising within, and between, themes, participants identified two defining factors. The first was the level of long-term importance participants ascribed to each theme. The second was how immediately relevant to their lives participants felt the impacts of these themes to

⁴ A social classification system based on occupation. For more information please see the background and methodology chapter, or: <http://www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/>

be, a judgement which was based primarily on where participants and their families lived, their lifestyles and values. The urgency and immediacy assigned to the six themes – and the views each of the land value typologies held on them – are detailed in the table and diagram below.

Figure 1.2: **Public views of the themes of land use**

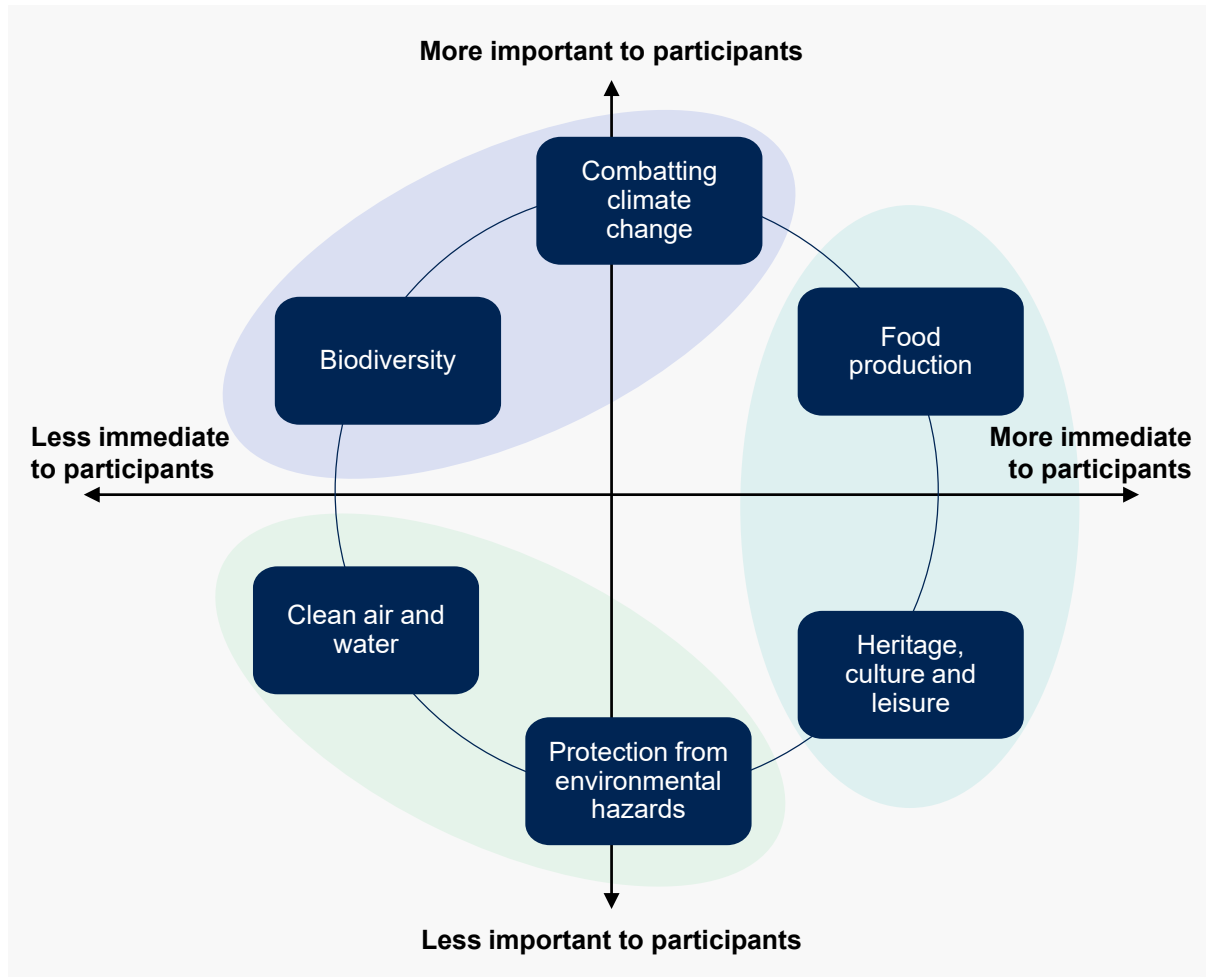


Table 1.1: Summary of public priorities for land use

	Priorities	Which typologies was this most important for? <i>Key trade-offs & red lines</i>
Combating climate change and protecting biodiversity	Greatest long-term importance	<p>Deep Roots and Climate Radicals see these as the principal problems for our age, which require systemic solutions</p> <p><i>Most land use decisions will need to incorporate elements designed to help solve these problems</i></p> <p><i>Prioritise biodiversity and fighting climate change, but not at the expense of food supply.</i></p> <p><i>A red line for most was choosing solutions to food supply which would impact the climate more severely than we do now</i></p> <p><i>Participants generally accepted that responding to climate change will require personal changes, but may also bring wider benefits.</i></p>
Food production and culture, heritage and leisure	Greatest immediate urgency	<p>Urban and Time-Pressured and Grow for Britain typologies prioritised food supply and affordability. The former were focussed on ensuring they could feed their families affordably, while the latter tended to prioritise the ‘sovereignty’ of national food supply and production.</p> <p><i>Many wished to move away from intensive farming and there was top-level awareness that this might lead to dietary change from the public</i></p> <p><i>A “win-win” would be to make farming more efficient through high-tech methods.</i></p> <p><i>Most had red lines on preserving animal welfare, environmental standards and food safety standards, even if prices rise.</i></p> <p><i>Participants were open to promoting biodiversity tourism (e.g. through reintroductions of large mammals). However, there were concerns about that type of “rewilding” due to its potential to prevent existing access to certain landscapes.</i></p>
Protection from environmental hazards and clean air and water	Need to be addressed, but of less long-term importance	<p>Those closest to poverty and who experience inequality – Escape to the Country and Local Horizons – were most concerned about the need to address hazard protection and clean air and water quality in a fair way so that these things did not impact the poorest the most.</p> <p><i>Because these are seen as having very local impacts, participants turned to planning and infrastructure decisions rather than rural land use for the solutions to these challenges.</i></p> <p><i>Natural solutions such as protecting or restoring peat bogs were seen as win-wins; though there would be a trade-off against food production, which for some was a red line.</i></p>

The role of evidence in forming views, and appetite for more

- Participants were interested to hear about the role of different land uses in promoting biodiversity and wanted to know more about the potential for urban spaces also to promote biodiversity. The idea of using farmland multifunctionally for carbon sequestration was new to most. The concept of carbon costs of food was new to many (there were many misperceptions about food miles vs carbon cost of meat).
- There was interest in learning that “high-tech” farming involving any technological innovation does not always equate to intensive farming, and that automation and policies that promote the delivery of ecosystem services from land could open up different jobs in the rural economy.
- Participants were surprised and interested to learn about the role of agriculture in flooding, methane production and ammonia pollution of air and water.
- Some land uses were particularly interesting to participants; the peat landscape was used as one example, rather than presented as a solution to carbon sequestration for the whole UK, but nevertheless it captured imagination, as many participants had little knowledge of peatlands prior to the discussion.

How participants responded to scenarios of the future

Participants reviewed three scenarios which projected how the UK might look in 2035 if different policy goals were pursued from now:

Follow the Market. In this world, policy choices are designed to promote economic growth and therefore only land uses which are profitable remain. Uneconomical land uses become rare in the UK, meaning an overall loss of farmland and growth in leisure and housing. Food remains cheap, sustained by an increase in imports from other countries, while UK agriculture becomes higher quality and more expensive.

- **What did people think about this world?** Follow the Market was seen as an acceptable world to live in today, but not a sustainable, fair or appealing world in 2035. Policies promoting economic growth and keeping food prices low felt closest to participants’ current lifestyles and the leisure options and management of this world were also viewed positively, particularly by the **Urban and Time-Pressured** but also the **Escape to the Country** and **Local Horizons** typologies. However, this world prompted concerns about low food standards, income inequality and how far protecting the environment would be prioritised in an economically-driven world.

Home Front. Policy decisions made in this scenario aim to significantly increase the proportion of food consumed in the UK which is grown here. As a result, land use changes are designed to drive up UK food production through expanded agriculture and the use of agricultural technology. In this scenario food choices were limited to reflect the fact that the cost of food would rise under this policy. Other land uses such as recreation, biodiversity and controlling climate change are secondary to the overriding objective of food production.

- **What did people think about this world?** Home Front was seen as an acceptable and sometimes desirable way to protect the UK's food supply in a turbulent medium-term, but few felt positive about it and there was awareness that it did not address climate and biodiversity issues over the longer term. The prioritisation of domestic food production above other land uses was broadly unpopular but had strong appeal to the **Grow for Britain** typology who were particularly concerned about the UK's reliance on food imports for geopolitical reasons. While there was positivity about the enhanced role of innovation in agriculture, the scenario's lack of focus on biodiversity, environmental sustainability or rural-based recreation was a major concern. Those who were most likely to see this scenario as an acceptable "end state" viewed it as a suitable response to the environmental and political factors that might make the Follow the Market world unviable (e.g. food produced in other nations with poor animal welfare, environmental, food safety and labour standards).

Climate Co-ordination. The rationale behind policy decisions made in this future is to reduce the amount of carbon the UK emits and use land to provide other public goods such as biodiversity, carbon sequestration and clean air and water. To achieve this, land uses which promote these public goods are prioritised and funded. Recreation and leisure uses are curtailed and the cost of food – especially meat – is much higher.

- **What did people think about this world?** This was the most popular scenario over the longer term as participants felt it was best-placed to deal with the overriding imperatives of managing climate change and protecting biodiversity. The types of leisure activity and focus on local and seasonal food were also popular. However, here too there was concern about inequality of access to nature. Younger participants in particular had reservations about the types of leisure activity which might be allowed in this world. Across all ages, participants were concerned about the potentially authoritarian nature of this scenario. A move straight to a climate co-ordination world was generally considered to be too big a change except for **Deep Roots** and **Climate Radicals** who were most worried about the environment.

A finding from across all three scenarios is that **participants need a narrative for how we will reach these new worlds**. Throughout the dialogue, participants wanted to know how government and policy might support people to transition from the way they live their lives now to the very different lifestyles required by some of the scenarios; and in particular how this could be made a "just transition". The public are broadly receptive to making changes to their lifestyles; but require help and advice on how to do this and an awareness of how their efforts contribute to a wider UK endeavour.

Awareness of decision-making

There was little awareness of decision-making processes around rural land use and an assumption that large scale decisions are made on a UK level only (with some awareness in Wales and Scotland about the devolved nature of policy). Faced with a complex system, participants' general response when asked who *should* be involved was that everyone

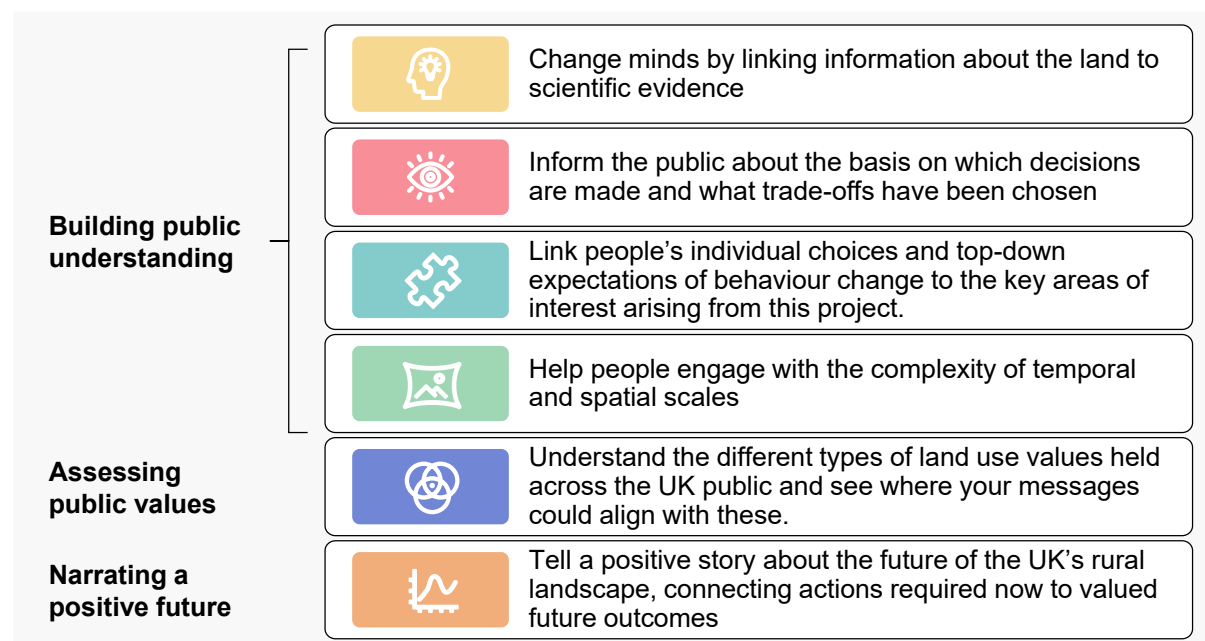
should be consulted because land use change will affect everyone. Within this, participants identified three key tensions:

- **Knowledge** There is a need to balance input from experts who have scientific expertise with input from people living in the area who have local lived experiences
- **Vested interests** Manage the desire of some groups to shape decisions for their own ends
- **Proximity** Balancing local, national and international interests.

Recommendations for engaging, informing and communicating with the public about land use change

Policymakers and land managers can use insights from this project to design mechanisms for land use decision-making that build on an understanding of the public's views. Recommendations for such mechanisms emerging from this project fall under three broad headings of building public understanding, assessing public values through further research and narrating a positive future:

Figure 1.3: Potential mechanisms for change



Build public understanding of land use multifunctionality and the interactions of land use with other complex systems

- **Help to change minds by linking information about the land to scientific evidence:** Despite claims to the contrary, the UK public has always appreciated the role of experts in decision-making and there is a role for scientists to communicate the systemic nature of land use at a local level. One potential approach is on-the-ground signage which can interest the public in their local area by contextualising the local

landscapes they value. Another would be to address the broad lack of awareness about the nature of UK land cover through creating a map that explains what the country looks like now, and how and why some land uses are more appropriate to some areas than others.

- **Inform the public about the basis on which decisions are made and what trade-offs they involve:** The public see decision-making in complex areas like land use and agriculture as an area for expertise, but they are interested in the information underlying the decisions which are made. Talking about food is a fruitful way to inform the public about the decisions and trade-offs in land use.
- **Link people's individual choices and top-down expectations of behaviour change to the key areas of interest that arise from this project:** it wasn't clear to participants how issues they care about like food waste and packaging relate to big issues like helping fight climate change or protecting biodiversity. Other areas of interest that could be better tied to the large systemic issues include diet, urban life and transport.
- **Help people engage with the complexity of temporal and spatial scales through gamification:** In a complex topic like land use there is a challenge in ensuring that public engagement reaches beyond those who are already more engaged in the discussion. Gamified solutions are one option; they can appeal to a broader audience and can also take advantage of the processing power of a decision-tree engine in an online game to play out the results of complex policy decisions.

Assess the different types of land use values held across the UK public and see where messages could align with these

- **Substantiate the qualitative typology identified in this report through nationally-representative quantitative study.** Additional research could also evidence the elements where this categorisation is currently light – for instance, on the prevalence of these typologies among those living in highly urbanised areas and how they play out across different ethnic groups – as well as helping to overcome the disconnect between the varying size of the groups and their ability to be heard.

Create a positive story about the future of the UK's rural landscape

- **Creating a united and positive vision for what the UK landscape should look like would be a powerful tool for gaining public buy-in to the changes that are required to land use and our diets and lifestyles.** As the public emerge from the challenges of 2020 into a post-COVID and post-Brexit world, a coherent vision for the future of the UK which merges perspectives from different walks of life, including rural and urban, rich and poor, and English, Welsh, Scottish and Northern Irish, has perhaps never been more necessary.

We know from other polling that people in the UK retain a sense of global mission and leadership far ahead of other European nations. Harnessing those elements which are positive and explaining how this contributes towards building a more sustainable world will be important to create a future vision of the UK that people want to work towards.

2 Background and methodology

The background to this project

We are at a pivotal moment in how land is used in the UK. Increasing environmental pressures on the land and the prospect of significant changes to agricultural and environmental policy as the UK leaves the EU mean that the coming few years offer a unique opportunity to adapt the way land is used and managed.

The Royal Society's *Living Landscapes* programme has been designed to bring scientific evidence into the policymaking process. Its aim is *“to inform a long-term vision for how the UK manages its land, in a way that combines agricultural productivity with sound environmental stewardship”*.⁵ One of the strands of work within the programme, ‘Multifunctional land use’ seeks to understand the multiple benefits and trade-offs associated with different land uses.

The Royal Society commissioned Ipsos MORI to undertake a series of public dialogue workshops within this strand, exploring the public's views on land use. Through the dialogue, Ipsos MORI provide insight on public opinion of land use priorities and decision-making in the UK.

The dialogue aim and objectives

The aim of this dialogue was to engage the public to discover people's attitudes towards rural land and their priorities for its use. By unpacking the factors which underpin these views, we also sought to understand to what degree they are informed by scientific evidence. We also sought to understand how much people know about land use decision-making and how they would like decisions to be made in the future.

This aim was met through a series of objectives explored in the dialogues:

- Understand public discourse around the environment; reactions to current and historical framings of the rural landscape and “what land is for”
- Explore and understand the underlying factors in people's attitudes towards land use; how their circumstances and experiences might frame perspectives on land use; and draw out differences on a local, regional and national level
- Explore how differences in participants' perspectives or preconceptions might frame their priorities for land use (what is already known); and gauge how their journey through the dialogue shapes and informs new perspectives (what is not known)

⁵ <https://royalsociety.org/topics-policy/projects/living-landscapes/>

- Understand the contingencies of land use upon which new information and scientific evidence contribute to different choices or priorities
- Investigate people's understanding of land use and management and how land use decisions are made; as well as their understanding of external factors such as market demands on the land and environmental conditions
- Understand the parameters of acceptability: what red lines shape public support of land use decisions and solutions; what trade-off concerns do participants have; how do their views change when competing priorities are presented to them?
- Explore possible directions for the future of land use and the potential benefits, compromises and solutions therein

Study Design

A dialogue approach was undertaken in line with the *Living Landscapes* programme's aims to bring together a variety of voices and perspectives to provide a holistic view of what future frameworks for land use could look like. Given the future-facing nature of the *Living Landscapes* programme, Ipsos MORI decided to use participatory futures techniques in a public discussion of land use and decision-making in the UK.

Researching and building scenarios

The initial focus was to understand the potential impact of different land use policy decisions on how the UK landscape looks in future. A **rapid evidence assessment** explored scenarios and key drivers of change identified in existing reports. This was complemented with **seven stakeholder interviews** with landowners, scientific and land use experts. Analysis of the interviews and evidence assessment identified key drivers and themes that were taken forward to a scenario building stage.

The initial **scenario and materials development** was built on the preliminary review and research stage and included workshoping ideas with the Royal Society staff team and *Living Landscapes* Steering Group. This was complemented with a **second phase of eight interviews** with futurists and experts with a broader societal view, including landowners and representatives of civil society groups. This built out the scenario concepts further and ensured key land use trade-offs and important regional issues were covered.

Ipsos MORI worked with The Liminal Space⁶ to create scenario stimuli. The materials included digital collages to depict how the scenarios would affect the look of the UK landscape and physical stimuli designed to bring to life the day-to-day practicalities of these scenarios. These were posted to participants ahead of Workshop 2. The materials included paper objects such as mocked up maps of wildlife sanctuaries as well as edible and interactive objects (a teabag, apple chips and a box of seeds). A full list is provided in the appendices.

⁶ <https://www.the-liminal-space.com/>

Creating workshop materials

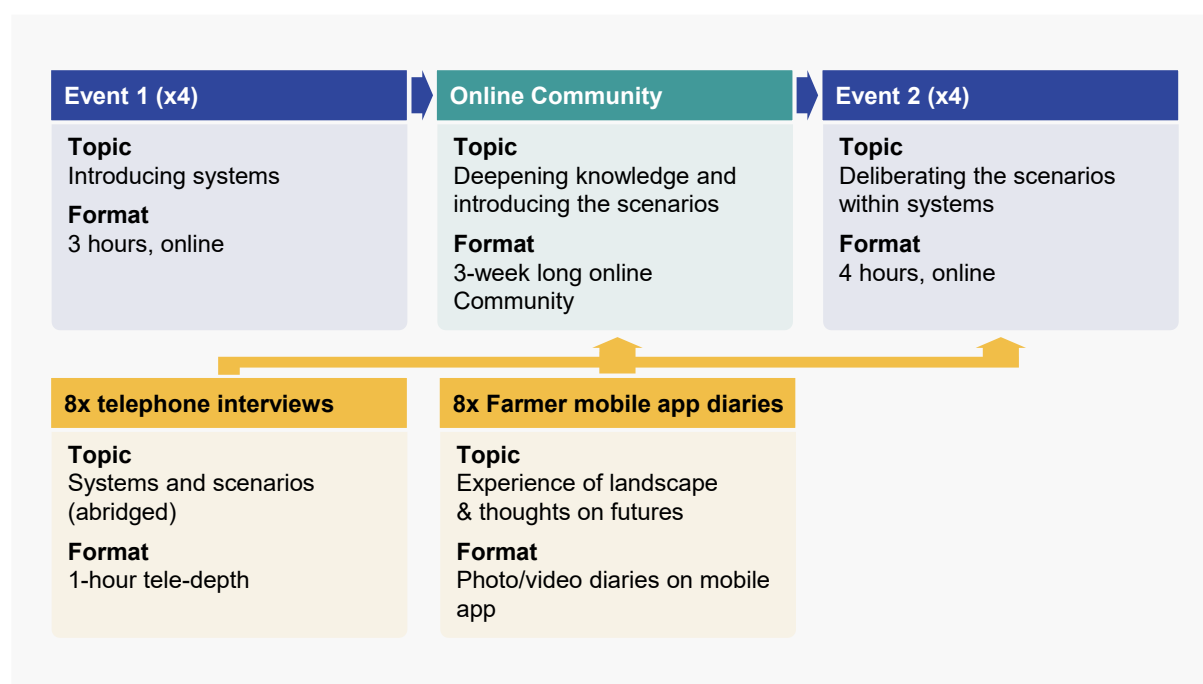
The initial literature review, workshops and interviews informed the development of a suite of workshop materials, including a pre-task booklet, discussion guides and stimuli for the two workshops. The aims of the workshops and participants' journey is laid out in further detail below.

The materials were shared with the *Living Landscapes* Steering Group and Royal Society staff to ensure their feedback was reflected in the materials. The role of the Steering Group was to provide guidance on the design of the dialogue and its overall aims, shaping the project and offering their collective expertise to advise on the technical and practical issues around land management and interrelated factors associated with land use, such as environmental considerations, governance issues, existing conditions and the potential impacts of future land use decisions.

Fieldwork details

Ninety-seven members of the public and thirty external experts and Royal Society Steering Group members participated in a total of eight workshops, which were conducted online between September and October 2020. Four regions were selected for the research; East Anglia and the Fens, North Wales, Western Scotland, and Southwest England.

Figure 2.1: **Participants' journey through the dialogue**



Participants were recruited to reflect the demography of the four regions based on gender, age, ethnicity, working status, and socioeconomic grade quotas. This was a qualitative sampling exercise: the intention is not to provide a statistically representative sample but to reflect the mix of attitudes and types of people in each location.

The two sessions had different aims:

- **Workshop 1** introduced concepts of land use, multifunctionality and the six themes of land use.
- **Workshop 2** led participants through the three scenarios and land use decisions.

Discussion was mostly in subgroups – 16 in total across the four regional groups. Each subgroup was led by a moderator who managed contributions from participants. There was also an external expert in each group.

All participants were invited to an online community which ran for three weeks between workshops one and two. This community was designed to deepen participants' knowledge of how land is used in the UK, introduce them to materials from the farmer mobile app diaries and give them a first look at the scenario stimuli.

Eight in-depth telephone interviews were held with those who were vulnerable or digitally excluded and therefore unable to participate in the main workshops. These covered their views on the six themes of land use, any key win-wins and trade-offs they saw in future land use, and their views on potential futures in this area for the UK. Their reflections and views are included throughout the report with the main workshop participants.

Additionally, eight video diary exercises were completed with UK farmers over August, using the Ipsos AppLife research platform. These diaries allowed farmers to engage in the land use discussion and provide their perspectives on land use as key stakeholders in their local areas. In addition to their reflections on the future scenarios of land use, the videos and photos they provided were used as stimulus for the participants in the online community. The farmers were also included as participants in the community so they could interact with the wider public.

Public participants were given a cash honorarium. This is standard in Ipsos MORI dialogues. It ensures that a diversity of participants is able to attend the workshop regardless of financial circumstance. Separate incentives were given for attendance at each workshop and for participating in the online community. Workshops were held across weekday evenings and Saturday mornings, and in-depth interviews were held at times of the participants' convenience.

The role of experts in this dialogue

In addition to providing expertise in materials development, experts from the Steering Group and other academics played an important role in the workshops themselves, accompanying participants through both online workshops. Their role was to answer technical questions asked by dialogue participants, explain what practical and scientific issues exist in land use, how those issues have been handled historically, currently and may be in the future, and introduce factors for participants' consideration. It also gave experts an opportunity to hear public participants' views and priorities on land use issues. Experts were selected based on their experience and knowledge of land use and its related themes (environment, planning, land ownership and management). They were academics, representatives from land management organisations and land use specialists.

Interpreting qualitative research

The findings from this research are qualitative insights; reflections of the thought processes and ideas the participants in the groups applied to their conceptions of land use. This method is the most appropriate for a complex topic like land use, as it allows extended debate in which participants gain a more nuanced understanding of the topic. Its aim is to show how people approach this area in detail, rather than to represent UK-wide perspectives in a statistical fashion.

By applying criteria used in social science literature⁷, we determined the credibility of qualitative research findings. We can be confident that the principles and views presented here are credible and valid due to the following strategies used in this dialogue: accounting for bias, meticulous record keeping and systematic analysis, validation, and data triangulation. Qualitative findings are not intended to be representative. However, if ideas exist in a culture, a sample of the size used in this project with continued deliberation is likely to create a set of responses which illustrate the range of ideas that it is worth exploring with a representative sample in quantitative research. We detail this in the chapter on the land value typologies (see Section 3, Fig 3.1) characterised through the research. This report is the culmination of the public dialogue, which provides detailed insight on how the public's views, concerns and aspirations can be incorporated into the future of UK land use.

When reporting participants' views, we use the conventions of qualitative social science reporting:

- We may indicate via "a few" or "a limited number" to reflect views which were mentioned infrequently and "many" or "most" when views are more frequently expressed. We use "some" to reflect views which were mentioned some of the time, or occasionally. Any proportions used in our reporting should be considered indicative, rather than exact.
- However, we also indicate strength of feeling even when views are expressed by a minority, as this may also give useful insight into the range of feelings which exist within different groups of people.
- We are reporting perceptions rather than facts; in the case of this project there are various misconceptions our participants expressed about questions of fact, for example conflating aspects of environmental protection with unrelated land use benefits, assumptions about environmentally friendly practices such as producing meat in the UK versus importing meat to the UK, and a broadly conceptual understanding of biodiversity. We have indicated where we are reporting perceptions of participants, and where we are offering analysis of the implications of these perceptions.
- Where views apply only to a subset of participants, e.g. participants in suburban areas, we highlight this in the text.

⁷ <https://ebn.bmj.com/content/18/2/34>

Stylistic conventions

We have used the convention of describing the word data in the singular rather than plural. Landscapes refer broadly to types of land and are not limited to rural land or its visual aspects. Our use of the word “landscape” also incorporates operational and management related aspects of the land, political aspects, ownership, both visible and imperceptible biological features, and ecosystems within that landscape.

The report predominantly describes its findings in the past tense – for instance, when reporting attitudes of participants in the workshops or the reaction of different land value typologies to the scenarios. The present tense is adopted when talking about the broad principles of public attitudes to land use drawn from analysis of the findings.

Social grade is a classification system based on occupation that is commonly used in market and social research. It is referenced throughout this report as a way to describe the socio-economic background of some land value typologies and also featured as an element of recruitment for the workshop participants. The main characteristics of each letter of the social grade scale are described below:

- **A:** High managerial, administrative or professional backgrounds
- **B:** Intermediate managerial, administrative professional
- **C1:** Supervisory, clerical and junior managerial, administrative or professional
- **C2:** Skilled manual workers
- **D:** Semi and unskilled manual workers
- **E:** State pensioners, casual grade workers, those unemployed with state benefits only



3 How do people think about land?

This chapter explores participants' initial approach to the land and explains what they spontaneously understand about land use, what types of landscapes they tend to value, and how views changed during the dialogue. It considers both the general public (from the workshops and depth interviews) and farmers who were interviewed in this research.

The chapter goes on to explain how participants' views differed. The dialogue revealed that views about the land and priorities for its future use are informed by underlying values and attitudes and, to some extent, by demographic, age and educational factors.

3.1 What do people know already?

Participants' framings of the land: land as a backdrop to life

Understanding the base-level of awareness and the perceptions participants hold about the UK landscape was an important precondition to getting them to think about the future. Across the first dialogue workshops, online community and depth interviews, a clear picture was built of the way participants across the country approach the topic of the UK land use.

There were three hypotheses for how people might view the land coming into this dialogue:

- As a public **commodity**, to be bought and sold
- As a public **right**, people should be free to exist on the land
- As a public **responsibility**, which needs to be safeguarded for future generations

However, the baseline view found among the public did not align strongly with any of these. Despite the importance assigned to food production by many participants, primarily the landscape tended to be seen as **a backdrop to their lives**. This mindset frames discussion of landscape primarily around the twin topics of aesthetics and recreation.

This could be seen across different regions of the UK, urban and rural settings, and demographic groups: participants value what they see as the rural landscape. For many in the dialogue, appreciation had been recently strengthened and emphasised in the context of lockdowns and movement restrictions during the COVID-19 pandemic.

In initial discussions of ‘valuable land’ participants primarily referred to visual aspects - ‘green space’, ‘the countryside’ or ‘good views’.

‘As I’m looking out my back window now, I literally look out onto fields. I chose this house on the edge of this town for this reason.’

East Anglia, Workshop 1

Appreciation of landscapes is tied strongly to the activities people can do in them. In tandem with their descriptions of what land should look like, participants commonly mentioned the activities they enjoy in these spaces too: walking (often with a dog), cycling, and camping. These descriptions were used not only for talking about their local areas, but also for what participants look for in a UK-based holiday or leisure destination – suggesting a very set perspective of the types of recreation participants expect from the UK landscape.

‘I love where I live because there’s a bit of everything. I’m right smack bang in the middle of mountains and beaches, so it’s only half an hour away so I can take my son for a walk.’ North Wales, Workshop 1

‘There are quite a few open spaces around here where you can walk, ride your bikes, get fresh air when you’re allowed to.’ Southwest England, Workshop 1

These preferences were similar across the groups and suggest that for many, the rural landscape is framed as a **largely unchanging environment to ‘enjoy’**. This static view is derived from a key set of assumptions which appear to be held uniformly across different groups: negative views of encroachment from housing and urban areas; misconceptions around how much land is used for different purposes in the UK; and a highly localised perspective of land use typified by low engagement with landscapes further afield.

Across all regions and demographic backgrounds, participants expressed concerns about the future of land use; these were all about development, with concerns including new-build housing encroaching on green spaces, development proceeding despite a lack suitable infrastructure and urban sprawl. Participants tended to describe this concern using emotive terms such as ‘invasion’, ‘destruction’ and ‘ruin’, threatening what they saw as the ‘peace’, ‘tranquillity’ and ‘beauty’ of the traditional countryside.

‘[In fifteen years’ time, there will be] more urban sprawl...housing estates popping up everywhere... houses crammed into what could have been a beautiful rural space.’

North Wales, Workshop 1

‘[A local businessman] wanted to build a golf hotel, golf course, golf academy and 160 houses. This would definitely change the dynamics of the village.’

Scotland, Online Community

The driving forces behind this trend of encroachment were identified as a general ‘growing population’ across the UK, a desire for people to leave urban areas following the pandemic and, for those in North Wales and Southwest England, increasing numbers of second home buyers.

Yet many of these views were built on a key misconception, which is that the UK is extensively urbanised and built on already. During the initial workshops, participants were asked what proportion of the UK’s land surface they thought had already been built on. Answers varied widely, but they were all significantly higher than the recent estimate of 11.3%.⁸ Overestimates were particularly prevalent among urban and suburban participants who reflected, after finding out the true percentage, that they were strongly influenced by the built environment they saw around them.

‘I thought it would be a little bit higher, to be honest... People that are on this island have chosen to be really condensed.’

East Anglia, Workshop 1

‘When you look around, most of what you see are houses built everywhere. You’d think it’s a lot more percentage.’

North Wales, Workshop 1

There were similar levels of under- and overestimation when it came to other significant types of land cover in the UK. For instance, none were aware ahead of the workshops that peat bogs cover a tenth of the UK’s surface area.

These misconceptions also extended to other aspects of land use. Few were aware of how much food eaten in the UK is also grown here, 53% at the time of the dialogues⁹, but estimates from the groups were both higher and lower than this. This figure prompted two reactions: some were surprised that it was so high, while others were concerned that it was so low. The latter group became one of the key blocs of opinion within the dialogue; a subset who were extremely concerned about what they termed ‘food security’, but what might more accurately be described as food supply, affordability or ‘sovereignty’, in the context of Brexit and the pandemic. This group strongly supported increasing food production in the thematic discussion and also when assessing the three scenarios (see the details of land value typology ‘Grow for Britain’ in Chapter 3).

‘Whenever you go in the supermarkets, when it says, “British produced” you’re like, “Yes. I have to get it”. It doesn’t seem like it’s there often. If you buy some raspberries [in the winter], they’ve come from Morocco, or, I don’t know, Chile.’

Southwest England, Workshop 1

⁸ <https://www.ons.gov.uk/economy/environmentalaccounts/articles/uknaturalcapitalandcoverintheuk/2015-03-17/pdf>

⁹ <https://www.gov.uk/government/publications/food-statistics-pocketbook/food-statistics-in-your-pocket-global-and-uk-supply>

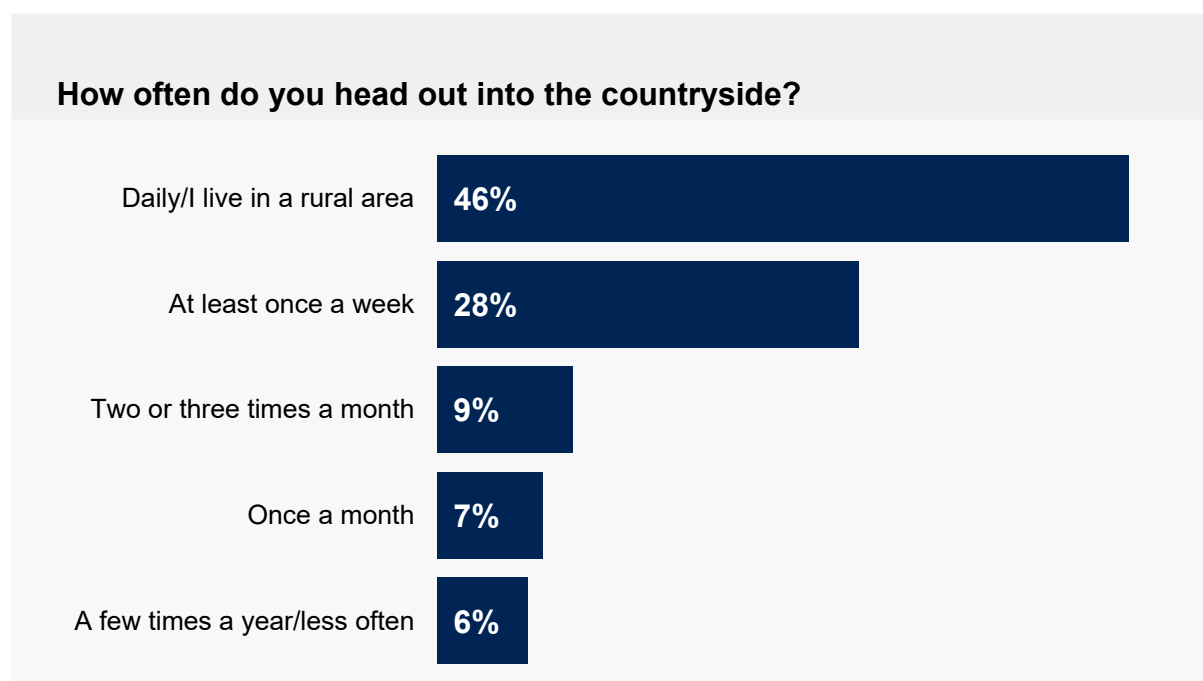
Participants also frequently overestimated the UK farming sector's contribution to the country's carbon footprint. This opinion was built on widespread awareness of the concept of 'food miles' from importing and exporting food, in addition to increasing awareness of the carbon emissions from meat production, although this knowledge was incomplete. For instance, participants struggled to weigh up the relative carbon footprints of locally-reared beef versus avocados grown in Mexico, or almond milk versus dairy milk.

'I've seen too many documentaries on meat production...I still enjoy it, but I just believe that [reducing meat eating] is the way forward to reduce the carbon emissions.'

Scotland, Workshop 2

These misconceptions point to **participants' highly localised experiences of the UK landscape**, which were explored in greater detail in the online community. One of a series of quick polls of participants during their time on the community was '*How often do you head out into the countryside?*'. This showed that, while a majority visit rural areas regularly (an unsurprising finding for a mostly rural and suburban set of participants), those in more urban and suburban areas were more likely to say they only do this monthly, or even as little as a few times a year.

Figure 3.1: **Online Community quick poll – access to the countryside**



The maps in Fig 2.2 provide another example of how rooted most participants are in their local areas. One of the online community exercises asked participants to drop pins on a map of the UK showing where they live currently (red pins) and where they have lived in the past

(purple pins).¹⁰ Both English locations and Scotland show highly localised patterns, with relatively few having lived outside of their current region, let alone in the different nations of the UK. North Wales shows a slightly different pattern; we heard anecdotally in the dialogue discussions that that it was a popular destination for retirees from elsewhere.

Highly localised perspectives and a feeling of disconnection from the land contributed to a generalised lack of agency felt by many participants around their place in the land. An implication of this was that views of farmland – and other types of land owned by other people – were primarily marketised, meaning that participants did not feel they had a stake in the land use decisions made by landowners and farmers. Nor did they understand the complex mix of policy, profit and individual choice which determines what is grown in which

location, and when it is grown.

Participants generally tended to care about their local areas, their personal access to land for recreation and ensuring that food production continued. They did not spontaneously tie these together into an overarching view about land use.

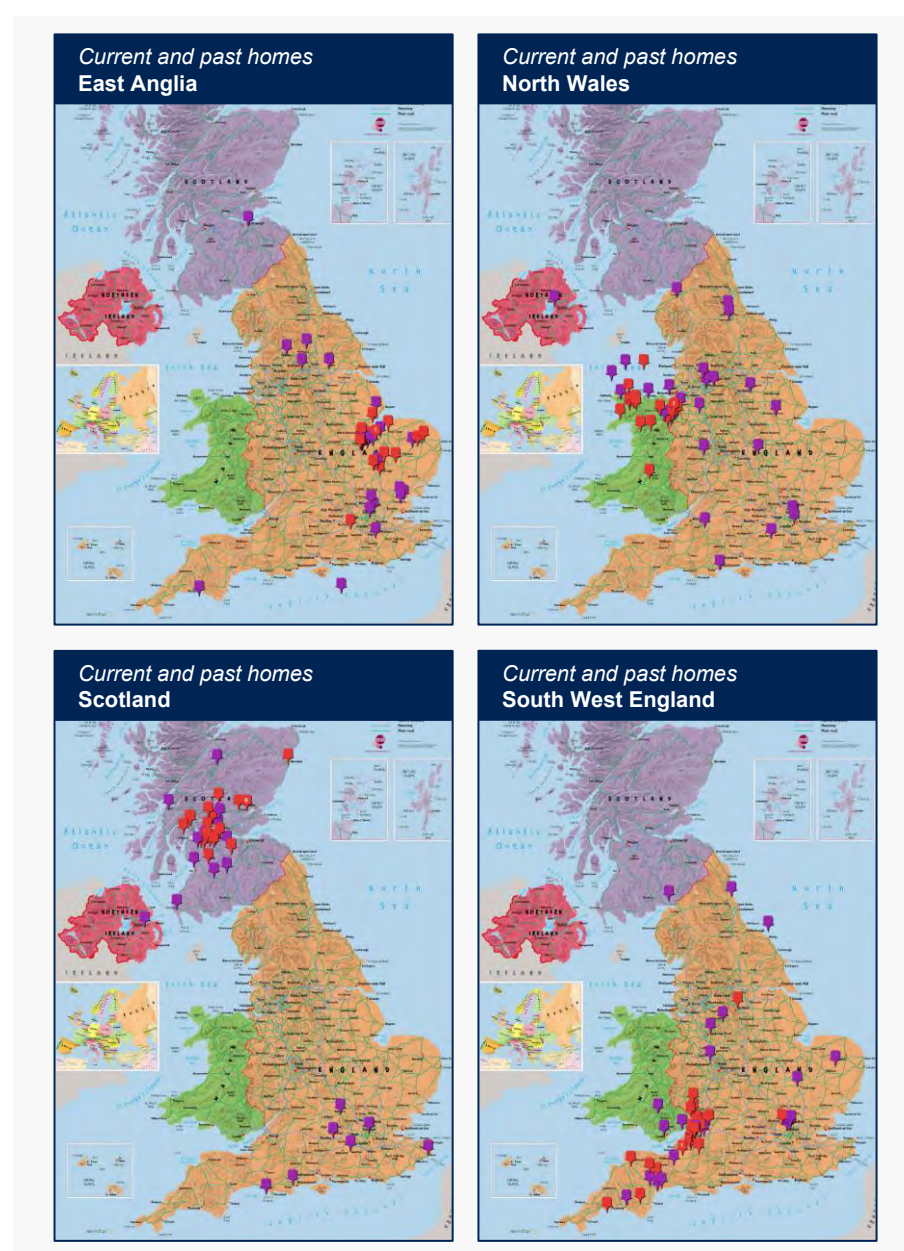


Figure 3.2:
Locations of
participants' current
(red) and past
(purple) homes

¹⁰ Note that some pins appear out of place, which may be due to participant error

Farmers' perspectives and interactions with the public

Alongside the main groups, eight farmers from across the UK were invited to contribute their views on the future of UK land use by completing daily video diaries. In contrast with the general public, the farmers were very aware of how much work must go into balancing the production of food with ecosystem services, from encouraging hedge growth to rotating sheep grazing areas to preserve mountain habitats. These farmers were more likely to perceive the land and their work as a reciprocal relationship; although they did not use the term ecosystems services, they stressed the importance of balancing the 'get' of food production with the 'give' of maintaining 'nature'.

'It's not all just fields of crops for us!... We have a large amount of land put down to wildlife habitat and grassland... We try to put something back as we farm the land.'

East Anglia, Farmer

All participants (except for the telephone interviewees) were given the opportunity to view the farmers' submissions through the online community platform and for many this more nuanced viewpoint came as a surprise. It also highlighted the fixed views participants had of farming: for instance, one farmer gave an example of a legume-rich grassland they were growing for their cattle. This looked very different to what might be considered a 'traditional' plain grassland and participants expressed surprise that it could have greater ecosystem benefits than plain grass. As emerged throughout the dialogue, participants were keen to understand more about these aspects of land use and the role they can play in providing additional benefits to the land.

'I didn't think animals would graze on grassland such as the one in the video. I thought it looked unkempt and covered in weeds.'

Scotland, Online Community

'I was quite surprised about the grazing of cattle, and about the fact that they're not grazing on natural grass.'

Southwest England, Workshop 2

Farmers felt that the perception held by participants that farming always produces large amounts of carbon emissions was unfair and based on media sensationalism and poor education around how they produce food.

'As a farmer I feel we are a massive target from the media on negative climate change effects... Just look at how the emissions and air quality improved drastically during lockdown and yet apparently it's our cows that are killing the planet.' Farmer,

Southwest England

However, it was clear through the dialogue that participants were keen to learn more about farming techniques and this interest helped to set farming emissions in a broader context. Indeed, as elaborated later in the report, participants frequently highlighted the importance of educating the public about the interconnections, trade-offs and win-wins between different land uses. In addition to the sustainable farming practices referred to above, many participants knew little to nothing about the importance of peatlands in storing carbon and ammonia pollution from agricultural run-off. These were both areas they were keen to learn more about.

‘I didn’t know much about the peat bogs previously and I think if they’ve got such an important part to play, maybe they should be known about a little bit more by the general public.’

East Anglia, Workshop 1

‘The thing that really struck me from the online discussions, and something I wasn’t aware of, was the discussion about ammonia... I wasn’t aware of the damage that it could do, and that’s one area I’d like to know more about, and how it affects us all.’

Southwest England, Workshop 2

This knowledge stuck with the participants; in later deliberations participants would refer to the information they had learned to justify their arguments, especially on peatlands which were considered to be a surprising, hidden landscape that could help the UK meet its climate change mitigation goals.

‘I think preventing damage to the peat bogs [is most important] ... 13% is peatlands. That would make a big difference.’

North Wales, Workshop 1

3.2 How did people change their views through the dialogue?

The public dialogue revealed that most people come to the topic of land use without much background knowledge and with a highly localised perspective based on the lived experience of their immediate neighbourhood. Without an understanding of the complex and connected nature of land use, they fall back on the heuristics people use in most other spheres of daily life; in this case, most frequently a purely “**consumer**” mindset that sees the land providing products (recreation and food) and constrained by immediate risks such as flooding and pollution.

Developing a **systemic** view of the land, as held by some scientists or policymakers, required further information. As later chapters show, many participants told us they cared deeply about biodiversity loss, fighting climate change and protecting natural landscapes – but without further information they cannot appreciate how these topics are interconnected. They instead view “outputs” from the land (e.g. food) independently from other potential uses and public goods such as habitat enhancement.

While the public talked about the importance of balance and the connections between different uses of the land, a discussion of multifunctional landscapes required greater understanding of how the UK landscape is an ecosystem in which everyone is a stakeholder, rather than a consumer. Over the life of the dialogue, participants began to build this awareness. They were able to think more critically about the future trade-offs we might have to make in relation to the land and identify some multifunctional land use win-wins. However, even at the end of the dialogue, this was not a natural perspective for some to hold.

The dialogue process was designed to build this knowledge and allow participants to deepen their understanding from a low starting point. Below, we detail the full chain of information to show how this knowledge was built:

Table 3.1: Participant journey through the dialogue

	Type of information provided	Purpose
Pre-event 1 Information booklet	Basic background to different types of land in the UK	To introduce key terminology and concepts of agriculture, forestry and other land types
Workshop 1	Presentation of information including a quiz of land statistics, discussion with experts and other participants	Explain the variety of land cover in the UK, introduce the six themes of land use, and build on core concepts to demonstrate the linkages between the six themes: clean air, clean water, biodiversity, climate mitigation, hazard protection and food production
Online Community	Ethnographic video of modern farming, links to external websites with further information, discussion with other community members and with farmers	Deepen knowledge of the six themes, demonstrate farming variety and prompt initial discussions of the future
Workshop 2	Scenarios showing implications of different policy priorities	Reflect on knowledge to debate the importance of different land uses

The online deliberation method lent itself to building knowledge: the online community platform made it easy to share links to additional sources of reading and interactive tools that participants found informative (the NAEI interactive emissions map¹¹ was included in the online community and was especially successful in generating discussion about ammonia pollution).

¹¹ <https://naei.beis.gov.uk/emissionsapp/>

Many in the groups had incomplete information about UK land use and how the landscape has come to look like it does now. The quiz section in the first workshop was useful to highlight where these shortcomings were but did not change opinions. The 53% domestic food production figure is a good example, with participants considering this to be too high or too low depending on their values and the importance they place on what they conceived to be ‘food security’, but what more accurately may be termed domestic food supply, affordability or ‘sovereignty’. The video stimulus shared by the farmers was more transformative, highlighting how land is not always as expected and providing a narrative behind the changes they had made and how these help to meet multiple land use priorities.

Participants built an awareness of their lack of connection with the UK landscape as they progressed through the groups. The final thought for some was that they had not known as much as they thought they did. A few mentioned that they suspected this “disconnection” from the land was connected to perceived broader social trends of urbanisation, inequality, automation and obsession with technology.

‘I’m quite urban by nature. I appreciate the countryside, but I really don’t think I understand very much about it.’

Southwest England, Workshop 2

‘We’ll see less people connecting with nature and the land...everyone’s so consumed with tech and social media, forgetting that real life is connecting with nature.’

Scotland, Depth interview

3.3 2020 and COVID-19: an unusual year which has shaped people’s expectations

A final factor to consider is the impact of the Coronavirus pandemic on the response. The events of 2020 impacted all UK society, far beyond the scope of this research project, but participant’s experiences of the global pandemic clearly influenced the process of the dialogue and the views people came out with.

- Fieldwork occurred over September and October, a period where restrictions were comparatively relaxed compared with the spring and winter, but the **experience of restrictions on day-to-day life** caused people to view land differently to how they might have just a few months before. For instance, those living in rural and suburban areas with gardens and access to green space acknowledged they were lucky to have this under social distancing and at times when they were required to self-isolate or stay at home.

‘Land really matters to us because it's all around us, it's everywhere, we touch it, in COVID we've had even more connection to it. So, it is different, that is why we need to think about land and food in a different way.’

North Wales, Workshop 2

- Participants said they had **experienced supply chain interruption**. The empty supermarket shelves at the start of the pandemic were the first time some had witnessed anything close to what could be considered food shortages or unavailability and this helped participants to begin to imagine some of the more extreme elements of future scenarios.
- Participants also mentioned that they had a new-found appreciation of the importance of local networks in urban and rural locations – **bonds to communities** have multiplied and changed in response to lockdowns.
- We note earlier in this report that the UK is at a moment of change as a result of the vote for Brexit. The reaction to the pandemic has provided further evidence to some in the groups that more **radical and far-reaching behavioural changes** around food and the environment might be possible. The success of lockdowns also provided evidence that individual actions can make a difference at the national and international level, and this increased an appetite for change among some in the groups.

‘With the COVID pandemic and all the restrictions that are in place, I think when we come out the other side that's the perfect chance to address global warming at the same time. People's travel has already been restricted... I think it would be silly not to use the opportunity that we're already in.’

Scotland, Workshop 2

- The pandemic has also revealed **many existing inequalities** in a new, harsh light and participants were keen to see these imbalances addressed by society and UK governments. This may offer potential for engaging the public with issues around how to achieve a **just transition** in any future land use changes.

It is unknown how far these attitudes and opinions will be sustained in 2021 if vaccines and other measures bring the pandemic under control. But key decisions about land use are being taken in this unusual moment in history, so decision-makers will need to consider the impact of COVID-19 on public views and priorities during 2021 and beyond.

4 Different groups' views of the land

This chapter introduces six common typologies of values around landscape and land use observed in the workshops.

We outline the key characteristics of these land value typologies and highlight how their views influenced their priorities for different systems of land use and their preferences for the three future scenarios. These typologies will be referred to through the rest of the report.

Participants' underlying assumptions about the land emerged in the dialogue. They were based on their experiences and values, which in turn were tied to their socio-economic backgrounds.

Location plays an important role in many segmentations and categorisations of the UK public – David Goodhart's distinction between “somewheres” and “anywheres” is perhaps the most famous example.¹² Others combine location with demographic data – for instance the ACORN classification produced by CACI.¹³ This dialogue also revealed that a combination of location and demographic factors (especially education and social grade) were especially important indicators of opinion on land use.

Despite holding varying levels of knowledge about land use in their local areas and the UK more widely, participants held clear views on the types of land use they valued and what it was they valued about them. These views were less a function of the region someone lived in, or simple demographic factors like age and gender. Instead there were stronger divergences based on **social grade, time spent in a single area and a person's (self-identified) rural or urban status**. This suggests that views on land are shaped by people's deeper-held values rather than their geographical location.

In this section, we have outlined a broad grouping of values and opinions about land to create **impressionistic typologies of participants**. These typologies are united by their common responses to trade-offs between the land use themes and similar preferences to the scenario stimuli, all of which has led us to infer that there are some groups of views and values which travel together.

There are caveats involved in using these impressionistic typologies. This is a qualitative segmentation built on the depth of understanding built around the participants involved in the

¹² <https://www.newstatesman.com/politics/uk/2017/03/anywheres-vs-somewheres-split-made-brex-it-inevitable>

¹³ <https://acorn.caci.co.uk/>

dialogue. Each participant spent some seven hours discussing and debating the issues, so we are confident that we have represented the depth and nuance of their views, and drawn correlations between the types of views and life experiences which tended to go together. The typology reflects and orders the breadth of opinion recorded among those who took part.

However, it does not try to quantify the extent of each of these typologies within the participants, or among the wider UK population. Further quantitative work would be required to substantiate these typologies across the public overall.

Figure 4.1: Land value typologies in this dialogue

Deep roots <ul style="list-style-type: none"> Older, ABC1, identifies as a rural person, tends to be female Grown up in a rural area, or moved to rural areas some time ago Wants strong action on climate change and biodiversity 	Escape to the Country <ul style="list-style-type: none"> Middle-aged/family, ABC1 social grade Moved recently to green/blue area in striking distance of cities Focused on lifestyle and choice but sees climate as a concern 	Urban time pressured <ul style="list-style-type: none"> Less defined by age: C2DE, urban/suburban Younger folk or young family with kids; Less engaged with local area and unsure how they can help
Grow for Britain <ul style="list-style-type: none"> Male, middle aged, C1C2 home owner Identifies strongly with local area and proud to be there Food security a major concern and interested in agricultural technology 	Climate Radicals <ul style="list-style-type: none"> Younger, ABC1, university educated, urban Urban but mobile Most strongly in favour of action on climate; has made lifestyle changes and expects this of others 	Local horizons <ul style="list-style-type: none"> Pre family/young family Rural, rooted in town or village they grew up in If close to recreation and leisure sector they want current land use practices to continue

As this is a qualitative exercise, no attempt has been made to quantify the types to provide an impression of the relative size of each of the typologies. However, this study suggests that the **strength of feeling** and **ability to be heard** does not correlate with the size of the typology. For example, those living in urban areas might be more numerous, but feel less strongly about the rural landscape. Some typologies will be busy and time pressured and not able to join traditional engagements, while some smaller typologies identify strongly with local areas and have the cultural capital and free time to engage and organise around common interests.

This poses a typical challenge for scientists and policymakers beyond understanding the size of these typologies. How can decision-makers reach and engage with disenfranchised or fragmented groups as well as those which are larger, show greater unity or are more engaged?

Throughout this report, we make references to our typologies, indicating where different groups of people seemed to respond differently to ideas and stimulus.

Type 1: Deep Roots

- **Key demographic groups:** older, ABC1, identifies as a rural person, tends to be female
- **What they value about the land:** biodiversity, controlling climate change, (high quality) food production. See land as a public responsibility, to be protected for the next generation.
- **Location:** either grown up in a rural area, or previously city/town dwellers who moved to rural areas some time ago.
- **Activities:** They have grandchildren and/or pets and having free time to enjoy nature in their local area is important to them. Some also enjoy their domestic green spaces to help them reconnect with traditional natural occupations such as gardening, growing vegetables, keeping bees or chickens.

This typology's top priorities for land use are fighting climate change, promoting biodiversity and organic, low intensity farming. This typology feel the urgency of the climate emergency most strongly, alongside the Climate Radicals typology. They are already taking the steps they can to do their bit and want others, and the Government, to do more too. Many of these steps are consumption-based; they know the shops and brands from whom they need to buy to reduce their carbon footprint. They are typically well-off and are therefore able to (and already do) buy organic, high quality food, often from their local area.

Living in their area for a longer period of time has given them a detailed understanding of local politics and land use and how pressures from environmental hazards, water and housing demand change the landscape and negatively impact wildlife where they live. They tend to be aware of and involved in both local and environmental politics through writing to MPs or through signing petitions.

They are politically aware and keeping an eye on government policy around climate change. They are highly critical of current UK policy on land use, which they equate directly with the pro-market policies found in the Follow the Market scenario. The intensive nature of **Home Front** is also deeply unappealing for reasons such as poor animal welfare or soil health. This typology were highly supportive of **Climate Co-ordination** as it aligns with their existing views on the urgency of climate change and biodiversity loss.

Trade-offs and win-wins. This typology tends to live in more beautiful areas of the country and, while they want people to visit so they can share in their appreciation of nature, they are worried about any steps which might increase visitor numbers and threaten the local environment. This typology are keen on multifunctional land use such as mixed agriculture and silviculture, but are resistant to “artificial” methods like GM, lab-grown meat or hormones. They have a negative mindset towards large monoculture farming and are sceptical of corporate “green wash”. Environmental protection is their top priority, but tackling existing inequalities and ensuring a fairer future is also very important to this typology.

Type 1 – pen portrait

Iris lives in North Wales, close to Snowdonia National park. She feels incredibly lucky to have lived in the same house, with a clear view of the peaks, for the past four decades. Since retiring as a school teacher, she has been learning about farming and biodiversity in her local area – although this mostly serves to remind her of the species that have been lost since she was a young girl growing up here.

She's really worried about the sort of world older generations are leaving behind for her grandchildren and does whatever she can to help protect the environment. She recently had solar panels installed on her house and her garden has four water butts to help conserve water. She buys only organic foods and experimented with vegetarianism for a while, but now buys meat infrequently and only from the local farmers she knows in the village.

Type 2: Escape to the Country

- **Key demographic groups:** Middle-aged/family, AB social grade
- **What they value about the land:** Recreation and leisure, controlling climate change, biodiversity. Over time their consumer-led view of the land may shift to become more focussed on responsibility. Typically have a commoditised view of land but this may change over time to a feeling of responsibility for their local area.
- **Location:** Relatively recently moved from more urban locations to green/blue places that also have good access to towns and cities. Some living in urban areas may also share these aspirations and intend to move in the near future.
- **Activities:** This typology typically have younger children and pets and enjoy going with them for walks in the countryside, parks and green spaces as a way to relax from their busy professional lives.

This typology has more of a recreation and leisure mind-set. They have ties to their rural/countryside location but being in touch with life in the city is also important to them. They identify with their local area and feel they have a stake where they live– but this is related to their lifestyle rather than their livelihood. They value recreation and the aesthetics of their area and they want to live somewhere less crowded.

Although they are in favour of taking steps to combat climate change, they also want to preserve access to green areas for recreation and understand that this might have an explicitly commercial aspect. As a result, they value land uses which have a recreational focus and also protect access for people to visit – placing them between the Climate Co-ordination and Follow The Market scenarios. While Home Front is generally unappealing to this typology, its technological elements are attractive as this typology is interested in the role land can play in agricultural, technological and ecological innovation.

Trade-offs and win-wins. Ensuring sufficient access to recreation and leisure opportunities is important to this typology, in their local area and in national beauty spots. They are also in favour of taking the steps they can to combat climate change and protect biodiversity, but this is not their overriding priority. For instance, in food production, the need to support local farmers and maintain choice for consumers are their key aims. With a growing family, they are interested in keeping food prices low, but also want a focus on high quality – and typically they have the resources to pay more for this too. While this typology is open to making lifestyle changes, they can tend to view this as more of a thing for the next generation to do.

Type 2 – Pen portrait

Greg works in IT and lives with his wife, two young children and dog in Oxfordshire. He drives up to the local family farm on Sundays for eggs, and a market in the village provides him with all the local fresh organic produce he needs to supplement the weekly shop at Tesco's.

He moved from London five years ago and says he hasn't looked back since – the slower pace of life and beautiful countryside are an ideal setting for his young family. He doesn't know much about biodiversity but thinks that a sustainable environment in the future depends on a sustainable economy and he would like to see more of them working together.

Type 3: Urban Time-Pressured

- **Key demographic groups:** A group less defined by demographic characteristics like age; most likely to live in urban locations and be C2DE. There are two main subgroups – one younger and urban that sees itself as a city person, the other slightly older (often with young children) that does not feel tied to the local area (despite not having moved far from where they grew up).
- **What they value about the land:** Recreation and leisure, climate change, food production. Tend to view land as a commodity, in terms of what they can and cannot afford to access.
- **Location:** Typically urban or suburban; usually hasn't moved from the area in which they grew up.
- **Activities:** More likely to follow indoor or urban pursuits in their spare time such as going to the pub, visiting friends or going shopping. They might visit the local park to take their children to the playground.

This typology is typified by a lack of connection and low interaction with their local landscape. Their contact with green spaces is typically limited to walks in their local areas or occasional trips to National Parks or similar. As a result, their instinct is to think about what they get from land solely as consumers, rather than stakeholders, with a focus on recreation and food production. But this is due primarily to a lack of time or money. They face structural rather than attitudinal blockers to engagement.

Their low level of connection to the land stretches to topics including clean air and water and food production, which they do not link strongly to land use. This lack of connection works both ways, so they also don't see changing land uses as a potential driver of improving air or water quality. Their interactions with land are more transactional; often growing up in urban and suburban areas means their conceptions of green space are limited to highly managed areas like local authority or trust-managed parks, green spaces or small nature reserves for leisure.

In the workshops they wanted to do what's "right" for the land and society, but need more information on what that is and how they can help. Their conception of the right things to do includes protecting the environment and fighting climate change. They are open to doing their part to help (by making lifestyle changes in water saving or reducing meat-eating and air miles) but with low access to green space, locally-produced food and wildlife, they often aren't clear what steps they can take. To that end, improving access to green space is also important to this typology.

Future changes to land seem like an inevitability to this typology, who do not normally feel a sense of agency or ownership. As a result, they are less likely to perceive that there are trade-offs or win-wins to be made in how land is used. They expect to be reactive, adapting to changes as they occur. For this reason, the Follow the Market scenario may appeal to this typology as it promises the least amount of disruption and change from their current lifestyles. But where they can, they are open to some of the changes required to mitigate climate change, especially if there is clear guidance available.

Type 3 – pen portrait

Marcy is a full-time nurse with three children and lives in the suburbs of Glasgow. She enjoys taking her children to local play parks and would like to go to some of the bigger parks outside of the city, but this is something she rarely has time for.

She does care about the environment and tries to do her bit but can't see how she can take steps like using less water when there's all the family laundry to get through! She usually shops at a big supermarket as it is on the way to work and offers good discounts – the local independent shops are just too expensive for a four-person family.

Type 4: Grow for Britain

- **Key demographics:** Typically male and middle-aged in a later family life stage, focused in C1/C2 and home owners. Identify strongly with their local area and are proud to be from there.
- **What they value about the land:** Food production, protection from hazards, recreation and leisure. Tend to view land as a commodity and focus on inputs and outputs.

- **Location:** Predominantly rural/suburban; some based in the areas they grew up in but also many who have left cities to live in the countryside.
- **Activities:** Enjoy outdoor activities that involve interactions with wildlife (e.g. bird watching, fishing), plus UK-based recreation like caravanning.

This typology have a strong focus on **food sovereignty and making the UK more self-sufficient**. This drive pre-dates COVID-19 and is rooted in a belief that the UK needs to be more self-reliant after Brexit (which they generally endorse). It is also tied to feelings of patriotism, nostalgia and wanting to keep the country productive and beautiful. **Home Front** was more popular among this typology with its focus on growing more food, while also evoking memories of when they were growing up in the sixties and seventies.

They feel that **land is primarily for farming**, but farmers can diversify if it is compatible with making food production a priority. There are some contradictions in their views on subsidies for farming; while seeing that they can be useful in upgrading farming equipment, their core assumption is that farming should be profitable – and that the more farmers grow, the more profitable they will be. From what they've heard, the current system is too generous and supports farms which would not be able to exist without government money.

This further contrasts with their higher awareness of farming in their local areas, which is something they think the rest of the public should know well. They care deeply about what farmers and rural communities might lose if changes are made to the land without considering the impact on their economies, especially if it entails a move from food production.

Dealing with climate change is less of a priority for this typology; some are sceptical of human-induced climate change, but more generally it is seen as an issue (often in the form of environmental hazards) that can be dealt with later, once issues of food sovereignty have been addressed. They doubt global action will effectively control carbon emissions (especially from China and the US) and don't see why the UK should tie itself to targets that might affect its economic performance if no one else will. They are worried about urban sprawl and housing developments encroaching on rural areas where they live.

Despite their nostalgia this typology is future-focused: they are interested to know about the role agricultural technologies can play in increasing UK food output and contributing to progress in other themes of land use too. They are resistant to dietary changes (this is something for the kids) but their interest in food production means that they could be interested in finding out more.

Type 4 – pen portrait

Ian is a proud Yorkshireman who lives near Harrogate with his wife and teenage children, after moving from Leeds ten years ago. A keen angler, he often spends Saturday mornings on the nearby River Nidd. He's long thought the UK should be more self-reliant and thinks Brexit will be a real boost for successful local farmers, who might be able to take over less productive farms and turn them around too. It will also reinvigorate the fishing fleets at Hull and Whitby, where his grandfather worked in the seventies.

He is increasingly thinking about the impacts of climate change, as it is a common topic of conversation with his children, especially his eldest daughter who is studying Biology at university. He isn't too worried as he expects there will be a technological fix to the problem soon. Even if that doesn't work out, rising temperatures will make it possible to grow new varieties of crops in Yorkshire!

Type 5: Climate Radicals

- **Key demographics:** A younger group, typically urban-based and university-educated coming from ABC1 households.
- **What they value about the land:** Climate change and biodiversity protection are key. Land is seen as a public right so they want greater control over private uses of land.
- **Location:** Predominantly urban but likely to have moved into their area recently for education or work.
- **Activities:** Live a city-based life and may define themselves by what they don't do – for instance, owning a car, taking foreign holidays or meat-eating.

This typology are the **most vociferous on the topic of climate change** – it often defines other parts of their life such as work, friendship groups and leisure activities. For them the climate emergency is the defining challenge of our time and all land use decisions need to play a significant role in getting the UK's emissions under control. This typology have a strong preference for **Climate Co-ordination** and wants the UK to be there now, rather than in 15 years' time.

Their views of current land use can be quite critical, especially around the climate impact of farmers who raise animals. They are concerned about animal rights but again, this comes from their view that livestock farming is highly environmentally damaging and should be limited strongly. Protection of nature is also a priority as it can help with climate change.

This typology is **happy to make significant changes to their lifestyles** to reduce emissions, and may have already taken some steps, such as dietary changes. They also expect everyone else to do the same and they want Government to help people who don't see climate change as an emergency to make the necessary changes. While their overarching message is negative, they are interested in a positive future where radical climate action helps create a more equal society.

Type 5 – pen portrait

Olivia is a second-year student at the University of Manchester where she is studying English Literature. Prior to that, she lived with her parents in Surrey.

She is also an active member of Extinction Rebellion Manchester and spends her spare time fundraising and helping to plan upcoming demonstrations. To her mind, the country is facing a series of crises and acting on climate is the keystone to creating a more just country. Fixing the climate will also protect people from other issues like flooding, air pollution and the massive loss of biodiversity (especially bees, the symbol of her adopted home city).

She knows there are a lot of challenges – for instance, overcoming her parents' idea that “a meal must have meat”. But she thinks that if activists can win over the Government, then it can use its power to soften the radical steps required to get control of climate change.

Type 6: Local Horizons

- **Key demographics:** Younger into middle age, rural and suburban living and from C2DE households. The most rooted of the typologies, living in the town in which they were born and grew up.
- **What they value about the land:** Local recreation and leisure defines employment opportunities for many in this typology. They also see food production/security as a priority. They tend to think of land as a public right as they have long family histories in the area.
- **Location:** Defined by their local area, whether it is a town or village. This typology want to stay where their friends and family live.
- **Activities:** Common activities will be in their local rural environment. They tend to take UK-based holidays on the coast of Wales or Southwest England.

This typology tend to be younger, often with young children, and live in areas people from elsewhere in the UK might consider to be tourist destinations. As they are often employees in the leisure and agricultural sectors, **they are concerned about steps that might affect the potential for work in recreation and food production.** Their lifestyles can be precarious and as a result they tend to want things to remain the same.

Despite strong identification with their town and county, this typology feel disengaged from politics and local land use decisions. They may well be aware of who the local landowners are, but do not expect these figures to have an interest in their views of how the local areas should be run. Local pride, combined with this antipathy to those in charge locally and nationally means they supported Brexit – and the changes it is bringing may be an opportunity to interest them in how decisions about local land use are made.

Their perspective on change is avoiding additional pressure on themselves and on people in situations similar to them. They are aware of many people who are struggling to make ends meet and have personal experience of this too, so they want to know who might lose out as a result of changes, and by how much. If they are expected to make lifestyle changes they will look for guarantees that no one will be left behind.

Type 6 – pen portrait

Craig lives in the outskirts of Yeovil with his girlfriend Sonia and baby son. In the five years since finishing college, he's worked several jobs including catering at the local RAF base, on the line in a local cheese production facility and as a beater for local shoots in Somerset and Dorset. Between these jobs and Sonia's work as a nurse they normally make their rent each month, sometimes with a bit left over to spend with their friends.

His older sister left for university a decade ago and is now a lawyer in London, but this never appealed to Craig – he'd prefer to stay local in Somerset with his friends and family. Especially now with the baby he needs to live near to his parents as he is reliant on their help for childcare.

The COVID-19 lockdown has made this year very hard as it shut the tourist attractions in the area where he would normally seek seasonal work. He's keen for things to return to normal as quickly as possible so he can start to pay off some of the family loans he took out to keep hold of their flat this year.



5 Priorities and trade-offs for land use

In line with the Royal Society's analysis of multifunctional land use, we presented six separate and interrelated themes of the complex and competing priorities for land use in the UK: food production; biodiversity; combating climate change; protection from environmental hazards; clean air and water; and access to leisure, culture and heritage.

This chapter presents findings from across the different stages of the dialogue, reflecting the values participants held across and within each of these themes, identifying the key challenges they saw in making decisions about land use in relation to each. For each theme, we highlight the trade-offs the public will accept the red lines they do not wish to cross and the win-win solutions they would like to see.

5.1 Overview of competing priorities

Participants quickly appreciated that the six themes discussed in this project are closely linked but tended to view them differently. When considering priorities, they thought initially about how the land could benefit people living in the UK (rather than seeing land as a good in itself, or something to which we have a responsibility). Following an analysis of the participants views, we have grouped these themes into three categories:

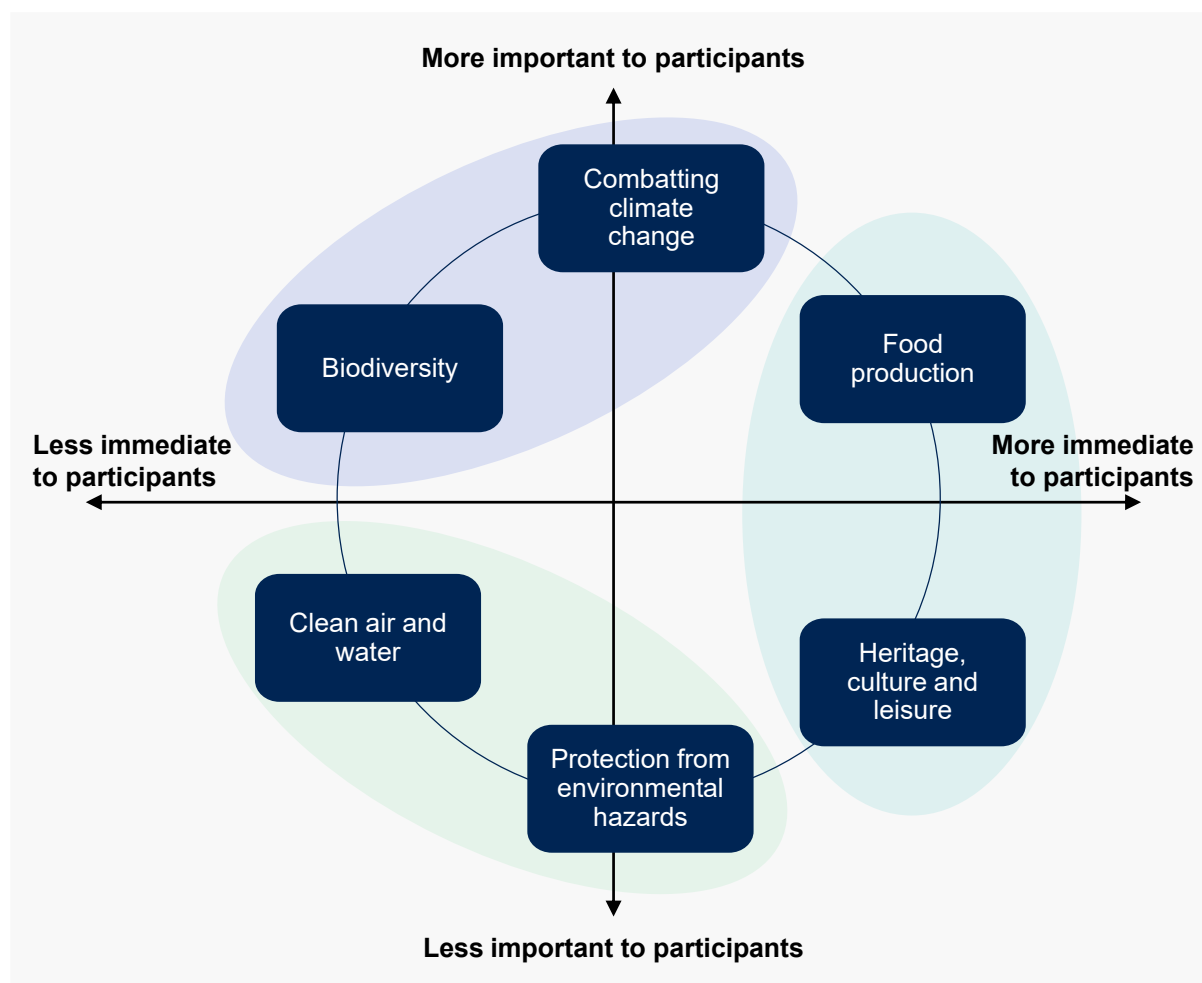
- Two themes – **food production and culture, heritage and leisure** – were considered by most in the dialogue as **basic and urgent** needs. Very broadly, growing food and walking in the countryside were seen as “what land is for”. For **Escape to the Country** and **Grow for Britain** typologies, these two themes assumed greater importance. For **Grow for Britain** in particular, their views on food sovereignty were a driving factor behind the land use trade-offs they were willing to accept.
- By contrast, the themes of **reducing carbon emissions and improving biodiversity** were seen as **important but ongoing**. For many they were as important – if not more important – than food production or leisure and this was especially true for those in the **Deep Roots** and **Climate Radicals** typologies. For the other typologies, these remain future rather than present priorities. While this meant there was less drive for immediate steps to tackle these issues, it also meant that these typologies accepted that steps to help control or mitigate climate change and protect biodiversity should be systemic and reflected in most land use decisions.

- The final two – **protection from environmental hazards and high quality air and water** – were seen as more localised to certain regions and policy-led. For instance, participants living in North Wales saw flooding as an issue for people who lived down-river, which could be resolved through damming or changes in land use upstream. Similarly, for those in East Anglia, coastal erosion was an important topic for residents of Norfolk who talked about needing more flood defences, but it was not top of mind for those from Cambridgeshire and Peterborough. This local focus and the availability of apparently simple solutions meant that these themes tended to be deprioritised against the other categories as **both less urgent and less important**. Additionally, these themes were not always thought to require direct action, as the public expected that decisions made to benefit the other themes would also have benefits in these areas, making them a key area for win-wins. Those from the **Urban Time-Pressured** and **Local Horizons** typologies often tended to be most aware of the challenges faced by those on low incomes and looked to a near-term horizon when considering issues associated with land. This meant they were more concerned about the impacts of floods, droughts and other hazards than the other typologies.

These three categories tended to drive the way participants prioritised between competing land uses and explains some of the trade-offs participants were willing to make in the discussion of the themes and scenarios. The defining factors were how much long-term importance participants ascribed to each theme and how urgently participants felt each theme should be addressed (based on the immediacy of the perceived impacts for themselves or other groups).

- Support for trade-offs which restricted the way people live their lives currently in return for protecting biodiversity and fighting climate change was strongest among the **Deep Roots** and **Climate Radicals** typologies. They saw these themes as both the most urgent and most important, requiring immediate and wide-ranging changes to UK lifestyles.
- A second set of participants felt that the threat from climate change and biodiversity loss was longer-term. For these participants – typically from the **Escape to the Country**, **Urban Time-Pressured** and **Local Horizons** typologies – food supply/affordability and production was a more urgent concern, so they were more likely to consider trade-offs which prioritised food supply/affordability over climate change mitigation or biodiversity protection.
- **The final group were least concerned about the threat and urgency of climate change and biodiversity loss.** These participants tended to occur in the **Grow for Britain** typology, who saw self-sufficiency in food as a good thing and thought that having a protectionist and domestic focus on trade was the best approach to become more self-sufficient. This group were therefore more likely to consider trade-offs that offered to produce more food over a short timescale, over steps to mitigate climate change or protect biodiversity

Figure 5.1: Views on the six land use themes



Food production

Agriculture is the type of rural land use with which participants are most familiar, although in most cases this familiarity is barely more than skin-deep, with initial knowledge frequently limited to understanding that farmland exists across the UK. Those without a direct link to agriculture have little knowledge of the drivers which influence what is farmed where – be they climactic conditions, market forces or policy decisions. In this sense, the public view farmland as private property on which land managers and owners are entitled to do what they want, although there is tension with the public view that land policy should mitigate climate change and promote biodiversity.

The key challenges for food production

The impact of climate change on future food production, through less predictable weather, and changes to length and type of seasons was referred to across the groups. This tended to be raised by older participants.

‘We are only at the start of climate change and really don’t know what is yet to come. Farmers will be able to change or modify the crops that they grow but the weather is a strong force to have to work against.’

Southwest England, Online Community

Another challenge to emerge early on, raised in the context of Brexit, was that the UK might need to produce more food domestically. Self-sufficiency was an important consideration for some participants, especially those in the **Grow for Britain** typology and some in **Deep Roots**. In most cases, this was a geopolitical consideration driven by concern over food supply, affordability or sovereignty, but it was also raised as an environmental concern. The general assumption was that imported food had a larger carbon footprint than food grown domestically, and this view was not typically nuanced by the type of food under discussion (e.g. the carbon footprint of cattle raised in the UK, versus imports of vegetables from Spain). This was a key area of confusion across the groups.

‘How is it cheaper to bring food tens of thousands of miles across the world than half an hour down the road?’

East Anglia, Workshop 2

A third challenge raised by participants was the economics of farming. Some worried about how viable farming is in Britain, citing downward pressure on price from supermarkets and comparisons with countries in warmer climates which manage two growing seasons in a year. Already there were some questions about how farming subsidies might change post-Brexit, but again these comments were restricted to older participants.

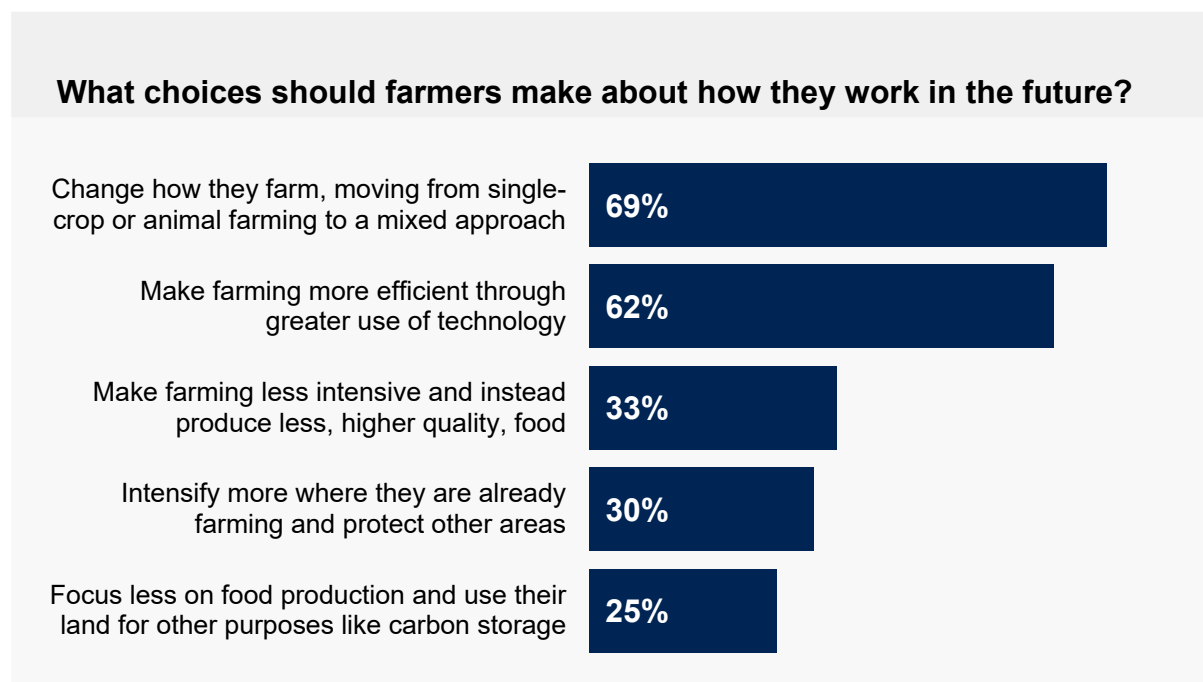
‘Why are 80% of our farms so unproductive? Has our system of subsidies done this? If so, surely we need a system that, where possible, encourages innovative and sustainable food production.’

North Wales, Online Community

Red Lines, Win-wins, and Trade-offs

On the online community two priorities emerged. The first was a desire for diversification to move away from single-crop or animal farming to a mixed approach. The second was an interest in making farming more efficient through high technology. This was captured in an online poll:

Figure 5.2: Online Community poll – Food production



In the groups, the topics under debate tended to focus instead on approaches that were less intensive and that required a greater amount of change from the public. For instance, subsidising farmers to focus less on food production and more on producing public goods was appealing to many in the groups, as were steps to make farming less intensive and promote multifunctional land use over existing monocultures which were seen as damaging, unsustainable and bad for biodiversity.

‘In terms of paying farmers to store more carbon, we’ve got an ever-increasing food need that needs to be addressed but we also need to look at renewable energy and it’s finding the balance between feeding everyone and looking after the planet.’

East Anglia, Workshop 1

For many, the answer to how the country might deal with an agricultural sector which produced significantly less food than now was dietary change, with a shift away from meat eating and a focus on seasonal and local foods – although they were unclear on the extent of the change that might be required. The rising popularity of vegan and vegetarian diets was cited as evidence of the public responding to environmental concerns about farming; this was a recurring factor throughout the dialogue.

‘We need people to be educated about how food is produced and how these different methods impact on the environment. I’m personally in favour of less meat production because it’s cruel, but it also makes far more sense for the environment too.’

North Wales, Workshop 1

Incentivising farmers to be more environmentally minded was more divisive. Some felt farmers should have reducing pollution in mind at all times and supported the use of sanctions rather than subsidies to ensure baseline environmental standards were maintained. Others were more sympathetic to farmers, who felt they were suffering economically and did not want to add to their burden of costs and regulation.

Some participants frequently conflated an enhanced role for technology with high intensity farming – a misconception frequently debunked by the experts in the groups, who explained the diverse role technology could play in the future of farming of all kinds, intensive or otherwise. Others were more positive about the role technology can play in making agriculture more efficient or less polluting. The **Grow for Britain** typology, who saw greater food self-sufficiency for the UK as an important policy goal were especially in favour, but so were participants who were interested in creating a farming sector that is less reliant on subsidy, or on foreign labour that might be restricted post-Brexit.

'I think high-tech farming may have a place. I would be happier if my tax was used to work with farmers to move towards a way of farming that would reduce subsidies and increase production, and that may have some high-tech in it.' *North Wales, Workshop 1*

Underlying the discussion of food production was a tension derived from limited understanding of the drivers for the current cost of food. Generally, participants were in favour of reducing the intensity of farming – especially of livestock – to meet environmental, food quality and animal welfare goals, but they also wanted to avoid additional food imports.

Initially, they found it hard to envisage sharp increases in food prices or poor availability, likely due to a lack of experience. When this was raised through the scenarios (for instance, through a supermarket flyer showing highly varying costs of food) participants tended not to view this as a serious future. An additional barrier was the fact that participants did not consider food prices to be 'cheap' currently, so it was challenging to bring participants to a view on this trade-off. Reaching a realistic understanding of how this might play out in their own lives may require further engagement.

'If I was asked to pay that much for meat, well, I'd rear my own! I would! And I'm the sort of person who really doesn't like doing that sort of thing.' *Southwest England, Workshop 2*

Once participants had engaged more with the future scenarios, a trade-off that attracted widespread support was for maintaining high quality standards for food and protecting people from low-quality food imports, even if that meant high food prices. Some, especially among the **Deep Roots** typology who were strongly pro-organic farming, connected higher quality food to better outcomes for the environment (for instance, soil and animal health, or protecting the environment), while others worried about soil health in other countries that use more intensive methods. But overall there was limited recognition of the impact intensive

farming could have on the wider environment, especially under a scenario where more food is produced domestically.

‘If we knew the suffering that’s going across the world to produce some of this stuff for us to import it here, we would grow everything and eat everything grown in this country and never import again, I’m sure.’

East Anglia, Workshop 2

Another key trade-off was the risk of increased food costs for people living in the UK. In part this was a strong disagreement with the idea that food is currently cheap, especially for the **Urban Time-Pressured** typology, who tended to have limited expendable income and so had a focus on ensuring they were able to continue feeding their families.

What scientific information resonated most with people?

- At a very basic level, the idea that some types of land are more suited to growing particular crops, while others are more suited to livestock farming was not very well known and was of interest to participants.
- For some, the realisation that ‘high-tech’ and ‘intensive’ farming are not the same thing was an important factor in swaying their opinion towards the use of technology in agriculture. For many, both terms instinctively brought to mind images they thought of as negative, for instance of intensive animal husbandry, industrialisation of the rural appearance of farmland, or automation replacing human workers. Additional information was highly effective: for instance, many were interested in the use of hydroponics to farm in urban areas. The concept of precision agriculture was particularly appealing as it is a method which allows farming to look much like it does now, while reducing pollution and increasing efficiency. The fact that these terms are complex and hard to explain to the public means they are frequently misunderstood and reinforces the value of appropriate provision of relevant information to help people come to an informed understanding.

Biodiversity

Knowledge around biodiversity was varied. Most participants generally felt that biodiversity is beneficial to ecosystems of non-human organisms, and that various aspects of this were under threat, and could further impact food production and the look of the landscape. The **Deep Roots** typology were most likely to hold this view. Many participants felt they had a greater understanding of the interdependencies between biodiversity and land use through participating in the public dialogue.

The key challenges for biodiversity

Participants in the groups and in-depth interviews felt that the UK’s population is likely to increase (though were not in favour of this). They worried that the subsequent greater demand on land for housing would create urban areas dense with concrete structures. Also, an increased need for infrastructure in growing urban areas or rural-turned-suburban areas

was a threat to the prioritisation of biodiversity (the HS2 rail line was mentioned as an example here). At a more local level, rural and suburban participants felt property developers and commercial bodies were not subject to strict enough planning regulations for biodiversity and other environmental factors. This, they felt, made biodiversity particularly vulnerable to de-prioritisation in land use policy. Participants claimed that they would, as individuals, prioritise the improvement of biodiversity but they have little trust in corporations with vested interests to do the same.

‘I think the scariest bit is that there's going to be more houses on empty lands that could have animals and trees on it.’

North Wales, Workshop 1

‘My personal opinion is that when you're commercialising a lot of things, biodiversity, not to sound disrespectful, goes out the window and saving energy and being more energy efficient and obviously the environment, that takes a back seat.’

Scotland, Workshop 2

Some participants feared that biodiversity would have to compete with other priorities in the agricultural industry such as maintaining profit with “easier” but non-environmentally friendly solutions. For instance, some participants were aware of the impact of pesticides and other pollutants from farming on biodiversity, while others had this brought to their attention through the pre-task booklets, and the “Ammonia Meter” on the combatting climate change theme section of the online community discussion.

Identifying the challenging relationship between food production and biodiversity protection especially for those who prioritised biodiversity as a theme, served as a segue for participants to further investigate and consider multifunctional land use methods of farming.

- Climate change and natural hazards were also raised as a threat to biodiversity. On a global level, participants expressed concern around lack of compliance from other countries to climate agreements or environmental protection measures. Participants rarely spontaneously discussed the detail of the interrelated impacts of climate change and natural hazards on biodiversity, as the complexity of these bio-physical changes to land and resulting impacts on biodiversity were seldom understood. Nevertheless, once highlighted, the threat of climate change and natural hazards to biodiversity became a concern to participants - one that they increasingly identified as a network of interconnected issues that would need holistic solutions.

At a local level, participants who lived near landscapes or habitat types that are perceived to be biodiverse, such as peat bogs or scrubland, understood that changes to these landscapes might negatively impact biodiversity. For other participants, the pre-task booklet brought this issue to light to them for the first time. Restoration or protection of these types of land became another central point of debate. Questions were raised around accessibility for recreation, balancing allocation of land used for food production and environmental

protection (and biodiversity). Participants discussed the extent to which they were willing to see transport, farming and social activities restricted in order to dedicate land exclusively to enhancement of biodiversity.

Participants felt that the dialogue had allowed them to appreciate the wider benefits of biodiversity that extended to humans such as sustenance of food chains (bees were a common proxy for this discussion). They were more equipped to explore practical land use proposals that would protect biodiversity as a result. In relation to this, participants also felt education around biodiversity for the general public would be a key factor in overcoming lack of awareness, which they also identified as a barrier to promoting more effective environmental policy and practices. Education therefore surfaced as a priority for biodiversity.

Red Lines, Win-wins, and Trade-offs

While multifunctional land use was a preference, participants felt that farming methods which integrate protection of biodiversity are often compromised for large-scale food production by large corporations. They were concerned that there will be inevitable impacts on biodiversity if there is no policy to manage this. Some were willing to pay a premium for foods which preserve biodiversity, but this was not universal. Others were happy to lose some biodiversity in some areas to maintain plentiful, low-cost food, as long as it would not be noticeably lower in quality.

- Although it was presented as a potential option for improving biodiversity, most participants reacted strongly against “intensifying farming in some areas”. Participants who opposed this option cited their reasons as increased use of pesticides, damage to the ecosystems of those areas and overall lack of sustainability.
- For some participants, this option was acceptable if it meant freeing up land for rewilding and reintroduction of rare and native species – which appealed especially to the **Deep Roots** typology. However, those in this typology were most strongly in favour of sustainable solutions which didn’t divide the land into areas for intensive agriculture or protection.

‘We need to make the absolute most of what we’ve got and, where we can, we should be growing, planting and farming as well as protecting the landscape from overly intensive farming... we need to make the land work smart not hard!’
North Wales, Workshop 1

Participants were also interested in how land can be multifunctional, simultaneously enabling food production and promoting biodiversity. There was broad interest in mixed farming and approaches like agroforestry, which were felt to have benefits for people (through food production) and for animals. Similarly, participants from the **Deep Roots** typology were keen to support local and organic farming which they saw as a benefit for animal welfare, biodiversity and climate change. Others saw managing the balance between food production and protecting biodiversity as the role of supermarkets, food production companies and regulators.

‘It would be better to have a natural pesticide. There's too much money in these pesticides. It's their product, of course they're going to defend it as much as they can. They're going to say, “No, it's not killing the bees off,” they're not looking 20 years down the road. They're looking at profits year-on-year.’

Southwest England, Workshop 1

This meant that there was also interest in the potential for farmers to be promoted and supported as ‘guardians of the land’ who produce food and also support biodiversity. Participants agreed that biodiversity was a key “public good” and that farmers should be helped to make their role more relevant to current environmental demands. Given the urgency attributed to a resilient food supply, they were especially drawn to solutions that would benefit both biodiversity and food production.

What scientific information resonated most with people?

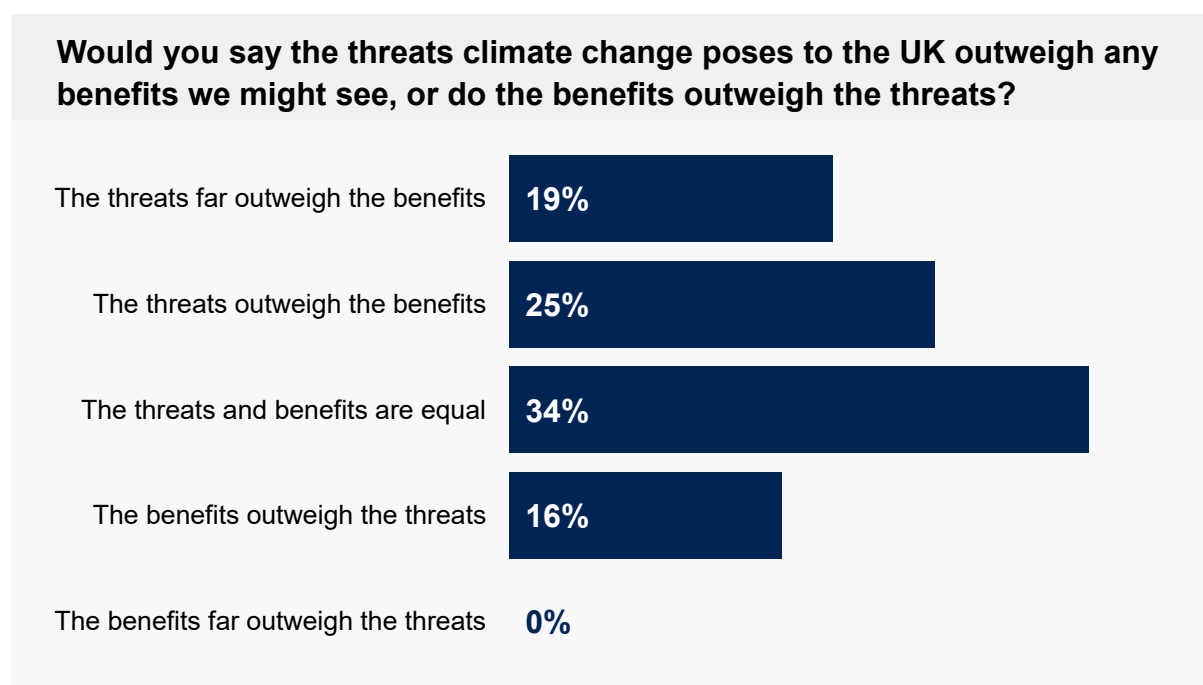
- The idea of **land sharing opportunities** resonated, and participants wanted to learn more about the types of land use which could promote biodiversity, and why they do so.
- In the in-depth interviews, participants were interested in learning about how increased biodiversity could benefit human health, citing the benefits of a cleaner environment on physiological health and of increased wildlife and (accessible) green spaces for mental health.
- Participants in group dialogues also discussed the dimension of improved human health in relation to promoting biodiversity in built-up areas. Domestic and public green spaces, environmentally compatible housing, and local-scale urban green projects such as plant walls were all highly advocated for as solutions to improve both biodiversity and public health. Participants were interested to see how scientific understanding of biodiversity could contribute to a just transition, where the benefits of increased biodiversity could be shared with economically deprived urban areas.

Combating climate change

While a small number of older participants, focused in the **Grow for Britain** typology, expressed a more sceptical view of the extent of human impact on global temperatures, the discussion in groups tended to focus on the impacts of climate change as a significant challenge for the UK – and one which would worsen over time.

This variation in opinion can also be demonstrated through a poll on the online community. As figure 4.3 below shows, less than half (44%) believe that the threats of climate change outweigh its benefits, while a third (34%) believe these are equal. Those who felt there would be benefits to climate change were thinking about this in the context of the potential for a wider variety of crops being grown in the UK as average temperatures increase.

Figure 5.3: Online Community poll – Climate change



The key challenges for fighting climate change

A changing climate was identified as an issue for food production. But the key challenge identified was the importance of a global response. In this context, political leadership was identified as significant, encapsulated in the sceptical attitude of the US President Donald Trump (at the time of fieldwork, still in power). Some participants noted that without the buy-in of larger countries like the US and China, the UK's steps to reduce its carbon emissions were "a drop in the ocean" and expressed some dissatisfaction that they thought the Paris Climate Agreement bound some countries to more stringent measures than others.

'I take issue with the Paris agreement. Other countries do so much worse and we have to do all of this.'

Southwest England, Workshop 1

The cost of transition away from fossil fuels was another challenge facing the country over the next 15 years. Renewable energy sources were considered to be expensive and some were also noted as detrimental to the surrounding landscape – wind farms were acknowledged as a divisive presence on the land, while tidal power affects how coastlines and rivers are shaped.

‘I would rather see the wind turbines than the solar panels...I wouldn't want to see it just a blanket load of glass panels for miles and miles as far as the eye can see, nothing else.’

East Anglia, Workshop 1

During the online community phase, participants encountered another challenge – the hidden carbon costs of everyday food items. Participants were given a link to a BBC food carbon footprint calculator¹⁴ and asked to look up the carbon imprint of their diets. The general response was one of shock, particularly for mundane items people used daily:

‘I was surprised at the high carbon footprint associated with avocado and beef. I thought that wine would be higher due to the amount of production and transportation involved.’

Scotland, Online Community

Red lines, Win-wins, and Trade-offs

Participants frequently saw combatting climate change as mutually beneficial, or win-wins, with efforts to encourage cleaner air and water (e.g. protecting peat bogs), promoting biodiversity (e.g. agroforestry) and protection from hazards (e.g. nature-based solutions).

Dealing with climate change was identified as one of the most important long-term issues for the UK, so participants tended to view any positive steps as priorities for action. This support covered steps to reduce emissions, sequester more carbon and change the way people live their lives to reduce our impact. Participants were introduced to peat by the pre-task booklet shared ahead of the first workshop – very few had any idea about the extent of peat cover in the UK or the highly efficient role it can play in sequestering carbon. Once they learned more, it emerged as a very popular priority landscape, partially due to what participants saw as the simplicity of this natural solution – put simply, leave the land alone and it will help deal with climate change (although the realities of peatland restoration are more complex than that). The public may also be open to other nature-based solutions to combat and mitigate climate change; peatlands were used as a key example in this dialogue but the same points of interest will likely apply to others.

¹⁴ <https://www.bbc.co.uk/news/science-environment-46459714>

‘Replenishing the peat bogs [are most important] because, at the end of the day, we don’t want global warming to get even worse. With the carbon, at least it’s holding it down.’

North Wales, Workshop 1

Across the groups, participants agreed that peat can play a vital role in storing carbon and should be protected from grazing animals or farming. In Southwest England, some argued that limited controlled burning for grouse shooting should be protected as this was a traditional practice. In contrast, some participants in North Wales perceive the sport as elitist, unproductive and of little use to local people.

Another priority that was seen as a win-win was increasing land use for renewable energy. This was popular for environmental reasons, but it also appealed to some participants’ drive for the UK to be less reliant on other countries for energy, food or labour (in contrast to those, mentioned above, who believe that the UK is already doing enough to combat climate change, and that other countries need to contribute more). Participants were generally keen on efficient solutions, such as deploying solar panels on rooftops and the use of offshore wind.

‘Farmers need to make a living and to make their land pay...farmers are already turning fields over to wind farming and solar panels.’

Southwest England, Online Community

In terms of trade-offs, using land to combat climate change was often seen as a **trade-off against using land for food production**. The idea that farmers might be subsidised to sequester carbon on their land rather than producing food was popular with some, particularly if this meant a greater land area might be covered with native tree species or protected peat bogs; but others felt that farmers should focus on producing food.

For many it was a red line to consider solutions to food supply and affordability that would increase carbon emissions; while for others (especially **Grow for Britain** and some **Local Horizons** typologies), it was a red line to affect food ‘sovereignty’ through increased reliance on food imports.

In contrast, however, other typologies believe that multifunctional land use win-wins can be possible, such as using land for both food production and renewable energy.

‘There were sheep grazing on those fields and they would use the sloping solar glass as winter shelter so they doubled up there...so it was sort of like a double-use land.’

East Anglia, Workshop 1

Another area of debate around climate change and food production was on **behaviour change and reducing the consumption of animal products** – the groups were often divided on whether reducing animal agriculture should be a priority to reduce carbon emissions. While there was a general acceptance that people should be more mindful of the carbon impact of their diets and that livestock farming was a carbon-intensive industry, there was disagreement on whether significantly reducing the consumption and farming of animals was a suitable response.

Older participants and those closer to the rural economy were particularly hesitant, feeling they were too set in their ways, or that the potential impact on traditional rural livelihoods would be too great (see Recreation, culture and heritage below). Instead of changing their own behaviour, they suggested a combination of moving to locally-sourced ethical animal products and educating future generations to reduce animal product consumption – a typical response would be that future generations would eat less meat anyway, so this issue would resolve itself and they would not have to make any personal changes.

‘I think we should be still producing meat as well, but what I don’t want to see is farms that are so concentrated now that we cause a disease.’

Southwest England, Workshop 1

What scientific information resonated most with people?

Apart from a small minority who lived right beside them, participants were surprised to hear about the importance of peat bogs from a carbon perspective. Many reflected that this should be promoted more to the general public along with nature-based solutions to poor water quality and flooding (e.g. peatland) and what cannot (e.g. intensive agriculture and forestry).

The other key piece of information that struck participants was the relative carbon costs of different foods after asking them to use the BBC’s carbon calculator.¹⁵ Many overstress the emphasis on transportation carbon costs, or “food miles”, over land-use carbon costs, leading to confusion that locally produced meat could have a higher carbon cost than foreign-produced fruit or vegetables.

Recreation, culture and heritage

Compared to the other five themes, participants found this topic harder to engage with as “traditions” and “ways of life” are often implicit. For participants who did not engage with traditional rural livelihoods, these were hard to imagine and difficult to discuss. Although the cultural implications of future land use came out more fully in the scenarios (see Chapter 5 below), two areas that participants could relate to most easily were planning and tourism.

The key challenges for recreation, culture and heritage

Underlying their broader concern that the rural landscape is being “invaded” by housing and urban sprawl, participants in rural and suburban areas did not understand the UK’s planning

¹⁵ <https://www.bbc.co.uk/news/science-environment-46459714>

system. A commonly held view was that the current system should be made more accessible and participatory for local people, to assuage a concern that the interests of developers and landowners are better served than the interests of local residents or the country as a whole.

‘The only consultation [for a big development in my local area] was a sign on a lamp post.’

East Anglia, Workshop 1

For urban participants, a key concern was a lack of green space and they suggested that access and the quality of these spaces should be improved to help urban residents “access nature” and improve their mental health. Rural and suburban participants tended to empathise with this, although some felt that the cities they had visited had ample green spaces.

Tourism was viewed ambivalently. On the one hand, participants from areas where tourism is a big factor, particularly Southwest England and North Wales, acknowledged the major part this plays in their local economies and believed that it is important to safeguard this in the future.

‘Hopefully [in 15 years’ time] we will get more climbers, tourists, and everything coming over because they do help small businesses, which is helping the community.’

North Wales, Workshop 1

However, this enthusiasm was often combined with the fear of rural communities becoming urbanised or overrun with visitors from urban areas, to the detriment of local people’s wellbeing and potential damage to the environment. In some cases, this was influenced by recent experience of seeing mass ‘ad hoc carparks’ alongside tourist spots during the COVID-19 lockdown, while for others this was a regular occurrence every year.

‘I am blessed to live within the Loch Lomond and Trossachs National park, and have amazing natural forests on my doorstep...[but] when it is the weekend or holidays, I try to avoid them as visitor numbers are way up.’

Scotland, Online Community

While participants could agree that the UK’s planning system should be more accessible and less easily influenced by powerful actors, beyond this participants’ priorities were diverse and in conflict. For example, within Scotland, some participants believed that land-use policy that protects historic ways of life would be important to preserve part of what shapes Scottish identity, while others thought that this was ‘gimmicky’. Similarly, participants across different regions argued in favour of this for its educational and touristic benefits, maintaining a cultural identity in the face of a quickly changing world, but others are against it on the grounds of inefficiency:

‘Things go old for a reason...we had an industrial revolution.’

Southwest England, Workshop 1

Financial support for farmers to promote tourism was also divisive within and across the groups. Some, especially among the **Grow for Britain** land value typology, argued that ‘farmers are rich enough already’ and that tourism should be a self-funding side-line to their main job of producing food, while others agree that subsidy could be available to keep families on the land and provide a benefit to tourists who could not otherwise access the area or its attractions:

‘If their business can’t run successfully, they either have to move out of the business, or find something that they can do that’s different on the same landmass.’

East Anglia, Workshop 2

‘Farms, farmers and farmland have been around for generations. Are we going to say that the government has a right to take the land off of these people, if they don’t want to diversify?’

East Anglia, Workshop 2

Red Lines, Win-wins, and Trade-offs

Participants in rural areas were anxious to find a balance between improving access to rural areas and protecting rural tranquillity. Those in Scotland and Southwest England shared concerns around uncontrolled flows of tourists from urban/suburban areas to rural areas and participants in rural areas more generally were keen on improving access to nature in urban and suburban areas to prevent people heading to the same few destinations. Some urban participants argued that increasing access is vital to break down structural barriers such as racial inequalities in rural areas.

‘It would be wonderful for me to see the countryside reachable by more people of black heritage and Asian backgrounds.’

Southwest England, Depth interview

While most recognised the importance of broadening access, participants also thought that this needed to be combined with education on how to act responsibly in rural areas in addition to increased infrastructure. For instance, in Southwest England it was suggested that closed train stations and lines could be reopened instead of building new roads, to reduce the need for new polluting infrastructure, while reducing carbon emissions and improving air quality.

‘It would be sad to lose such beautiful landscapes, but...[as the moderators told us]...only 6% of the UK is built on. We’ve got 94% which isn’t built on.’
North Wales, Workshop 1

Participants often saw protecting and/or increasing biodiversity as a potential win-win for the future of land use, with many seeing “access to nature” as a key reason for visiting certain areas of the UK. When we asked participants to “take a photo of a local beauty spot, park or landscape that you like to visit” the images below demonstrate how often these corresponded with biodiverse habitats.

Figure 5.4: Participant submissions of local beauty spots



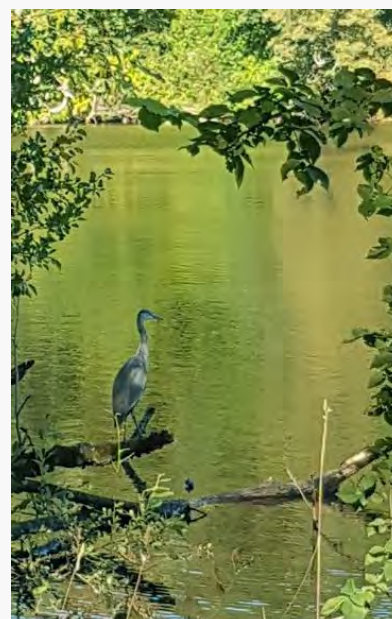
Seals near Great Yarmouth by East Anglian participant



The Taw Estuary by South-West England participant



Woodland walk by Scottish participant



A heron on the Shropshire Union Canal by North Wales participant

Looking forward, some participants in the **Deep Roots** and **Climate Radicals** typologies foresee this win-win becoming more valuable through high-profile “rewilding” projects which could encourage tourism to their local area, while others point to existing examples, such as the Dartmoor and Exmoor ponies who already draw crowds.

‘If, say, the Berwyn hills near Wrexham were rewilded, I would not have a problem with it...if tourists would come to view the Berwyn wolves, think how that would benefit the local community and the town of Wrexham!’

North Wales, Online Community

Although rewilding is a term that considers habitats holistically¹⁶, a few participants directly associated it with reintroductions of apex predators and expressed concerns that “dangerous” animals such as bears or wolves could endanger existing activities such as hiking and camping.

What scientific information resonated most with people?

Scientific evidence in this theme played less of a role than information on policy processes. Some participants in urban and suburban areas had low awareness of National Parks and nature reserves and were keen to know more about them, especially how they could visit. More widely, participants wanted more transparency on how planning decisions are made in the country – particularly how it works, who makes decisions and how the public can be involved (see Chapter 6 on decision-making below).

Protection from environmental hazards

The groups tended to rank the importance of protecting the public from environmental hazards below dealing with more systemic issues like climate change and biodiversity and the important need for food production and leisure opportunities. Often participants said that dealing with these other issues would also help avert and mitigate environmental hazards. Perceptions of being at risk were highly localised too. In North Wales there was greater awareness of valley flooding and, in East Anglia, some were more familiar with coastal erosion. By contrast, those in cities tended not to think about environmental hazards like flooding or erosion at all.

Those with a more reactive mindset were more concerned about hazards – for instance the **Local Horizons** land value typology.

The key challenges for protecting against environmental hazards

Across the groups there was wide acceptance that **extreme weather events will become worse and more frequent in the future**. Flooding and heatwaves were the most commonly cited threats to the UK environment. While they were primarily viewed as disasters with implications for local people, there was also recognition that they had impacts on the health of the land and its uses, such as food production and housing. For participants in Wales and East Anglia, concerns around extreme weather events were based on personal experience and observations in their local areas, such as building developments over flood plains and coastal erosion.

¹⁶ <https://www.rewildingbritain.org.uk/explore-rewilding/what-is-rewilding/defining-rewilding>

‘[There are] areas like Hensley where the cliffs are losing metres in a season and houses are going over. People are having to try and move back or try and adjust to it. Rising sea levels are coming with it and generally a lot more storm force and a lot more wave force.’

East Anglia, Workshop 1

Drought was an exception to this local view. It was instead seen as more of a regional issue, or a national issue in Wales and Scotland. However, responses to water shortages in the groups tended to focus on technical fixes to the issue and the infrastructure of water. Some in East Anglia referred to the need to replace “Victorian infrastructure” and there was consensus that more needed to be done to fix leaks in water pipes. Views on water shortages are also highly seasonal; fieldwork took place in a year with no widespread hosepipe bans or warnings of drought, and during a pandemic, so the issue may have had more salience at another time.

However, the theme of inadequate infrastructure was constant in participants’ discussions of protection from environmental hazards. Those at risk from hazards like flooding and erosion expressed fears that the threat of environmental hazards was exacerbated by poorly managed defences, or defences that were unable to keep up with the rapid changes in our environment.

‘In the area where I live, the run off from the mountains can be too much for the drainage systems therefore roads are flooded causing much disruption, with rivers in some areas flooding fields and homes.’

North Wales, Online Community

Building on unsuitable land was also given as an example where lack of foresight or prioritisation of immediate needs (such as housing) meant building on floodplains, or destruction of natural defences such as trees, leaving rural areas with diminished protection from environmental hazards. Urban sprawl and lack of planning regulation for commercial entities were seen as driving factors to the de-prioritisation of protection from environmental hazards.

‘We need better planning controls and use of brown sites and inner-city areas to regenerate them. Flight to rural areas is already happening because of COVID-19, so population migration out of cities will continue to put pressure on housing stocks in rural areas.’

North Wales, Workshop 1

Red Lines, Win-wins, and Trade-offs

Fitting the view that environmental hazards are generally local issues, participants identified few large-scale trade-offs under this theme. Instead, flooding and erosion were seen as local issues that need local solutions – and also as issues that would be “fixed” by steps to

address climate change and biodiversity. Yet the recognition that these might worsen in future meant participants were open to taking larger steps. They also saw a role for government in supporting disadvantaged people in areas at risk from the increasing extremes of these hazards.

Planting more trees was supported across the groups as a natural solution to protection from environmental hazards. It was an area many participants felt knowledgeable about, which contrasted with the conversation on peatlands, which many only discovered from the dialogue pre-task booklet. This greater knowledge about tree planting led to enthusiasm for this option; participants could more easily imagine the simultaneous benefits of carbon storage, possibilities for promoting biodiversity, aesthetic value to the landscape and possibilities for multifunctional land use. In East Anglia, participants thought farmers had an obligation learn how to adapt to environmental changes, while in Wales they thought this should be presented to farmers as a ‘win-win’ with trees working alongside farming through agroforestry.

As an example, some within the groups also felt it was important that the ‘right type of trees’ were planted. These were typically native varieties rather than conifer plantations which were not considered as beautiful and were believed to be worse for the soil.

‘Planting trees around the edge of the farm would provide a natural source for uptake/storage of excess water from the land. Trees also help the carbon footprint and give rise to increased biodiversity. A win-win situation.’

Scotland, Online Community

‘Seems to me that money would be far better spent rather than subsidise farming to plough the money into planting trees. Farms are learning that they have to diversify.’

East Anglia, Workshop 1

Some change in land use at the local level in order to safeguard areas against flooding was supported. Protecting plants in uplands (e.g. grasses from grazing animals), reintroducing key species and managing river catchments were supported across groups with few concerns or comments.

‘We need a combination of better flood defence, beavers and careful land management. We need to get farmers on board with the Environment Agency to make this happen.’

North Wales, Workshop 1

Most groups thought that a combined approach was needed, especially in how different areas relate to each other. Rural and suburban participants were particularly concerned about the pressure of urban sprawl on rural land at risk of hazards and felt urban and

suburban planning decisions would have a role to play in balancing housing demand with protection of the land.

Stricter planning controls were widely supported, but with different considerations impacted by the groups' geographic locations. In East Anglia, it was agreed that housebuilding should not occur in areas at risk from coastal erosion, although this was balanced with concern of the perceived social impact of disinvestment in these areas. In North Wales, there were similar views regarding building on floodplains and thoughts that better use should be made of brownfield sites in urban/suburban areas, while in Scotland concerns were raised that changes to planning could inflate house prices.

'If they limited building on floodplains, you want to look at alternative uses for that land. You can't just say, "This is a floodplain. You can't do anything on it building-wise." What can you do in other ways to utilise the land?'

Southwest England, Workshop 1

One area where participants saw a role for the individual was in water management. Generally the view was that all properties should be metered to help avoid drought and some were open to paying more for water. They were also in favour of other technical fixes, especially greater use of "greywater"¹⁷, which was mentioned spontaneously, typically by those from the **Deep Roots** land value typology. Those in rural and suburban areas felt that urban populations may need more practical support and education on how to manage their water usage.

Some participants were happy to make adjustments to their water usage when presented with trade-offs such as sparing water to meet higher demands in food production. However, this was often contingent on knowing that farmers and commercial entities were doing as much as possible to avoid the need for the public to alter their water usage. This prompted conversation about mistrust or lack of confidence in governments and commercial entities to make the necessary changes over the next few years so that water shortages would not be an issue.

What scientific information resonated most with people?

Participants responded especially positively to the information given about peatland restoration and protection and its benefits. It was felt to be a particularly natural solution that can contribute to multiple aims by simply being left alone. The dialogues focused on peat as a particular example of nature-based solutions, but the findings from the groups suggest that there may be public enthusiasm for other nature-based solutions. Indeed, reading about peat led some participants to be interested to know more about any other types of land which are considered particularly beneficial for the environment and biodiversity, to help guide further prioritisation for these land types.

¹⁷ Greywater is wastewater from baths, showers, washing machines, dishwashers and sinks

Clean air and water

While participants considered the maintenance of clean air and water to be important, it tended to rank below the bigger themes of climate change, food production and biodiversity. In part, this is likely due to an assumption from rural and suburban participants that their air and water is already clean – so data from the ammonia map used in the online community was a particularly big surprise. In common with dealing with environmental hazards, participants saw this as an area for win-wins – steps to deal with climate change and biodiversity were also expected to contribute to clean air and water.

The key challenges for clean air and water

Participants' discussion of clean water tended to link strongly with talking about ensuring supply of drinking water for housing. Air pollution was seen to be a bigger issue for urban areas compared with the suburban and rural locations most group members came from.

Much of the discussion of clean water focused on supply issues of piped water, rather than the water in rivers and the environment. This meant it was closely linked to the theme of protection from environmental hazards like drought. Having enough water for new houses, water availability in different parts of the country and water distribution across regions more generally was a key area of debate for participants. Aside from this, recent public campaigns about microplastic pollution in water were also mentioned as an upcoming challenge to maintaining clean water, which would become a bigger issue in future.

Pollution from fossil fuels used in cars and buses dominated discussion of air pollution. While this was seen as a big and rising challenge, many in the groups were optimistic that it would be met as there will be fewer petrol-engine vehicles and an increase in the number of electric cars. Some reflected that the lockdowns under COVID-19 had been an important moment for air quality as it demonstrated how these can be affected by large-scale changes in individual action. Some participants, especially from the **Climate Radicals** typology, felt this would lead to increased awareness and proactivity against pollution among the public and government in future.

'Where we are, I did see a massive difference from being on furlough from March to September, the difference in less transport being on the road. I spend a lot of time with my daughter out on the bikes and you just see a massive difference in the colour of the sky and even just being out in the open. The air. It's that word again, trying to educate people. Simple things of sharing lifts into work.'

Workshop 1, East Anglia

One of the most significant challenges from participants' perspective was the perceived lack of governance around clean air and water, slow progress in policymaking around these issues in the UK and some suspicion of Government pledges to ban the sale of petrol vehicles by 2030. Participants also struggled with suggestions for how to implement or monitor clean air and water measures and policy, among individuals and private or public organisations.

Red Lines, Win-wins, and Trade-offs

There was great support for nature-based solutions, such as protecting and restoring peat bogs to promote clean air and water, as they exist already. Nature-based solutions that protect the peatlands from ammonia and extending peatland coverage was seen as a very positive action – as peatlands are already a big part of UK land coverage and a natural resource. It was felt that this should be encouraged as long as there remains enough space for food production. They added that this would provide the multiple benefits of carbon sequestration, biodiversity as well as contributing to better air and water quality. But the important point is wider than peat bogs, which can only exist in specific areas of the UK: the dialogues revealed public enthusiasm for methods of protecting the environment and biodiversity which are considered to be natural and in keeping with the established appearance of the UK landscape.

Participants expressed enthusiasm for investment in water management and water-saving technology as something with which both individual households and commercial entities can engage. Government and the private sector were seen to have a role in popularising these types of technology. Some participants in more rural areas felt that they were already doing their part. However, they felt there was a lack of familiarity, education, accessibility or personal ownership in household water management in densely populated urban areas – which they felt it would be necessary to address to make water management more widespread. Rural participants also felt that corporations had a larger impact than individuals and should therefore be more culpable for water tech investment and management in their own practices. At a wider level, some participants, notably more so in Scotland, noted the importance of leveraging natural resources and solutions such as harvesting rainwater – which was felt to be preferable given the rainy climate.

Participants were open to prioritising some water uses. However, they were reluctant to have water access restricted in their home. Many groups – especially in Scotland – discussed the importance of sustaining clean drinking water. They suggested that a possible solution would be to prioritise water for certain uses, for instance by limiting households' use of drinkable water for other, less urgent needs. Before interacting with Workshop 2, participants **identified a trade-off between water usage for clean drinking water, individual use and for agriculture and industry**. Participants felt that safe drinking water should be the number one priority for water use in the UK but the trade-off against prioritising water for agriculture and industry.

What scientific information resonated most with people?

Most participants were not aware of the scale or existence of ammonia pollution prior to partaking in the dialogue. **Upon realising its impacts, and understanding that farming is a key source, most participants agreed that this is a notable challenge to be addressed.**

‘What’s been concerning me, of all our discussions really, it’s not only just the ammonia, which I believe is 80% of the ammonia that’s released into the land is from agriculture. We need all of these things which I’ve been looking at, food production, that causes problems with the soil, et cetera, but it needs to be well managed, but we still need to produce food, and lots of it. But it’s the way we produce the food, and the types of food we produce will need to be looked at very closely by governments and the experts.’

Workshop 2, East Anglia



6 Exploring future policy directions

This chapter explores public views of three scenarios depicting what the UK rural landscape might look like in 2035. The scenarios were generated through a review of 46 existing sets of scenarios for the future of land use from organisations including the World Economic Forum, Natural England and the OECD. Alongside interviews with experts, the analysis identified the key axes of uncertainty and policy directions for this topic.

Participants ordered their scenario preferences based on their underlying values and the land value typology they were mostly closely associated with.

6.1 Introducing the scenarios of 2035

We developed three future scenarios that bring to life the potential results of complex policy decisions in a way that is plausible yet provocative. While the public can find debates about individual policies inaccessible, presenting a future that outlines what the lived experience of these choices might be like makes them more relatable. The result is greater public engagement with the policies under consideration and a prompt that allows participants to voice what they think the world should look like.

To aid engagement further, each scenario was developed into a set of immersive stimuli by The Liminal Space, a creative public engagement and design agency, including a collage of the landscape and three objects from the future, which were posted to participants ahead of Workshop 2. The three scenarios are described in greater detail in the sections below (detail on the objects can be found in the appendices).

Figure 6.1: Follow the Market scenario collage



Follow the Market In this world, policy choices are designed to promote economic growth and therefore only land uses which are profitable remain. Uneconomical land uses become rare in the UK, meaning an overall loss of farmland and growth in leisure and housing. Food remains cheap, sustained by an increase in imports from other countries, while UK agriculture becomes higher quality and more expensive. The stimuli for this scenario asked participants to imagine they had recently moved home: in addition to a collage portraying the future world, participants received a mock invitation to sign up for a local leisure park which included a teabag, in addition to a supermarket flyer and a letter from an energy provider.

Figure 6.2: Climate Co-ordination scenario collage



Climate Co-ordination The rationale behind policy decisions made in this future is to reduce the amount of carbon the UK emits and use land to provide other public goods such as biodiversity, carbon sequestration and clean air and water. As a result, land uses which promote these public goods are prioritised and funded. Recreation and leisure uses are curtailed and the cost of food – especially meat – is much higher. Participants received a collage alongside an invitation to a birthday party at a nature sanctuary, a map of the sanctuary, and a packet of apple crisps from a cider press on the reserve.

Figure 6.3: Home front scenario collage



Home Front The policy decisions made in this scenario aim to significantly increase the proportion of food consumed in the UK which is grown here. As a result, land use changes are designed to drive up UK food production through expanded agriculture and the use of agricultural technology. Other land uses such as recreation, biodiversity and controlling climate change are secondary to the overriding objective of food production. Participants were invited by the stimulus to imagine they had just arrived in a holiday cottage in the Cotswolds. In addition to the collage, they received a menu from a local pub, a packet of seeds inviting them to a farm-based tourist attraction, and a letter advising them of localised water restrictions during their stay.

6.2 Overview of scenario preferences

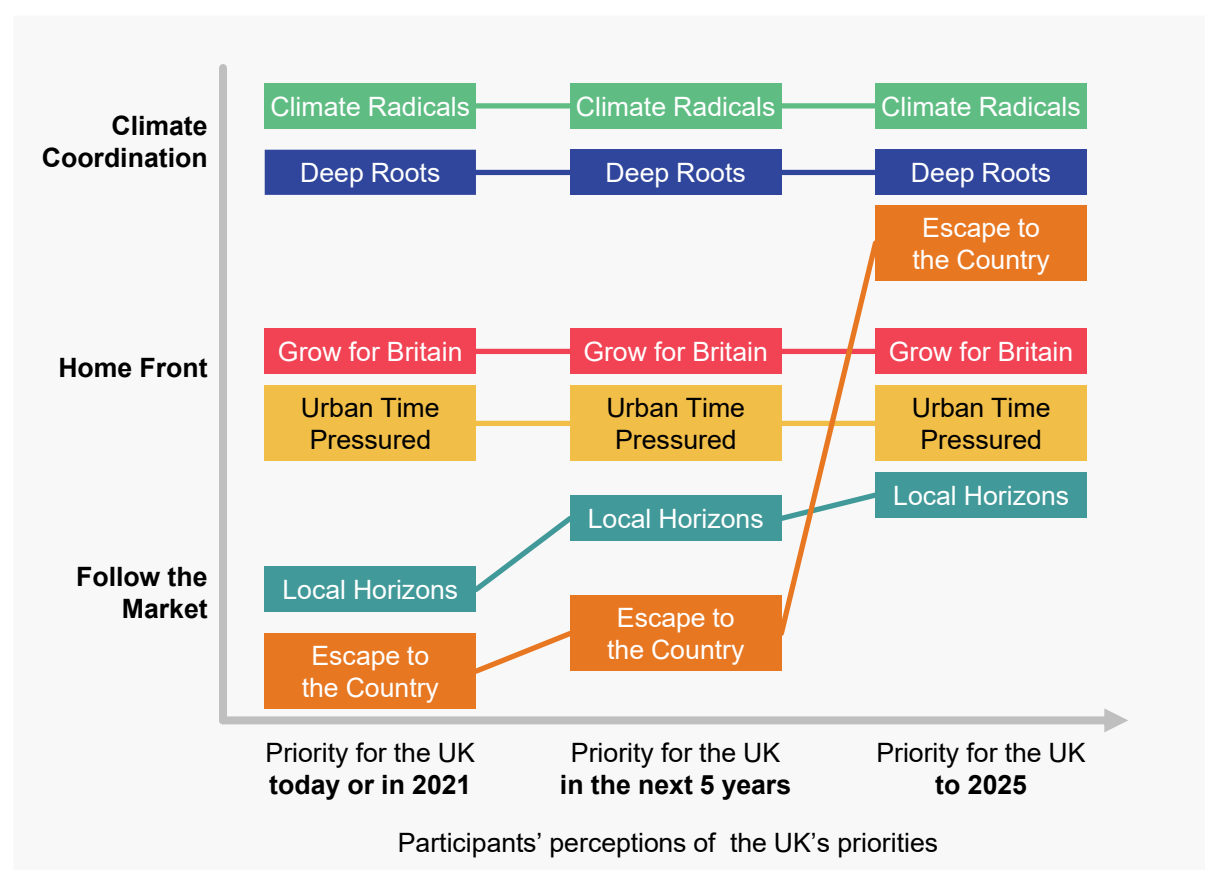
Participants differed in their reactions to the three scenarios as they did with themes of land use. They ordered the scenarios based on how far they thought they would have to move from today (perceived impact on themselves) and how urgent they saw climate change as being.

While Follow the Market tended not to excite participants, its focus on choice and perceived closeness to how we live now made it seem like a more feasible future that implied the least amount of change to participants' everyday lives. This made it especially appealing to those in the **Urban Time-Pressured** typology, who tended to be most removed from their landscapes.

However, across the typologies there was a suspicion that Follow the Market was not sustainable in the medium to long term and therefore a world closer to Climate Co-ordination might be required. This tended to be the view of the climate-aware but more consumerist **Escape to the Country** typology. A move straight to a climate co-ordination world was generally considered to be too big a change except for the **Deep Roots** and **Climate Radicals** types, who had typically already made some changes to their lives to address climate change.

Those in the **Grow for Britain** typology saw Home Front as an acceptable end state, reasoning that turning inwards to protect the UK was a suitable response to the environmental and political factors the country will face in the coming decade.

Figure 6.4: Participants' preferences for future land use scenarios over time



6.3 How do we get there?

Another important aspect of participants' responses to the three scenarios was that **participants needed a narrative connecting where they are now to where they might be in 2035**. Most importantly, participants wanted to know how government policy might support people to transition from the way they live their lives now to the very different lifestyles required by some of the scenarios – sometimes referred to as a “just transition”. In common with other parts of the dialogue, participants were broadly receptive to changing their lifestyles, but wanted help and advice on how to do so.

This was particularly true in the **Climate Co-ordination** and **Home Front** scenarios. For instance, in **Climate Co-ordination**, it was common for the groups to be broadly supportive of reducing the amount of meat in their diets, but there were questions about why and how meat might become so much more expensive – would this happen overnight or would it be gradual, and what other options would people have? In **Home Front**, some accepted that there might be a future for the UK where water scarcity is much more pronounced, but immediately concerns were raised about groups who might suffer disproportionately; would shift workers or those with large families be exempt from measures limiting hours for showering or washing clothes?

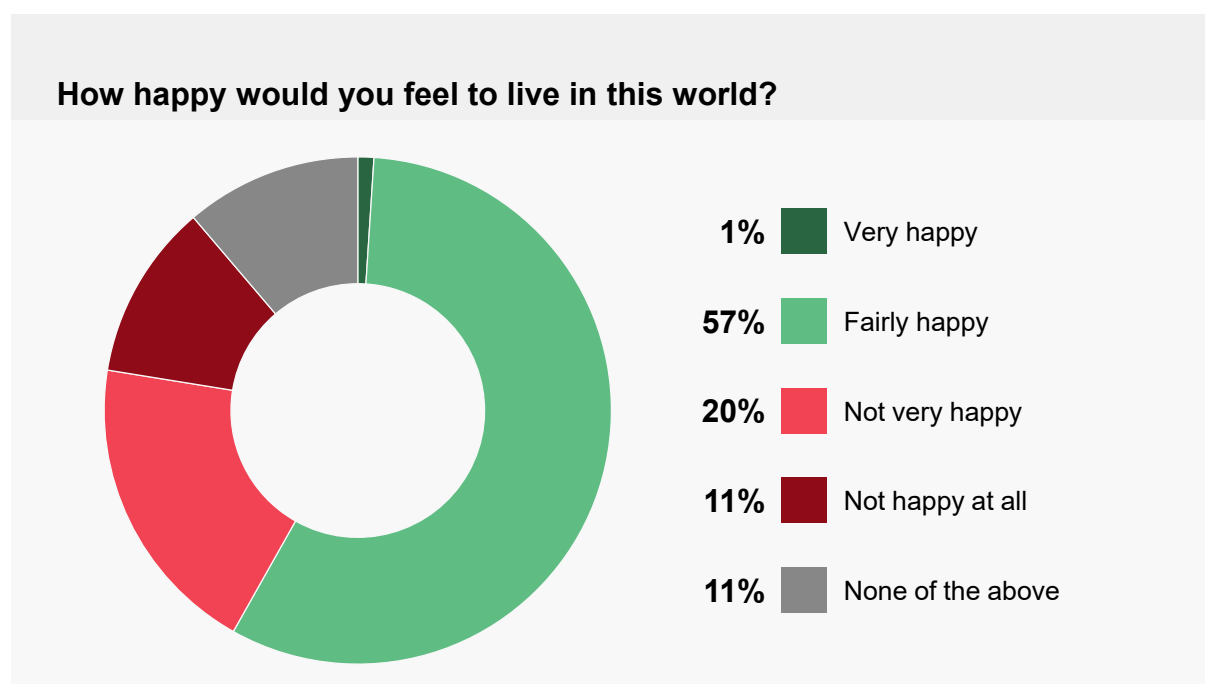
*‘[Climate Co-ordination] is a nice looking future, but is it realistic and achievable? It will need long-term planning to achieve this vision.’
East Anglia, Workshop 2*

6.4 Reactions to the scenarios

Follow the Market

This scenario tended to be ranked second of the three. Its strong emphasis on economic growth was seen to come at the expense of environmental and food safety regulations. However, the appeal of consumer choice and cheap food remained strong for many, especially for younger people.

Figure 6.5: **Follow the Market** – online community quick poll



Yet this scenario also appeared more “balanced” than the other scenarios. The collage contained a variety of different things for people to do, compared with the tree-dominated **Climate Co-ordination** future or the agriculture-heavy **Home Front**.

However, key concerns remained about inequality, and what this world would mean for those unable to afford a healthy diet or to visit paid-for parks. The groups wanted to ensure that a world which looked like this would have scope to protect those in economically or socially disadvantaged groups.

This view was also borne out in the online community discussion, where a majority said they would be fairly happy to live in this world, but almost none said they would be very happy. This contrasts with **Climate Co-ordination** where a far larger proportion would be very happy to live.

A common view was that this scenario is the most realistic of the three, even though it is not the most desirable. Some likened it to the potential outcome of a “hard Brexit” wherein the UK has to focus more on economic growth to make its way in the world. This helped it stand out from the other scenarios where groups found it more challenging to imagine a route from

the present day to the described future. As a result, this world tended to be a default option that land value typologies with less strong views on food sovereignty or climate change opted for – in particular **Local Horizons**, **Urban and Time Pressured** and **Escape to The Country**.

Key areas of debate

In the discussion groups, one of the most common reactions to this highly commercialised scenario was concern about its potential impacts on economic inequality. The cost of entering a park was a major sticking point, with some querying why they should pay for something that is currently free. Others worried about unequal access to nature, which they considered a right, rather than a service.

Figure 6.6: **Park leaflet list of charges**



Access Packages [ALL COSTS PER PERSON]		
ALL ACCESS MEMBERSHIP	£400 £40	ANNUAL MONTHLY
ACTION AND ADVENTURE PACKAGE (bike trails, wild swimming, rope walk)	£200 £20	ANNUAL MONTHLY
RESTORE AND REGROW™ PACKAGE (Floral Beauty Sanctuary, Forest Boardwalk, Meadow Room)	£200 £20	ANNUAL MONTHLY
ACCESS TO LOCAL TRAILS AND PARKS – ADULTS	£100 £10	ANNUAL MONTHLY
ACCESS TO LOCAL TRAILS AND PARKS – CHILDREN	£70 £7	ANNUAL MONTHLY

#livewild #countryleisurecorporation

While they were positive about the breadth of the activities and experiences listed, participants felt they were too expensive and would exclude too many people. In particular, per-child entry charges were seen to be prohibitive to those with large families and/or those on lower incomes. These concerns led to discussions about the potential for economic inequality and classism in this world, a particular concern for the **Urban Time-Pressured** typology.

‘I don’t want the Centre Parcs model where only the middle class can enjoy the landscape.’
East Anglia, Workshop 2

Participants frequently returned to the principle that access to the countryside should be free.

However, there were also some opposing views that many people rarely go to the countryside, therefore more active management by a company focused on leisure would ensure better quality facilities and care for green spaces than if they were freely accessible.

Another concern related to ‘Centre Parcs’-style areas. If a park like the one in the leaflet was set up in their local area, participants felt it was likely that they would see a large increase in traffic due to visitors from elsewhere in the UK. This would have environmental impacts, pose challenges for local infrastructure and lead to more development and building of roads, car parking and visitor facilities.

Choice and the free market

Consumer choice was not considered a priority in comparison with other factors under discussion such as biodiversity, climate change and public access. This may be because only the oldest participants with experience of the decade following World War II remembered a time when food choice was more constrained. As a result, participants viewed the wide range of foods referenced in the supermarket flyer and collage negatively, with concern about foreign food standards and reliance on food imports.

However, on seeing this scenario initially in the online community, participants tended to say that this world looked fun, with lots to do including the sculpture park, zipline and other outdoor activities. Participants in North Wales frequently referred to an existing zipwire attraction as a positive example of land use in their local area, repurposing former industrial land (a slate mine) for recreation.

‘Zipworld in North Wales has brought a lot of tourism to the area. It’s something I want to have a go at.’

North Wales, Online Community

But this was balanced by debate about the role of private companies in providing leisure and recreational facilities. Some saw this membership-based model being set up in competition with existing local government-run parks and National Parks. A key question was therefore whether the CountryLeisureCo park would replace existing facilities, or if there would continue to be freely accessible public spaces as well. Participants were much more supportive of the latter than the former. More widely, some felt uneasy at the prospect of more land being privatised and questioned how the profits made by these companies would be spent.

‘What would the profits be used for? I’d want it reinvested into maintaining the landscape.’

North Wales, Workshop 2

Throughout the discussion, many participants supported the use of government subsidy to protect and promote land uses which were not necessarily profitable by themselves, such as protecting biodiversity, fighting climate change and ensuring free access to land.

Food cost, imports and standards

Figure 6.7: Supermarket flyer



The supermarket leaflet provided in the scenario pack prompted a detailed discussion on participants' priorities for food, with food imports emerging here as a key theme. Some participants see food self-sufficiency as a priority for the UK (explored further in the "Home Front" scenario) while others struck a nationalistic tone about the replacement of British apples with "French" golden delicious varieties. Reflecting news coverage at the time ('US-produced chlorinated chickens')¹⁸, another common concern was about imports undermining British food standards, which participants saw as being high by international standards.

Initial reactions focused on the cost. The divergence in price between the imported and home-grown foods struck some as being extreme or unrealistic. Inequality came up

again with participants concerned that this scenario would result in nutritional differences between those who could afford high-quality foods and those who could not. In many groups, participants were undecided whether they would prefer to pay more for higher quality produce or to get more, cheaper food. They felt that cheaper food would appeal to lots of people.

'There is poverty and people do need to eat... [Follow the Market] would appeal to lots of people! If we can save pennies elsewhere then we should.'

Digitally excluded depth interview

The role of imports was linked to discussion of cost, as the cheap food items were imported while the expensive ones were UK-grown. But, as in the initial online community discussion, the workshops saw widespread concern about increasing the role of food imports in British diets. Some expressed concern about the environmental impact of importing food – not only the carbon footprint of transportation, but also that the practices of farms in other countries might be more carbon-intensive than those used in the UK. Participants were especially concerned about the Brazilian sirloin on offer in the leaflet, as they speculated that the low costs may be due to unethical labour practices and 'low standards' (e.g. environmental, food safety and animal welfare).

¹⁸ E.g. <https://www.dailymail.co.uk/news/article-8772683/Chef-Jamie-Oliver-joins-Mail-Sundays-war-toxic-food.html>

‘I’d have steak every day! Even though it doesn’t sit right with me that the standards are so low in other countries.’

East Anglia, Workshop 2

This was also linked to concern about food standards abroad. It was a commonly held perception that UK food standards are high and participants were keen to maintain this (especially in reference to the Brexit negotiations ongoing at the time of the workshops). Participants who felt this were worried that in this scenario, most consumers would pick cheap imports produced to lower standards which would result in many UK-based farms, which adhere to higher standards, going out of business. There was call for more ‘Red Tractor’-style food labelling, which was seen as an indicator of high standards, to help people understand the quality of their food.

Environmental protection, biodiversity and sustainability

The groups saw this future as one that was bad for the environment, biodiversity and sustainability. For example, multiple participants noted that the collage contains relatively few trees, which they took as a sign of concern about the land. It was also noted that a fully commercial approach to land would have negative impacts on the environment, especially air and water.

‘Surely a more commercial based approach to land use would negatively affect the air and water conditions - if the main concern is economic advantage.’

Southwest England, Online Community

Some felt that the private sector focus on profit and short-term gain would be incompatible with non-commercial land uses such as biodiversity and combatting climate change.

‘Will a free market approach really promote custodianship of the land? Economics will mean the land is commoditised rather than looked after.’

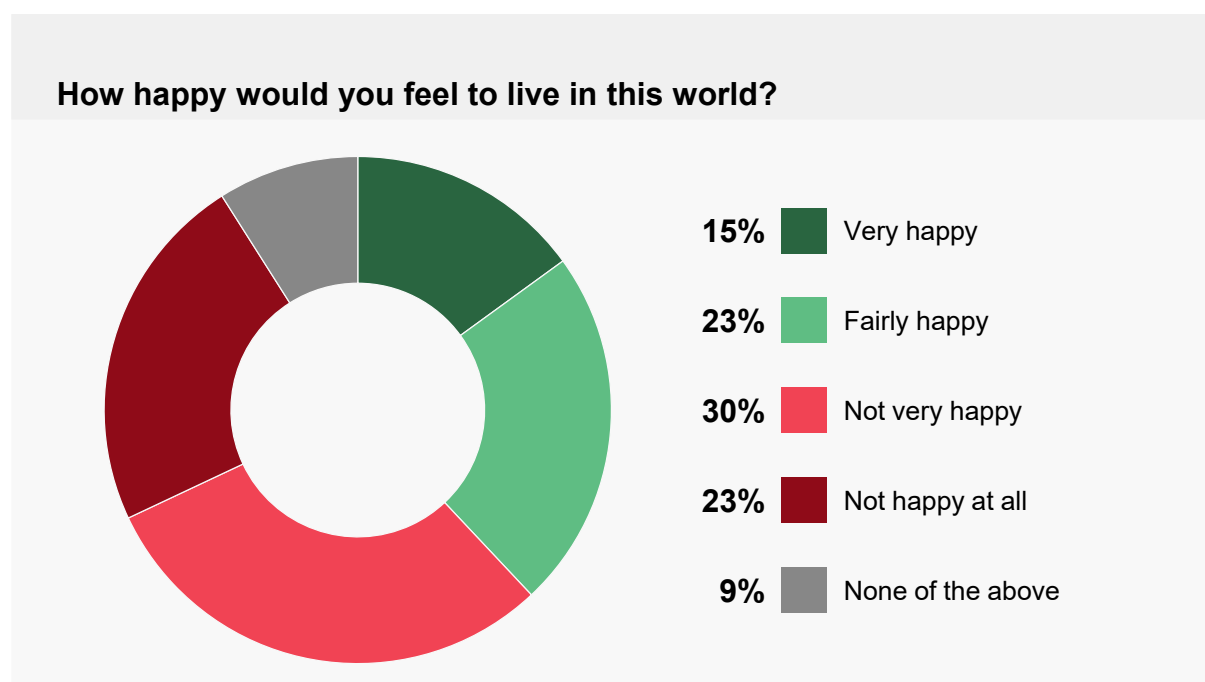
North Wales, Workshop 2

The energy company leaflet was seen as a rare positive in this world because it referenced expanded use of renewable energy in the UK. Groups were generally comfortable with more land being used for renewable energy in pursuit of reducing carbon emissions and some were positive about the international energy grid proposed in the document. However, specific references to the US and China made others less positive as they led to concerns about dependence on technology from other countries and corporations “greenwashing” their low environmental standards.

Home Front

This scenario was viewed least positively by most, but was strongly supported by a minority. Negative perspectives were based on the intensive appearance of farming in this world, particularly around animal agriculture, automation and concerns for biodiversity and the environment. Positive views centred around the appeal of self-sufficiency and locally-grown food. These views were reflected in the online community poll which showed a small subset of the group being very strongly in favour, while a majority would not be happy to live in this world.

Figure 6.8: **Home Front – online community quick poll**



Those who disliked the scenario felt that it was the most one-sided of the scenarios. They disagreed with the sole focus on food production over other land uses such as recreation, biodiversity and climate change, seeing the water shortages as being driven by this unbalanced approach. Participants who favoured this scenario were strongly centred within the **Grow for Britain** land value typology. They found the themes of self-sufficiency and patriotism particularly appealing, alongside the futuristic approach to agriculture implied by the references to lab-grown meat and hydroponics.

Key areas of debate

The appeal of nostalgia and self-sufficiency

Figure 6.9: **Seed packet design**



Throughout the dialogues, the idea of the UK producing more of its own food appealed to many participants and this came through strongly in this scenario. The need to grow more food domestically was primarily couched in discussions of the importance of eating more local and seasonal food, a sense of patriotism about eating UK-grown food and the need to be resilient to disruption – not only the

potential disruption to existing food chains from no-deal Brexit at the end of 2020, but also as a result of the disruption to food supplies participants saw during the national lockdown in response to the COVID-19 pandemic earlier in the year. There was also environmental concern about the carbon footprint of foods imported from abroad.

In turn, this linked to a sense of nostalgia for the post-war years and mid-late twentieth century, especially among older group members. They commented that the scenario evoked a “wartime spirit” through the sense of everyone doing their bit in a national effort to drive up food production. These participants interpreted elements of the scenarios, which others viewed negatively, as nostalgic, such as the limited options on the pub food menu and the water rationing in the local council letter. Younger participants interpreted these elements more negatively, with some referring to the water restrictions in this scenario as having a “Victorian” feel.

Nostalgia and patriotic sentiment framed the comments from those who saw this world positively, who tended to come only from the **Grow for Britain** typology. It embodied a “dig for victory”-style narrative of self-sufficiency that they found appealing.

‘I particularly like this because it reminds me of the “Backing Britain” campaign of the seventies. I believe it's how we should market the UK moving forward.’

East Anglia, Online Community

The role of high technology

At the same time, this scenario was also considered to be the most futuristic. Participants were drawn to the references to drones, hydroponics and lab-grown meat in the collage as examples of technological advances which were ingenious and useful – but also threatening to aspects of today’s world.

Broadly, participants were open to the prospect of technology playing a greater role in agriculture and – as witnessed during the online community – many were interested in finding out more about innovations in food production. The most popular options, such as hydroponic farming and the use of drones to assess fields, demonstrated how technology can make existing agricultural methods smarter.

‘Farming has always been an innovative industry, so expect technical innovations to continue in how production happens... there needs to be a balance of bio-farms and technology and protecting the natural world.’
North Wales, Workshop 2

Other technologies were viewed in a more equivocal light, with spontaneous discussion about the risks and benefits of genetic modification and the threat posed by increased automation to employment.

The lab-grown meat referenced in the collage sparked the most debate, with many in the groups changing their minds on this topic. Initial reactions tended to be negative, but those with more knowledge said that growing meat directly would have benefits for the environment and animal welfare. This was an area where testimony from experts present in the groups was particularly effective in changing participants’ minds: by explaining some of the process and confirming the animal welfare and emissions benefits to this method, attitudes within some of the groups changed completely.

As this world was felt to be the most technologically advanced and furthest from the present day, another common response was that participants were curious to know what sort of events might have catalysed this transformation. Significant levels of automation on the land raised concerns about future employment, specifically how people living in the landscape would earn their livelihoods – for many it contradicted what many thought farming “should” be like.

‘Where have the people gone, if all farming is done by robots? What are people doing in this world?’
Scotland, Workshop 2

Sustainability and the environment

One of the biggest concerns about this scenario was that the approach taken to food production was unsustainable. Some said that although crop yields would initially be high, soil erosion and quality would quickly become significant issues. This world also appeared more industrial and participants were concerned that pollution levels would be high, especially ammonia pollution (a concept many had found out about for the first time during the online community).

The water shortages referenced in the local council letter were also taken as evidence that this scenario was not sustainable. For those who prioritised self-sufficiency, this was viewed

as a necessary sacrifice in pursuit of increased food production, but others saw it as a sign of poor land management or evidence that the country was recovering from a large-scale environmental shock in this future.

‘Something must have gone badly wrong for us to have water shortages.’
East Anglia, Workshop 2

Regional experience was important here too, with participants from Scotland finding it harder to envision water shortages within 15 years compared with those in England, due to living in a wetter area of the country which they imagined would get wetter still as a result of climate change. Water had particular significance in the some of the Welsh groups where it was common knowledge and a point of contention that Welsh water is piped to supply cities in England. Older Welsh participants mentioned the slogan *cofiwch dryweryn* (Remember Tryweryn), referring to a contentious decision in the sixties to dam a valley in Wales to supply water to Liverpool which helped spur the Welsh independence movement.

There was also concern that those with large families and people working odd hours would find it more difficult to abide by the stringent water conservation measures outlined in the letter for reasons that were beyond their control. An example given was that a nurse working night shifts might not be able to shower if water was turned off between 7pm and 8am. There was an expectation that some people would be given exemptions from these rules and that there would be significant support from government to adapt to this way of living, including facilities to store water in “off” times, with participants citing experiences from Australia and Cyprus.

Focus on food production

The strong focus on food production was another negative factor for most participants, who believed it to be detrimental to all five other themes explored in the dialogue. Many considered the large-scale farms depicted in the collage and scenario materials too industrial, threatening what they saw as the more natural agricultural landscape of today. Participants identified a clear trade-off between producing more food in the UK and protecting the environment and biodiversity and typically they sided with the latter. Some felt that, in this world, farmers would quickly exhaust the soil, and society would suffer as a consequence.

‘I can imagine this whole concept doesn’t allow much room for improving biodiversity, which I don’t think is great.’
Southwest England, Online Community

It was also recognised that this scenario would require large-scale changes in land use compared to the present. A particular concern was that the landscape would become less visually appealing, with significant noise pollution from machinery in an increasingly automated countryside as smaller farms were overtaken by larger, industrial producers.

‘Farming first landscapes are going to mess with local landscapes and natural beauty.’

Scotland, Workshop 2

The images of high intensity animal farming were also a significant concern, especially for vegetarians and vegans in the groups who often attributed their decisions to stop eating meat to concern about the welfare of battery-farmed animals.

The groups identified a potential positive effect, which was that some farmers might benefit from this scenario – although there was concern that the beneficiaries would be large corporations running big farms and that many smaller farms would be bought out or struggle to survive. Discussion centred around how these privations could be managed and how more affected groups protected.

Options for recreation and leisure

Figure 6.10: **Part of the pub menu**



Many saw the focus on food production as particularly negative for recreation and leisure options in the landscape. They noted that the collage presented very little green space or areas for wildlife and they found it hard to believe that the UK’s biggest tourist attraction would be a large-scale farm. Some, especially older participants and those who were more positive about this scenario, said they would be interested to visit once out of curiosity to see how technology is used in farming (or that it might be a good school trip), but few said they were excited by this prospect and younger participants were particularly negative.

This view extended to the pub menu in the stimulus packet, where the limited range was seen to be old fashioned and basic. While some were positive and could see options that interested them, others felt that a future with fewer options than the present was disappointing. There was also concern about some of the ingredients, particularly the ‘mince’, as it was unclear whether this was using lab-grown meat or something more natural.

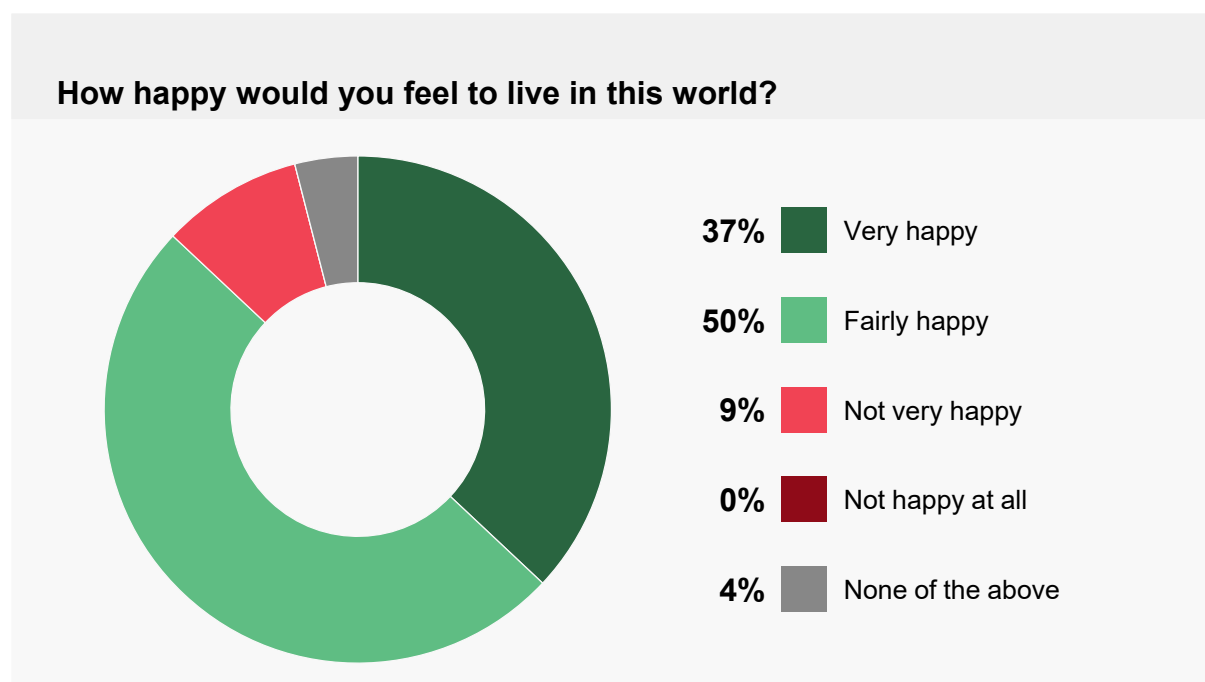
‘All we are allowed is sandwiches and a pie, in 2035. That’s sad.’

Southwest England, Workshop 2

Climate Co-ordination

This scenario was the most appealing of the three, but participants questioned how realistic living this way would be. Some noted that the scenario materials said very little about how people live their everyday lives in this future. There was no mention of housing, employment or the cities and towns where most participants live. For others, the distance between how people live now and the way people live in this future felt further than in other scenarios – this felt like a utopian future.

Figure 6.11: **Climate Co-ordination - online community quick poll**



Further negative reactions centred around veganism and limiting public access to land. The farmers in the online community were among those voicing concerns most strongly. This world was also seen as too controlled and controlling – of diet, behaviour and leisure – which limited its appeal. A lack of visible housing fed a perception that there might be less for people to do in the landscape and participants wondered what housing might look like in a future that prioritises nature.

Another reflection was that this future put the environment and nature ahead of the needs and desires of people. Participants could imagine large groups of people losing out in this world, such as farmers, people who like to eat meat and those unable to afford higher costs to eat what they like or travel abroad. The winners were not other types of people, but the environment and planet – an outcome which most in the groups did not see as preferable, even if some saw it as an inevitable consequence of continued carbon emissions.

‘This world has a better environmental impact than it would a social and economic impact.’

Southwest England, Workshop 2

Overall this was the most positively rated of the three worlds, with very few in the online community saying they would not be happy to live in a future that looked like this.

Those from the **Climate Radicals** and **Deep Roots** land value typologies were especially positive and wanted to move to a world like this now, while the **Escape to the Country** typology felt it was an unavoidable state, but for the future and not now.

Key areas of debate

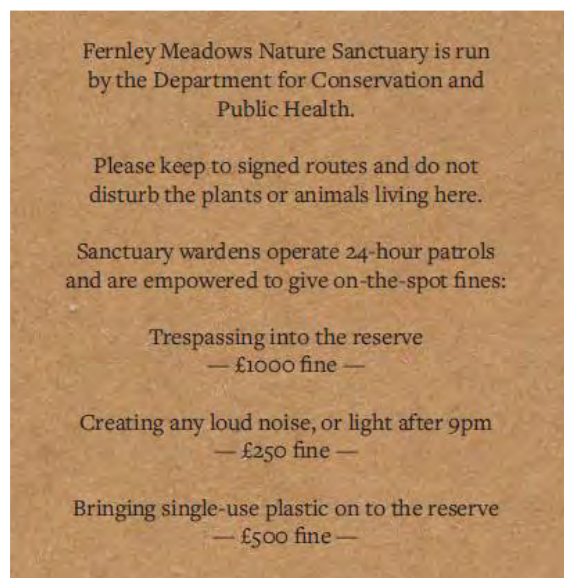
Biodiversity and climate change

Participants were strongly in favour of protecting biodiversity and the steps to protect animals, bees and plants were picked out as being especially positive elements of this world. Participants identified the environment in the top left of the collage as a peat bog and mentioned how important this type of landscape is for nature and carbon sequestration – reflecting the impact this information made on participants during the first workshop. The nature-based recreational activities, such as country walks and bird watching, were also appealing.

‘Great to see the twitchers out twitching. Great to be in the fresh air and co-habiting with our feathered friends!’

East Anglia, Online Community

Figure 6.12: **Nature Sanctuary rules**



These issues emerged as high priorities in Workshop 1 and the online community, so it is unsurprising that a scenario which puts these issues front and centre was viewed positively by most. From the collage, participants were especially attracted to the suggestion that bees would thrive and the prospect of mixed farming, combining livestock farming with forestry and other forms of agriculture.

Linked to the wider perception that fighting climate change (and, to a lesser extent, preserving biodiversity) is one of the biggest challenges of our time, across the groups many were in favour of the restrictions listed in

this scenario. Favourability was highest for those measures which felt familiar already, such as forbidding single-use plastics and promoting public transport over the use of cars.

‘It doesn’t seem so far off, in Bristol the buses are all eco-friendly – as much as it’s a difference I can see it happening... You see cars banned in certain areas to help biodiversity.’

Southwest England, Workshop 2

But some could also see the logic behind the more advanced measures, such as bans on noise and light pollution, and a general ban on trespass in the reserve. For others, these rules began to feel overly draconian and there was concern that they would exclude particular groups, such as younger people and families.

Another measure which attracted attention was the idea of “carbon vouchers” to offset the carbon generated by plane travel. As this too is a measure which already exists, the groups were generally receptive to this concept, although a common concern was around the impact it might have on inequality, which is explored further below.

Changing diets and veganism

As noted in other chapters, rising vegetarianism and veganism was a key topic across the dialogue. It was an especially important dimension of the discussion of this scenario, which envisaged people eating much less meat.

Vegan diets emerged as a flashpoint in the workshops and online community. Some see more plant-based diets as necessary and important to the future, while others raise concerns about nutrition and production.

‘Plant-based diets must be the way if we want 70 million people to eat cheap healthy food that isn’t farmed in a way that destroys the environment.’

Southwest England, Online Community

‘I appreciate that vegans/vegetarians are against killing animals but surely some of the very processed foods for vegans/vegetarians are bad if not worse?’

East Anglia, Online Community

Yet discussions were marked by a broad acceptance that UK diets – and participants’ own diets – will need to contain less meat for environmental reasons in future. However, participants were less comfortable with the approach taken in this scenario, where the invitation letter they received stated there was a £60 surcharge for steak. While some agreed that meat should cost more to ensure high quality production, this cost was considered excessive and few if any participants said they would pay this fee.

This concern stemmed from a worry about the restriction of choice. Rather than interpreting it as a result of steeply rising environmental costs to beef farming in a world that prioritises dealing with climate change, this surcharge was perceived as an attempt to price people out of meat-based diets, particularly those on lower incomes. Early in the dialogues, participants were generally unaware that the price of meat today is driven by a set of market priorities

which could be different in this future, underlining a key public misconception around the true cost of food and the factors that influence this.

‘If I was asked to pay that much for meat, well, I’d rear my own! I would! And I’m the sort of person who really doesn’t like doing that sort of thing.’
Southwest England, Workshop 2

The re-use of apples from cider production to create the apple chips provided in this scenario was a more popular option – again because it resonated with participants’ lived experiences. Food waste was readily identified as a big issue in the UK and one on which participants felt they could take clear action, while the use of apples appeared healthier and reflected a favourable view of eating seasonal and local produce across the workshops.

Access to recreation and leisure

Figure 6.13: Nature sanctuary travel options

TRAVEL			This scenario exposed a key difference of opinion among the groups, rooted in age and social grade. For many older and middle-class participants, the
BY SPARKPOOL BUS	BY BIKE/EBIKE	BY CAR	
SparkPool electric buses depart from Andover station for the reserve three times an hour every day	The sanctuary is approx. 33 miles cycle from Andover station, following the Green Cycle Highway signs.	Cars are banned within fifteen miles of the sanctuary. Limited parking is available at Andover Station.	party invitation sounded “lovely”; the setting and types of activities closely aligned with their own interests and they could easily imagine attending.

Yet to others this felt like a highly exclusive experience. To some younger participants, the party felt like it would be something of interest to their grandmothers rather than themselves, with others describing it as a “hippy party” or “Butlins for vegans”. There were also concerns that not all types of people would feel welcome in the park. In addition to the relative inaccessibility of the reserve to those living in cities, some groups noted that parents with young children would find it hard to abide by rules banning loud noises. As a result, some felt the reserve might be poorly attended, citing their experience of local reserves they felt were similar.

‘Marchwiell marsh in Wrexham has a big newt population and there is a new reserve there, free and accessible to everyone – but I don’t know anyone who has gone.’
North Wales, Workshop 2

The impression of exclusivity also led to questions about the cost and prevalence of these types of reserve. Participants noted that if there was just one reserve it would be highly

exclusive. To be inclusive, there would need to be many reserves accessible to many people. A similar question was raised around admission fees. The scenario materials did not clarify if admission to the park was charged and this was another point of concern.

This was couched in a wider concern about inequality in this world. Coupled with surcharges on meat, the reference to carbon vouchers for international travel conjured an image of a world where the rich were able to continue to live much as they do now, while the poor would be further disadvantaged and forced to make significant lifestyle changes.

‘Are we going to have a two-tier system where the people who can afford to go to these places and buy the food from all this diversity, and afford to live in the areas with clean air and no light pollution, and the rest of us going to be just stuck in cities with concrete buildings?’

North Wales, Workshop 2

As in **Follow the Market**, limiting access to the land was another concern. Participants mentioned that they felt protecting biodiversity could co-exist with public access to land. They were also worried about the use and siting of biofuel power plants, driven by the previous online community activity which alerted many to the issue of ammonia pollution.

The farmers on the online community were also notably less positive about this scenario. Some of their concerns, such as negativity towards veganism, were similar to those of the general public. But they also felt this world was less balanced, with land “spared” for specific purposes rather than being “shared” between different uses. Farmers also mentioned concerns about access, especially in a world where they would be funded to produce public goods rather than food.

‘Although some areas must be private, I feel that if public access is managed and public money is used we must show people what we are doing.’

Farmer, Online Community

Enforcing rules

The balance between needing stricter rules to protect the environment and avoiding overt authoritarianism was another key area of debate for this scenario. For many, the aims of protecting the environment were commendable but some of the methods were seen to be too strong. This was particularly true for those who found the nature reserve to be unappealing or too exclusive.

Others disliked the focus on rules because it suggested that this was a future where land could only serve one purpose. Setting aside land as reserves and not allowing people access was unpopular, with the groups tending to feel that biodiversity conservation and carbon sequestration should work with allowing people access to land for recreation and leisure. Some wondered if the hard-line approach here was in response to some ecological event or disaster that occurred between the present day and 2035.

'I don't think this is integrated or holistic. Everything is parcelled off... I would hope it wouldn't come to this, but I can see that it might!'
North Wales, Workshop 2

The groups argued that education would be required to help people adapt to a future where rules like this were commonplace. Living in this world would require sweeping changes to individuals' diets and ways of life and it was expected that Government and other bodies would support people to make the changes required.

6.5 Uncertainties across the scenarios

A set of key uncertainties for participants emerged from the scenario discussions. These uncertainties can be interpreted as the areas participants feel land use policy needs to address in the future to provide a compelling vision of what the UK might look like after the current period of change:

- **Climate change:** This was commonly acknowledged as a major challenge for the coming years. There was broad acceptance that measures need to be taken to limit carbon emissions and adapt to the impacts of climate change, such as more unpredictable and extreme weather. The **Climate Co-ordination** scenario offered the most complete answer to how this threat would be dealt with in the future and was therefore commonly the most popular of the three scenarios.
- **Food supply, affordability and sovereignty:** Ensuring there is enough affordable food to eat in the UK was seen as another important challenge, especially in the context of Brexit trade negotiations and empty supermarket shelves at the start of the COVID-19 pandemic. It is important to note participants' definitions of the term 'enough to eat' are best summarised as *maintaining broadly the same consumption habits and range of choices they have now* (as opposed to simply avoiding starvation or eating a healthier or more balanced diet than today). Participants were split on the right response. Some were keen to focus inwards and drive up food production in the UK, or food 'sovereignty', and so tended to prefer the **Home Front** scenario. Others felt that long-term availability of affordable food was best preserved by protecting the soil from intensive agriculture, leading them to prefer **Climate Co-ordination**. The offer of choice and low prices in **Follow the Market** was also appealing to those with less firm opinions on climate change or food supply.
- **New technologies:** Participants were generally interested to know how new technologies can be applied to farming and land use, but not all groups were positive. Some negatively associated high technology with intensive agriculture, so were less interested in finding out more – although conversations with experts in the groups often changed their views as they found out more about topics including precision agriculture and lab-grown meat. Others were more positive precisely because they felt high technology could intensify agriculture.

A core finding from the scenarios is that people are open to making significant changes to the way they live their lives, but they require a clear narrative about the benefits these behavioural changes will create. Without a narrative, people will fall back on their underlying values which tend to reinforce the primacy of short-term factors like consumer choice and inhibit thinking about important factors like resilience.



7 Land use decision-making

Gaining insight into how the public understand land use decision-making processes was a secondary objective of this dialogue, which was explored at the end of Workshop 2 once public views on trade-offs and win-wins was clear.

This chapter details common public views about who they think is – and should be – responsible for making decisions about land use in their local area and the country overall.

Knowledge of land use decision-making

Considering the relatively low knowledge base about land use in participants' local areas and the country at large, it is perhaps unsurprising that awareness of how land use decisions are made is similarly low.

Views of land use decision-making were predominantly framed around housing and infrastructure, reinforcing the common starting view among participants that land is primarily a passive backdrop to their lives. These topics were also better understood as they fitted the local perspective that most participants had on decision-making, with roads and houses being aspects of landscape they interacted with in their daily lives.

Awareness of larger scale land use decision-making was very low. No participants talked about environmental planning or national strategies and there was an assumption that this was decided by UK Governments. The limited exceptions were national infrastructure projects with a high public profile – for instance HS2 or Crossrail in London – but as the workshops were not recruited from the local areas directly affected by these works, participants did not tend to have strong opinions on these.

This low level of awareness also extended to the future of land use policy. Among participants in the Welsh and Scottish groups, there was limited awareness that land use policy is devolved. Therefore, few realised that, once the UK is no longer part of the EU, each UK nation will be free to pursue its own land use policies and that this may lead to greater divergence on agriculture and land use between nations in the future.

Who should be involved in land use decisions?

Faced with a complex system, participants' general response when asked who should be involved in land use decisions was that everyone should be consulted – a topic like rural land

use will affect everyone and therefore all should be consulted. Within this there were three key tensions:

- **Knowledge:** There is a need to balance input from experts who have specialist expertise with input from people living in the area who have local lived experiences.
- **Vested interests:** Participants wanted those who own and work the land to be consulted – but there was also a great deal of concern that some groups would shape land use decisions to suit their own personal agenda rather than ensure the best use of land.

‘These landowners are perhaps the people who may go towards making more money... [by letting] the land be ill-managed... They need intervention from local government to support them’

North Wales, Workshop 2

- **Proximity:** The groups also reflected on the need to balance small-scale perspectives of local government and organisations with the national perspective of the UK Government and – for climate change – international organisations.

8 Recommendations for engaging, informing and communicating with the public about land use change

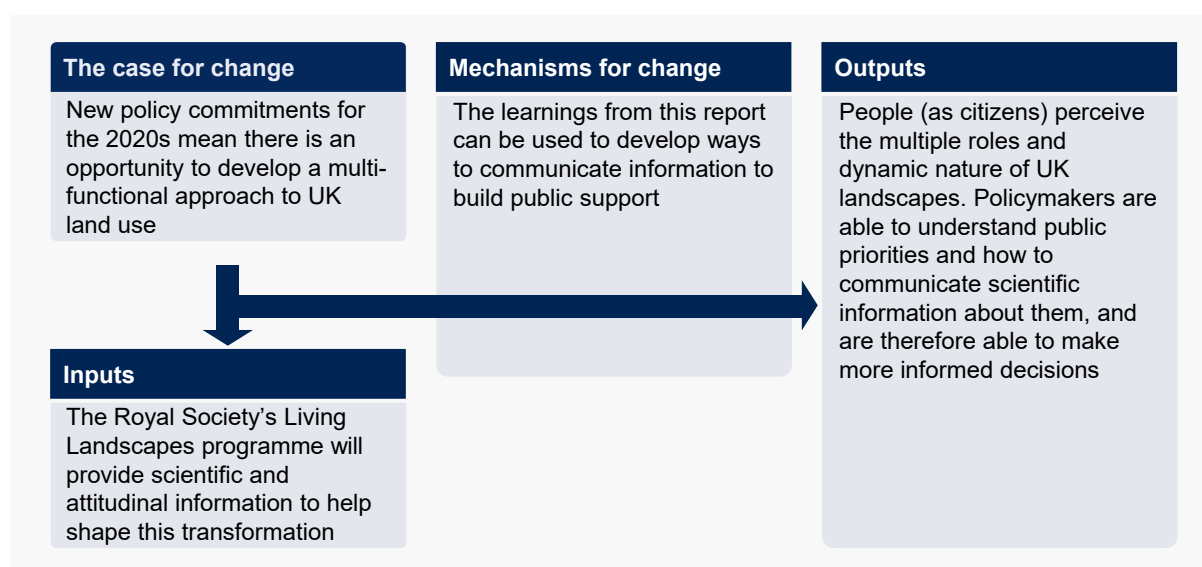
This chapter reviews the findings generated from this project to make suggestions for how the public could be best informed about the multiple roles and dynamic nature of UK landscapes, and therefore become more engaged in decision-making.

We outline a model for how this information might be used and different pathways by which the insight from this project can be turned into engagement and communications strategies.

Policymakers and land managers can use insights from this project to design mechanisms for land use decision-making that incorporate an understanding of the public's views.

The framework below illustrates how insights from this project could inform the development of mechanisms that enable people think about landscape at different spatial and temporal scales. It could help policymakers learn from the public, as well as helping the public understand the issues.

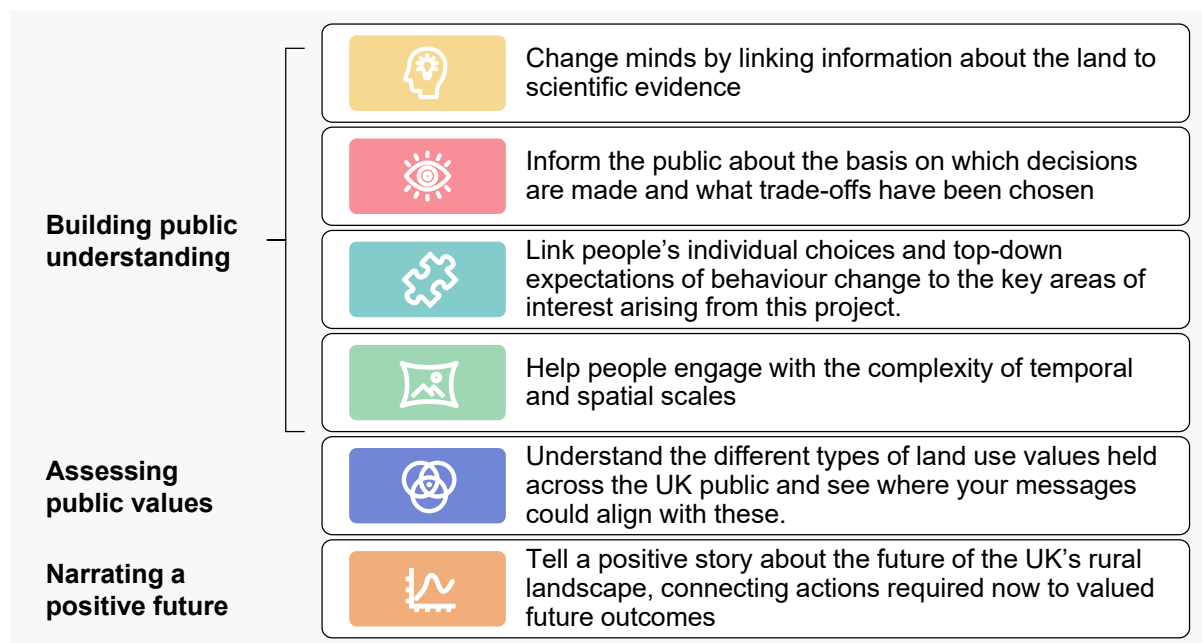
Figure 8.1: **A framework for influencing public views on land use**



Potential mechanisms for change for scientists, policymakers and science communicators

We have identified six potential mechanisms of change that might allow the public to engage more fully with discussions of future land use. These are presented under three broad objectives – to build public understanding; understand more about public values of land; and narrating a positive vision for the future of rural land use in the UK. These are detailed below:

Figure 8.2: **Potential mechanisms for change**



Building public understanding of land use multifunctionality and the interactions of land use with other complex systems such as food supply and trade

Change minds by linking information about the land to scientific evidence

This research has shown that many people appreciate that the UK and global environment is in a fragile state and they are keen to hear about the role science can play in repairing our planet. Polling throughout 2020 has shown that the UK remains a pro-science country¹⁹ and, despite claims to the contrary, the public have always appreciated the role experts can play in discussions. This role will likely be strengthened further coming out of the COVID-19 pandemic.

However, public knowledge on land use is limited. The public are generally unaware of basic land cover information such as how much of the country is built on or developed, the extent of forest and peat bog cover and other factors. Within the dialogue, providing this information was a key element which caused participants to change their minds. For instance, “surprising

¹⁹ https://www.ipsos.com/sites/default/files/ct/news/documents/2020-09/20-031763-01_ukri_covid-19_tracking_report_210920_public_0.pdf

statistics” led many participants to become concerned about the health of peat bogs, while providing a map highlighting the threat caused by ammonia pollution in participants’ local area generated a great deal of interest.

This work suggests two potential approaches to linking this information to the land:

- A good mechanism to help people understand the multiple roles and dynamic nature of the landscape is simply to **increase the physical availability of information in the local area**. For instance, local policymakers could partner with scientists to erect informative signage on public access routes. This would help people understand the landscape in which they live, the nature of their local area and how it fits with the national picture. For example, explaining how woodland is often more effective at mitigating flood risk than traditional farmland; outlining the hidden role played by peat bogs; or explaining how ammonia can damage rural air quality.
- Another important element of context for local and national governments is a narrative that includes the whole UK – explaining how each area plays its part in a productive and sustainable whole, based on its geography and natural strengths. **A map of the UK that explains how and why some land uses are more appropriate to some areas than others** would have been of great interest to participants in the dialogue and could be developed by policymakers or those looking to influence public opinion.

It is important to note that both approaches would be of most interest to participants already engaged with their local area and land use. Speaking to those who feel they have less of a stake – or less interest – in local natural areas would require different approaches.

Inform the public about the basis on which decisions are made and what trade-offs they involve

The “Ladder of Engagement and Participation” serves as a good model for provision on information about decisions that result in land use trade-offs.²⁰ It starts with the principle that people need to be informed before they can progress to further engagement.

The dialogue participants were happy to leave the process of policymaking to the experts but wanted to know the rationale and context around policy decisions. This context proved to be important to them – why are food standards, food origins and the impact of food production on biodiversity such live issues right now? What are the implications for different decisions we might take, now and in future?

- **Talking about food proved to be a fruitful way to inform the public about the decisions and trade-offs in land use – and to help them begin to express their views on this topic.** Participants were especially interested to know more about the background to why food prices might rise in some of the scenarios. With this information, participants were more able to engage in discussions about the complex drivers behind food prices, such as the impact of different trade and taxation policies or changes in the cost of production.

²⁰ <https://www.england.nhs.uk/participation/resources/ladder-of-engagement-2/>

Link people's individual choices and top-down expectations of behaviour change to the key areas of interest that arise from this project.

Policymakers and scientists can build on the finding that dialogue participants had a natural interest and enthusiasm to learn more about multifunctional land use. The public may be more willing to accept change if they are offered clearer demonstrations of how behaviour changes now would contribute to a joint effort to face the challenges of the next decade.

- **More effort should be made to tie individual choices of great public interest more closely into a wider narrative of multifunctionality.** For instance, many were animated about food waste and packaging, but it wasn't clear how this relates to helping fight climate change or protecting biodiversity. Similarly, dietary change is on the agenda for many, but the exact reasons why it helps were unclear. Urban life and transport were other areas where participants showed greater interest in change but lacked a unifying narrative that would explain the implications of action – or inaction – in these areas.

After the experience of the COVID-19 pandemic, the public are more aware of the potential of shared responsibility and collective action – but another lesson of the pandemic for policymakers is that the public require a clear message and understanding of short- and long-term goals in order to maintain a united front. In the absence of this, personal self-interest will be the most common reaction, highlighted in this dialogue where those who doubted that other countries would stick to their climate targets saw no reason for the UK to do the same.

Help people engage with the complexity of temporal and spatial scales through gamification

A challenge for public engagement on land use is to reach beyond “the usual suspects” to engage new audiences in this complex area of debate. One suggestion is to use novel approaches; for instance, gamified, interactive tools may facilitate clearer communication of complex temporal and spatial scales and systemic interactions associated with land use.

In this dialogue, responses to the scenarios demonstrate that people need help to engage with and balance the ideas of ‘what we need now’ and ‘what we will need to meet the challenges of the future’. The changing priorities for policy between one, five, and fifteen-year scales suggests that engagement will succeed when people can explore these trade-offs themselves, see what might happen and then re-prioritise based on this more informed view.

- **Gamified solutions could be developed** which take advantage of the processing power of a decision-tree engine in an online game to play out the results of complex policy decisions. While there are some examples of highly complex trade-offs (for example the DECC 2050 carbon calculator²¹) there is certainly space for a viral, playable, trade-off game to create a wider public discussion about the issues of this dialogue with new audiences. The Royal Society is exploring this approach, as are other organisations active in the land use policy space.

²¹ <http://2050-calculator-tool.decc.gov.uk/#/home>

Assess the different types of land use values held across the UK public and see where messages could align with these

In this project, we have identified six broad land value typologies with limited variation based on their geographical location. The extent to which people are willing to judge different trade-offs as worthwhile is strongly influenced by the values they hold about life more generally – perhaps more so than grounded factors like the nation or region in which they live.

- This suggests **there would be value in using nationally-representative quantitative study to substantiate and refine this work**, identifying the values-driven typologies within the UK population. This would provide a sound base for communicators to adapt their communication styles according to each typology's priorities for the landscape. This further research could also evidence the elements where this categorisation is currently light – for instance, on the prevalence of these typologies among those living in highly urbanised areas and how they play out across different ethnic groups.

It will also be important to tailor communication to the Involve model of public engagement,²² dependent on the different stages of the policy cycle. Different typologies' information needs will vary according to whether their involvement is sought for agenda setting, to shape and discuss proposals, when seeking comments on drafts, following the decision-making process, or to provide citizen or user feedback.

Tell a positive story about the future of the UK's rural landscape, connecting present actions with future outcomes

Our research has identified a patchwork of local perspectives on land use with no central organising vision. As a result, people hold a set of conflicting values and opinions about different aspects of the landscape, despite these aspects being deeply interlinked: food production is thought about purely in market terms (without knowledge of the role subsidy and trade play in food prices) while climate change is an international issue that should be dealt with by global conferences rather than individual actions.

- **Creating a united vision for what the UK landscape should look like would be a powerful tool for gaining public buy-in** to the changes that are required to land use and our diets and lifestyles. This project has identified public appetite to hear more about how we could transition to a net zero economy – but beyond technical details, they want to know how governments will help people change and, in particular, how they will ensure a just transition so that poorer people in the UK aren't left behind.

²² <https://www.involve.org.uk/resources/knowledge-base/what/public-engagement-public-policy-making>

‘Well the first thing that struck me was about obviously the rationing of water until seven, which seems quite drastic to me. Some people are up at night because they’ve got to be because they sleep in the daytime and they work at night.’

Scotland, Workshop 2

- **This vision should also provide information on how urban and rural landscapes interact with each other to create the UK of the future.** While this project focused on rural landscapes, it is clear that no conversation on rural areas is complete without also talking about towns and cities. This cuts to the core of a long-held “town and country” policy mindset in the UK, but this is something policymakers of the future may want to question.

As a final note, this vision must tell a positive story about the future of the UK. The scenarios in this dialogue were often framed negatively by participants, with a focus on what had been lost from the present day – yet there was clear positivity about the sometimes radical steps that could be taken to address climate change and biodiversity loss in the UK. What will our economy, our working lives, our transport infrastructure, so disrupted in 2020, need to flourish in future? How will this relate to the ways we use our land?

We know from other polling that people in the UK retain a sense of global mission and leadership far ahead of other European nations – 87% agree that the UK has a responsibility to be a moral leader in the world.²³ Harnessing those elements which are positive and explaining how this contributes to a more sustainable world will be important to create a vision of the UK in future that people want to work towards.

²³ <https://www.ipsos.com/en-ca/news-polls/majority-of-global-citizens-support-closing-of-borders-few-believe-covid-is-contained>

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